New Zealand Alcohol Supply and Demand Structures

Research Report

February 2018

m.e consulting

hpa health promotion agency

Comments

The Health Promotion Agency (HPA) commissioned M.E Consulting to undertake this research as part of a HPA alcohol research investment round. The lead authors involved in the project are Dr Douglas Fairgray and Natalie Hampson. The research links demand-side and supply-side information from a number of different datasets related to alcohol-premises and alcohol-related purchasing from 2013 and 2014. The report provides a summary of the datasets and approach, and an analysis of the structure of estimated alcohol sales by licence type and category and alcohol-related purchasing patterns.
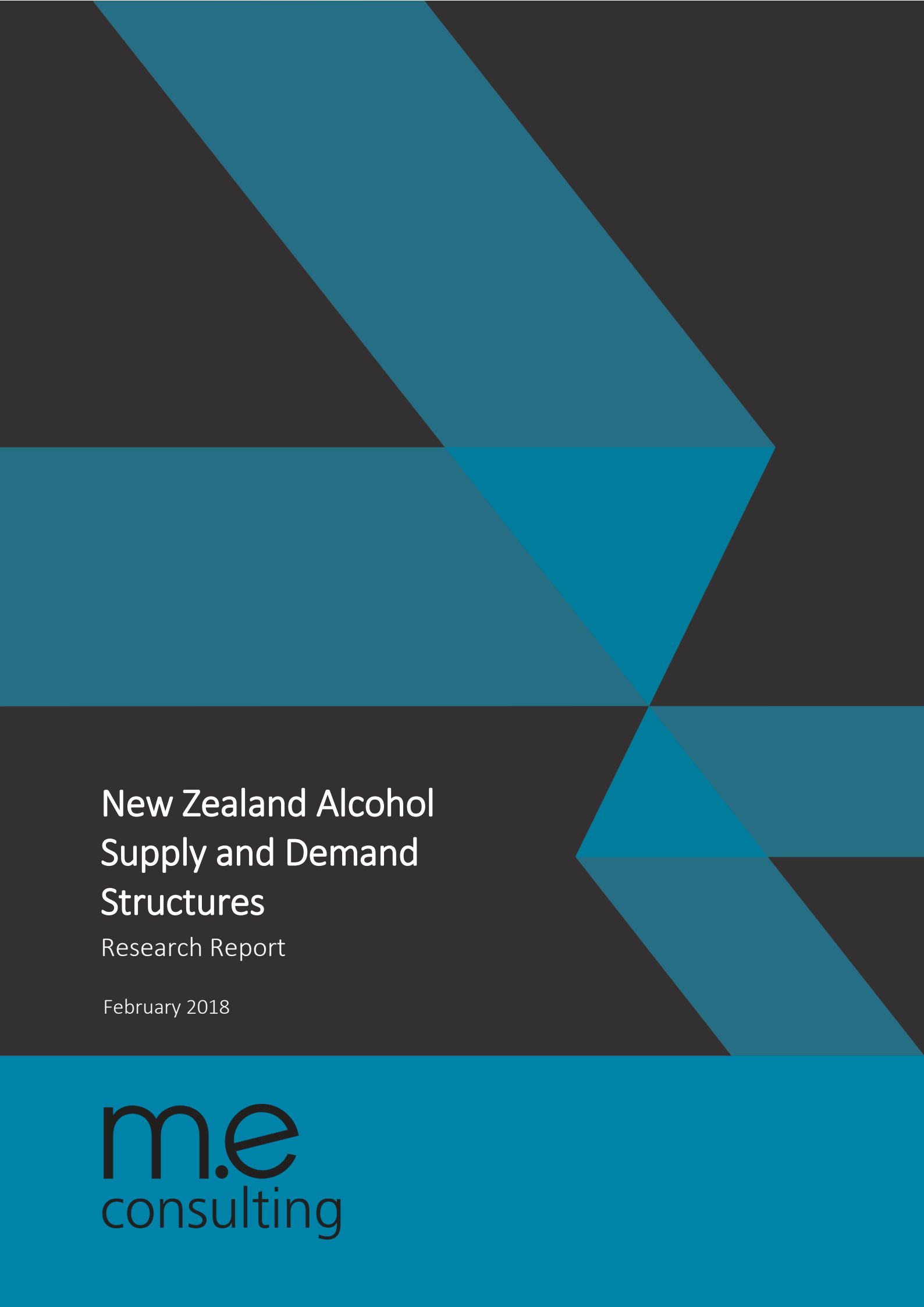
HPA would like to acknowledge Cathy Bruce, Rhiannon Newcombe and Fiona Imlach for their contribution to the project. The HPA commission was managed by Craig Gordon, Senior Researcher, HPA.

The report has not undergone external peer review.

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Executive Summary

Significant gaps exist in the knowledge of key parameters of both alcohol demand-side and supply-side structures in New Zealand. Key aspects include the roles of different types of licensed outlet at each time of the day and night, especially during weekends; how alcohol sales patterns vary between gender, age groups and locations such as metropolitan centres, regional cities, and towns; and what impact the Sale and Supply of Alcohol Act (2012) (SSAA) has had on those alcohol demand and purchasing patterns. Health Promotion Agency has funded Market Economics Limited to enhance the evidence base through the development of an analytical framework that addresses the many challenges of linking supply-side and demand-side datasets.

An important part of the Sale and Supply of Alcohol Act (2012) is the ability of Territorial Authorities (TAs) to make Local Alcohol Policies (LAPs) to help minimise alcohol related harm in the community. There is considerable effort being made by many TAs throughout New Zealand to develop policies and provide evidence in support of them. While local level data on the location and type of licences is readily available and local level data on alcohol related harm can be obtained from sources including the Police and hospitals, what is not easily obtained is information on how the market (whether residents or tourists) interacts with licensed premises – i.e. the local supply-demand relationship.

By linking demand-side and supply-side information through a combined framework which enables assessment from different perspectives, the research provides a robust base for understanding the current (2014) supply and demand structures, and to monitor early changes as the effects of the SSAA unfold.

The research addresses the issues of sale, supply and purchase of alcohol (but not consumption or affordability). The patterns of alcohol purchasing cover the types of licensed outlet, the timing of alcohol purchases, and the frequency and $ value of purchases. It further identifies how these purchasing patterns vary by TA, and by location within New Zealand's main urban areas. Directly linking alcohol purchasing patterns with types of licensed outlet establishes the roles and importance of each type, relative to the patterns of effects.

The key output of the research is not this report, but rather an Alcohol Supply and Demand Model (2014) that integrates (in Excel spreadsheets) the vast array of data and analysis. This report provides a summary of the methodology to integrate the information and high-level analysis of the information in the model.

Overall, the research estimated there were 12,390 licences (June 2014), or about one licence per 390 persons, nationally. Of these, 6,911 or 56% are on-licences (about one licence per 640 persons), while 3,442 (28%) are off-licences (one per 1,300 persons), and the remaining 2,037 (16%) are club licences (one per 2,200 persons). The licences are held by an estimated 11,398 individual premises – 92% of premises have a single licence and 8% have multiple licences. Auckland, Wellington (inclusive of Porirua, Upper Hutt and Lower Hutt) and Christchurch (i.e. the main cities) account for an estimated 38% (4,744) of total licences.

While there are some 58 different licence type and category combinations, a number of categories stand out. Most numerous are restaurants which account for 29% of all licences (and over half of all on-licences),

ahead of taverns (15%), sports clubs (13%), bottle stores (8%), hotels (8%) and grocery stores (4%). Together, these six outlet types account for over three quarters of all licences in 2014. The number of outlets is an important indicator of overall accessibility to licensed outlets, however the major differences among types in sales per outlet means that the supply picture is quite different in terms of $ sales and volumes sold.

The national structure of estimated alcohol sales values and volumes by licence type and category for 2014 shows:

a) Total value of estimated sales/purchasing of alcoholic beverages in New Zealand of some $5,747 million for the year, covering 99% of the total beverages available for sale nationally (450 million litres);

b) Off-licence outlets account for the largest share of estimated sales by value (66%), just over twice that of on-licences (32%). Club licences account for an estimated 2% of sales by value;

c) Supermarkets account for an estimated 20% of national alcohol sales by value, bottle stores an estimated 26%, taverns 11% and restaurants 11%. Combined these four types of premises account for 68% of total value of alcohol sales (2014);

d) The lower price levels of off-licence sales mean that off-licence outlets account for the largest share of sales by total beverage volume (estimated at 84%), with on-licence outlets accounting for 14%. Club licences account for an estimated 1% of sales by volume;

e) Supermarkets account for an estimated 31% of national alcohol sales by total beverage volume, bottle stores an estimated 33%, taverns 6% and restaurants 4%. Combined these four types of premises account for 74% of total volume of alcohol sold (2014);

f) International visitors account for an important share of total sales (i.e. alcohol and other goods and services) in on-licence premises (11%) though substantially smaller shares of total sales in off-licence premises (2%) and club licence premises (2%). Internationals' share of total card-based sales is 4% across all licence types, with domestic card holders at 96%.

From a demand perspective, the research showed that demand for alcohol varies among age groups, with both younger (18-24 year old) and older (65 years and over) accounting for smaller shares of total spending in licensed premises than other adult groups, especially those in the 40-64 year cohorts. Estimated alcohol spending by age group is relatively consistent across on-licence and off-licence types, but there is much stronger spending at club licence outlets by the older age groups - consistent with the role of sports, chartered and social clubs in the community, including their popularity with more mature and retired persons.

There are clear differences in spending patterns between males and females in each age group. The card data indicates that purchasing by males in licensed premises heavily outweighs that by females, in the order of 1.7 times overall. This differential is fairly consistent across all age groups, though it is higher in the 55 years and over groups.

There are also clear differences in estimated alcohol purchasing patterns across the week. While total purchasing in licensed premises by younger persons is at a generally lower level than for the adult population as a whole – reflecting as much as anything the lesser spending power of those who are

relatively early in their working lives – it is more heavily concentrated into Fridays and Saturdays. A significant 47% of 18-24 year old licensed premises spend occurs between midnight on Thursday and midnight on Saturday (and a portion of Sunday spending occurs in the early morning hours). By contrast, the 70+ age group spends 33% of their total spend in these two days.

Younger person spending in licensed premises is also more concentrated in the late evening and early morning. The 18-24 year old group spends 19% of their total spend in licensed premises in the period between 9pm and 4am. This compares to an average share across all age groups of 7.4% and just 2.5% for the 70+ year olds. In the period of 11pm-1am, purchasers aged between 18 years and 34 years account for 52% of all spend. Between 1am and 4am this group make up 70% of all spending in licensed premises.

The timing of spending in on-licence outlets is distinct from off-licence outlets – reflecting the different nature of these two licence types (i.e. the role they play in supplying alcohol in conjunction with other goods and services) and their associated licence/trading hours. On-licence premises tend to have increasing hourly sales in the morning, which level off late morning before rising again for a mid-day (lunch) peak, slowing in the mid afternoon and rising again for a longer late afternoon/evening (dinner) peak. In contrast, off-licence premises tend, on average, to have a greater share of spending occurring in the late afternoon/early evening. Spending builds up more steadily to a single predominant peak in the early evening, with some noticeable increases around noon.

While some changes are able to be observed pre and post the enactment of the SSAA, the research shows no substantial shifts in demand patterns in licensed premises based solely on a 2014 comparison with 2013 data. There was some shift apparent in the relative roles of each licence type and these varied slightly across the urban location types. Nationally, club licence and off-licence outlets overall saw their role in the total licensed premises market reduce slightly, while on-licence outlets' role increased slightly. However, the main finding is that the observed change was relatively minor at an industry level. This indicates changes occurred at the margin, without substantive shift in the sale and supply structure across all licensed outlets between 2013 and 2014.

The relative reduction in total sales in the period from 10pm until 7am is clearly evident in the research results. The data also shows a relative increase in sales between 6-10pm (driven by off-licences) and in the hour leading up to 4am (driven by club licences). However, the scale of the total change between 10pm through to 7am is relatively small, since that period accounted for an estimated 3.8% of total sales across all licence types in the sample dataset in 2013, and this declined to 3.6% for 2014. Nonetheless, the reduction in this time period indicates that the introduction of the maximum national trading hours in the SSAA *may* have had some direct effect on the timing of total sales in licensed premises. Such shifts need to be monitored for more than a single year to indicate their significance and permanence.

The research shows that comprehensive, total industry analysis is possible but reconciliation and balancing is fundamental to the methodology. Most of the data used in this research is limited in some way and it has been necessary to rely upon a number of estimates and assumptions – many of which have a potentially compounding effect on final outputs. A number of checks and balances are however included to try and minimise gross errors at key junctures.

The key limitation of the research is the lack of data specifically on alcohol sales patterns as distinct from total sales patterns which include alcohol and other goods and services sold by licensed premises. While the analysis has taken the distribution of total sales occurring within national maximum trading hours to

allocate estimated alcohol sales in each type of premises (and across all trading hours for the comparison of 2013 and 2014 spending patterns), there is no certainty that alcohol purchasing occurs at the same time across the day and night as all sales. The same applies for the distribution across the week. The potential for distortion is greatest where the estimated share of total sales that is alcohol related is low (i.e. supermarkets and restaurants), and is lower (but not completely absent) where the alcohol share of sales is high (i.e. bottle stores and taverns).

Determining supply and demand analysis at the TA level was a key objective of the research. While supply-side data can be estimated at TA levels (subject to data accuracy, a number of modelling assumptions and the application of some national averages of alcohol sales per employee), demand-side data for each licence type-category combination is limited to higher spatial aggregations if detailed market and temporal segmentation is desired (and to avoid breaching data confidentiality). The reliance on averages at the urban location type level – albeit applied to a supply structure that is specific to each TA - is another limitation of the research. Different aggregations of TAs for the collation of demand-side data may produce different average patterns which have not been tested and would be important if the research was updated in the future to accommodate changes made to licence hours as a result of adopted LAPs.

Importantly, despite the data limitations, there is reasonably solid information on the key dimensions of the demand and supply aspects of alcohol, which is able to be used within a single overall modelling framework. This research has demonstrated those possibilities.

1   Introduction

An important part of the Sale and Supply of Alcohol Act 2012 (SSAA) is the ability of Territorial Authorities (TAs) to make Local Alcohol Policies (LAPs) to help minimise alcohol related harm in the community. There is considerable effort being made by many TAs throughout New Zealand to develop LAPs, to introduce them to communities, and to provide evidence in support of them. However, there is incomplete knowledge still of key parameters of both demand-side and supply-side aspects of alcohol purchasing. Key aspects include the roles of different types of licensed outlet at each time of the day and night, especially during weekends; and how alcohol sales and consumption patterns vary between genders, age groups and locations – such as downtown areas and suburban centres – and between different parts of New Zealand – such as metropolitan centres, regional cities, and towns.

Health Promotion Agency (HPA) has funded Market Economics Limited (M.E) to carry out research that contributes to the evidence base. This research extends and improves some core alcohol demand and supply-side datasets and expands the capabilities and accuracy of analysis available to stakeholders of the alcohol sector. It also contributes to evidence of the impact of the SSAA – one year after coming into effect.

1.1 Research Objective

The objective of this research is to draw together information on:

g)   the patterns of alcohol purchasing by segments of the community, where segments relate to gender and age group combinations – also referred to as 'market segments' (demand-side);

h)   the roles of each type of licensed outlet in meeting demand for alcohol (supply-side); and

i)   changes in patterns of purchasing at licensed outlets which are evident in the 12 month period following the introduction of the SSAA.

By linking this demand-side and supply-side information through a combined framework which enables assessment from different perspectives, the research provides a robust base for understanding the current (2014) situation, and to monitor early changes as the effects of the SSAA unfold.

1.2 Scope of Research

The objective of this research (above) relates directly to HPA's research brief[1] to "provide robust good quality information on understanding the impacts and effects of the SSAA including how sectors of society are responding to and interacting with the SSAA, and the impacts and effects on sale and supply, purchase,

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[1] HPA Request for Proposal - RSC0203/13-14/03

use, consumption and harm." Specifically, this research is designed to show what those supply and purchase patterns were:

a) before the introduction of the SSAA;

b) how they have changed since its introduction.

This research covers the calendar years of 2013 and 2014[2]. The SSAA received royal assent on the 18th of December 2012 and, while some of the provisions came into effect the next day and others came into effect on the 18th of June 2013, the Act was fully implemented on 18 December 2013. This included provisions that set default national maximum trading hours of 8am – 4am the next day for on-licences and club licences and 7am – 11pm for off-licences[3]. The SSAA also provided the authority for local councils to establish LAPs. The 2013 analysis therefore establishes the pre-SSAA situation ((a) above) and the 2014 analysis demonstrates the post-SSAA situation ((b) above). Realistically, one year following the implementation of the SSAA is a very limited time-series to identify and confirm permanent changes in the market – particularly in the supply-side. This is because some of the changes will not take effect until existing licences expire or need to be renewed and there may be some lags between data collection and data reporting. For this reason the monitoring outputs of this research are focussed on demand-side changes and should be viewed as early indications only at this stage.

This research does not start from 'ground zero'. Rather, it builds on the established knowledge of purchasing patterns and the roles of outlets, including that which was developed by M.E during 2013 and 2014[4]. That work identified key purchasing patterns from commercial outlets by different age groups, and covered much of the alcohol supply structure but not all of it. This current research extends that, to provide a comprehensive view of the alcohol supply and purchasing (demand) aspects.

With very few LAPs adopted and implemented at the time of the research, the ability to monitor the effectiveness of individual LAPs, including at a policy area (sub-TA) level where relevant (before and after, and over time) has been excluded from the scope of this research. It does however, provide an evidence base to help inform the development of LAPs and the associated submission, appeal and decision making processes, albeit for the TA as a whole. This is still helpful as many proposed LAP provisions apply at the district-wide level and the Alcohol Regulatory and Licensing Authority (ARLA) has asserted that local (i.e. TA) evidence is needed to support proposed LAP provisions[5].

This research addresses the issues of sale, supply and purchase of alcohol. The patterns of alcohol purchasing cover the types of licensed outlet, the timing of alcohol purchases, and the frequency and $ value of purchases. It further identifies how these purchasing patterns vary by TA, and by location within New Zealand's main urban areas. Directly linking alcohol purchasing patterns with types of licensed outlet establishes the roles and importance of each type, relative to the patterns of effects.

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[2] The base year of the research is 2014. 2013 results relate to demand-side data which has been back-cast.

[3] Section 43(1) a and b of the SSAA 2012 (with exception of remote sellers).

[4] Evidence prepared for DLA/ARLA hearings in relation to proposed Local Alcohol Policy for Christchurch City (2014), Wellington City (2013), Waimakariri District (2014); Reports prepared in relation to hearings, including *Supermarket Location in Areas of Low Socio-Economic Status* (2014); *Local Alcohol Policy – Sensitive Areas around Progressive Supermarkets* (2013).

[5] Dunedin PLAP Decision – 2016 NZARLA PH 21 – 26 - paragraphs 18-23.

This research does not address the matters of alcohol use, consumption[6] or harm covered in HPA's brief. Nor does this research examine how supply and demand patterns contribute (through some causal relationship) to health or crime. Matters relating to alcohol affordability are also outside of scope.

1.3 Research Output

In conducting this research, a series of analyses (sub-models) have been completed that each contribute to this field of research in their own right. These include:

- a cleaned version of the National Liquor Licence Database (Licence Database) sourced from the Ministry of Justice (June 2014);

- geocoding of 2014 liquor licences contained in the (cleaned) Licence Database – enabling licences and premises to be mapped across New Zealand;

- reconciling the (cleaned) Licence Database with the Statistics New Zealand (SNZ) Business Directory (BD) – enabling 2014 employment in each licensed premises to be estimated;

- estimating total national alcohol sales by type of licensed outlet through the integration of several SNZ datasets (2014); and

- establishing a sub-national time-series[7] dataset of electronic transactions (by hour of day and week and market segment defined by gender and age group) occurring in licensed outlets (by licence type).

The core output of the research is however the **Alcohol Supply and Demand Model (2014)** (ASDM or 'the Model'[8]). This model integrates all of the above sub-models and allows supply and demand patterns by location (total New Zealand, urban location type[9], or TA) to be examined and changes in those patterns between 2013 and 2014 to be compared.

1.4 Report Outline

This report provides a discussion of the research methodology, limitations and findings. Section 2 provides an overview of the research methodology as well as key assumptions relied upon in the modelling and the limitations of the analysis and research results[10]. Sections 3 and 4 draw on a combination of sub-model analysis and results from the ASDM. Section 3 examines the role of different types of outlets in the sale of alcohol at a national, urban location type and TA level. Section 4 examines the role of different market

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[6] Although purchase and consumption are one and the same with regard to on-licence and club licence premises. The research does not examine the relationship between purchasing alcohol at off-licence premises and consuming that alcohol.

[7] The data was collected for four consecutive six month periods starting 1st January 2013. For the purpose of the research report, the analysis was based on two twelve month aggregations.

[8] ASDM version at time of publication is 2017.1.

[9] See section 2.5 for further description.

[10] This Research Report is supported by a Technical Report (August 2017) that offers more detailed explanation of the methodological steps applied, including modelling assumptions and limitations. A copy of the Technical Report can be obtained from HPA by request.

segments in the purchase of alcohol, including the timing of purchases at the national and urban location type level. Section 5 examines changes in demand-side patterns pre and post the SSAA. Section 6 provides a summary of conclusions drawn from the research. A glossary of terms can be found on p 84.

2   Methodology

This research provides a robust evidence base for understanding the current situation of alcohol supply and demand, and for beginning to monitor future changes as the effects of the SSAA unfold. The methodology is built around a series of steps – each an analysis or sub-model in and of itself. The steps culminate in a single integrated model (the ASDM) that provides comprehensive analysis of New Zealand's alcohol sale and supply structures at various geographic scales and at various levels of detail.

2.1 The Research Challenge

The patterns of sale, purchase and especially consumption of alcohol are important matters, particularly because of the societal implications and effects of alcohol. For stakeholders to make informed decisions about the sale and supply of alcohol, and monitor the effectiveness of those decisions over time, then a strong evidence base is required.

Much of the research and information on alcohol purchase and consumption is based on surveys and observations of peoples' behaviour. This knowledge is valuable, and there is opportunity to enhance that understanding with a range of statistical sources which can help provide a more comprehensive picture.

With almost 11,400 premises in New Zealand selling or supplying alcohol through a combination of an estimated 12,390 liquor licences (June 2014)[11], the 'alcohol supply' sector represents a significant component of New Zealand's economy. Data are available on the total sales of some retail store types that sell alcohol (among other goods and services) and there are statistics on the total volume of beer, wine and spirits available for sale nationally. Yet, there are large gaps in our understanding of <u>where</u> alcohol sales are occurring across the country (and across each district), <u>who</u> is purchasing alcohol and <u>how</u> sales are distributed across different types of liquor licences.

There is comprehensive information available on the maximum licence hours associated with each and every liquor licence. However, there is incomplete understanding of <u>when</u> alcohol sales are occurring by hour of the day and by day of the week (within licence hours), and the links between purchasing and consumption of alcohol. Similarly, there are rules in place on the minimum age to purchase alcohol and there is research available on the impact of alcohol on different demographic groups, yet there are gaps in our understanding of <u>where</u> different market segments are purchasing alcohol, <u>when</u> they are buying it and <u>how much</u> they are buying.

National level research and information is valuable in its own right, but the district level focus of the SSAA (2012) - with opportunity for TAs to develop and implement LAPs - means demand also for sub-national level research - ideally relating specifically to TAs.

There are several statistical datasets that are relevant to the analysis of alcohol sale and supply structures, but each provides only part of the picture and they have been developed for different purposes. The SNZ

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[11] Based on analysis (and cleaning of) the National Liquor Licence Database sourced from the Ministry of Justice in August 2014.

BD provides comprehensive information on outlet numbers by type and location using the Australia and New Zealand Standard Industry Classification (ANZSIC) framework, with data organised for specific industry classifications including those identifiable as being licensed outlets (such as bars, clubs and liquor stores) and potentially being licensed outlets (such as supermarkets, and restaurants), but does not differentiate between licensed and un-licensed outlets in the case of the latter. The ANZSIC structure relates directly to other SNZ national and region-level information on sales and output, but sales data do not differentiate between alcohol and other goods. The SNZ Consumer Price Index (CPI) deflators cover this only in part. In addition, the makeup of alcohol sales between wine, beer and spirits (for reconciliation with statistics on alcohol available for consumption) varies among different types of outlet.

The Licence Database provides detail on a wide range of licence type-category combinations, but it does not interface with the BD data. It is apparent that in many instances, there is not a direct correlation between the implied description of the licensed premises and the ANZSIC classification of those businesses. Moreover, individual business premises may hold multiple licences, while some licences are attached to transportation "premises", as in planes, trains and ferries[12]. Without some variable which is common to different datasets, the process of linking data on liquor licences with other spatial-economic data is challenging.

In addition, the statistics on alcoholic beverages available for consumption, which is the best information on which to "anchor" the estimates of overall sales, relates to volumes rather than the $ value of alcohol sales. This means that in order to reconcile the value of sales with the volumes of beverages, estimates of unit price are required.

There are challenges also on the demand-side of the picture. While there is good information on card-based expenditure in many licensed outlets (possible by achieving good matches of licenced premises with business outlets), the transaction level data does not distinguish alcohol from the purchase of other goods and services. Further, even when we can infer a high likelihood that transactions relate to the purchase of alcohol (entirely or in combination with other goods – as in bars or bottle stores), spending by individual cardholders on alcohol is not always for those cardholders to consume. This is simply because a single purchase will often cover the consumption of two or more persons (for example, a couple eating out or buying beverages to be shared with friends).

These issues are well recognised in retail research generally, and in studies into alcohol and related sales and expenditure specifically. They mean that any methodology which seeks to draw together information on alcohol sales and expenditure patterns will necessarily depend on estimates and assumptions at key points in the analytical structure. However, the importance of the issues justifies considerable effort in developing comprehensive estimates of the demand and supply sides of alcohol sales and expenditure.

2.2 Overview of Methodology

Capabilities developed in a range of modelling and reconciliation analyses have been applied in this research to address the inherent complexities of linking the supply-side datasets, as well as a method that also links demand-side data to liquor licences.

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[12] On-licence Conveyance licences.

The research methodology incorporates a series of analytical steps that allow various datasets to be linked to each other and to the Licence Database through common variables (Figure 2.1). This provides an ability to examine alcohol sale and supply structures for any TA or the country as a whole – albeit within the limits of the information available and the need for estimates to develop a more comprehensive picture.

Figure 2.1 - Key Data Components and Linkages in Research Methodology – ASDM (2014)

In brief, the licensed premises' address information contained in the Licence Database allows a meshblock location to be identified within each TA for each liquor licence. Using a combination of the meshblock location and premises name, licences can be matched to merchants in the Paymark and BNZ databases of electronic transactions[13]. This step is discussed further in section 2.4.1 below. Using the ANZSIC data associated with the matched merchants and the meshblock location, employment data from the SNZ BD can be matched to the Licence Database. National estimates of alcohol sales (and volume sold) per person employed by licence type-category can then be 'put on the ground' using employment by location information for each liquor licence.

Using the merchants that were linked to the Licence Database, electronic transaction data showing spending by market segment (and hour of week) by year can be extracted by Market View and aggregated by licence type-category. Those average distributions are then applied to the sales estimates by location and licence type-category to show estimated local level sales and demand structures and changes over time.

The result is that supply-side data varies in geographic scale from national level down to TA level. Demand-side data is limited to national level or urban location type (4 broad categories). The methodology has relied

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[13] Carried out by Market View Limited.

on a number of assumptions in order to link data that has different geographic scales. All the data is brought together in the ASDM.

The following sections further discuss the key components of the research methodology.

2.3 The National Liquor Licence Database

The Licence Database is an amalgamation of licence application data collected (and approved) by District Licencing Committees throughout the country. A copy of the Database was supplied by the Ministry of Justice in August 2014 and contained the most up-to-date information on liquor licences available to them at that time (June 2014).

The Licence Database was reviewed and as many duplicate records as possible were removed. Duplicates appear to arise following a change in business ownership or premises location. Further 'cleaning' of the data was carried out to ensure that premises names were consistently recorded (in instances of multi-licence outlets) so that the licence level Database could be aggregated according to premises within each TA. Care was taken not to aggregate businesses that have the same name but multiple locations (i.e. franchises or branch outlets).

After review and cleaning, there were an estimated 11,398 active licensed premises in New Zealand as at June 2014 operating under 12,390 liquor licences. This count allows conveyance craft to be identified separately (e.g. planes have a unique name/identifier even though they are owned by one licensee). Table 2.1 shows the breakdown of licences per premises. The major share (92%) of premises have a single liquor licence. Section 3 provides a more detailed breakdown of the national licence structure.

Table 2.1 - Summary of Licences per Premises June 2014 (Cleaned Database)

Number of Licences Held	Number of Premises With Licence Count	Share of Premises
1	10,436	91.6%
2	931	8.2%
3	31	0.3%
4	-	0.0%
Total	11,398	100%

Source: National Liqour Licence Database, Ministry of Justice
June 2014 (modified by M.E)

During the course of the research, a number of additional data fields were appended to the Licence Database to assist with different aspects of analysis and modelling. The first appended data field was the meshblock location of each liquor licence/premises. Having a meshblock-based location framework enables the Licence Database to be reconciled with SNZ's spatial datasets; in this instance, the BD (discussed below).

In order to identify what meshblock each licence was located within, 'Geocoding' techniques were used to match the licensed premises address to a latitude/longitude coordinate. Using GIS, these were then mapped as a 'point' (an example is provided in Appendix A) and then appended with the relevant meshblock code. A range of cross checks were carried out and, where necessary, web-based searches were used to confirm the location of licences that were not easily geocoded. The iterative processes resulted in the 94% of premises being allocated a meshblock location within their TA. The remaining 6% of premises were coded only to their respective TA. The un-geocoded premises are not excluded from the analysis, but take a less spatially explicit pathway to determining estimated premises employment – discussed further below.

2.4 Supply-side Approach

2.4.1 Estimated Employment in Licensed Premises

The second data variable appended to the Licence Database was estimated employment at each licensed premises (2014).

The SNZ BD identifies business entities (geographic units) by industry (ANZSIC), meshblock location and size (Employee Count). However, the BD is not able to differentiate further, especially to distinguish between licensed and un-licensed restaurants, or between licensed and un-licensed grocery stores for example. Nor does it distinguish specific businesses of the same ANZSIC located in the same meshblock. While the data may show two restaurants in a meshblock, only the total employee count is revealed. It is therefore not possible to identify if one is large and one is small, or if they are about the same size[14].

The cleaned and modified Licence Database is able to provide detail on all licensed outlets by type (on-, off- and club licences) and category, including detail on the meshblock location (in most instances), and licensee and premises/merchant name. However, it does not offer information on the size of outlets (employment), which is an important indicator of sales volumes, assuming a correlation exists between staffing and alcohol sales within each type of outlet. Nor does the Licence Database provide the ANZSIC of outlets (as registered in the BD).

The availability of both datasets at meshblock level (i.e. a common variable) offers good but not perfect ability to match BD ANZSIC data with licensed outlet data. In particular, most licence types are predominantly one outlet per meshblock[15] - restaurants 81%, liquor stores 94%, taverns 88%, hospitality clubs 96%, sports and recreation clubs 92% - which indicates a high proportion (80%+) of licensed premises can be linked with BD data as long as the right meshblock and ANZSIC are assigned to the outlets.

Identifying the ANZSIC of licensed premises is not straightforward. While 'Off-licence Bottle Stores' match the 'Liquor Retailing' ANZSIC and 'On-licence Restaurants' match the 'Cafes and Restaurants' ANZSIC, many of the licence type-categories span a range of possible ANZSIC codes. For example 'On-licence Conveyance'

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[14] Customised data requests to SNZ can stratify employment by different sized businesses. However, this was not considered practical given the number of ANZSICs being considered in this research combined with the number of meshblocks in New Zealand included in the modelling framework.

[15] Percentages are national averages sourced from the SNZ BD. They show the share of outlets by industry that are unique within their meshblock. That is, 81% of restaurants have no other restaurants in the same meshblock. This provides an indication of clustering behaviour of certain industries – the lower the percentage, the higher the propensity to cluster/co-locate.

could relate to a range of transport ANZSICs and 'Off-licence Winemaker' could relate to 'Grape Growing', 'Wine and Other Alcoholic Manufacturing' or 'Non-store Retailing' for example.

Both BNZ and Paymark maintain databases of retail and service merchants and collect or assign ANZSIC codes to those merchants. As part of the process of compiling demand-side datasets for this research, Market View Limited were able to match approximately 72% of the licences in the Licence Database to the BNZ database[16]. In turn, they were able to return the ANZSIC data of those matched merchants. This was appended to the Licence Database as a first step, leaving 28% of the licences with no ANZSIC.

An analysis of the distribution of ANZSIC codes matching each licence type-category (i.e. based on the 72% of matched premises) helped inform the 'most common' ANZSIC. These were then adopted to fill the gaps in the Licence Database (i.e. the 28%) so that all licences received an ANZSIC code reflecting their estimated primary activity and enabling the reconciliation with the BD to be carried out. It was an iterative process – matching licensed premises with 'geographic units[17]' in each meshblock for each TA. Some changes to the 'most common' ANZSIC (and in some cases the assigned ANZSIC) were required in order to increase the overall reconciliation result and better reflect the primary activity of licensed outlets (from a SNZ perspective rather than a BNZ perspective). A series of manual cross checks were completed for each TA to ensure that the reconciliation of key ANZSICs was as accurate as possible. Overall, 81 different ANZSICs were matched to the Licence Database.

The BD reconciliation was able to match 82% of licensed premises in New Zealand directly with geographic units in the 2014 BD. The balance (18%) was made up of those premises that did not have an identified meshblock location (6%) and those that did not match an ANZSIC in the identified meshblock or even wider census area unit location (12%).

When a premises *was* reconciled with a geographic unit, the average employment per geographic unit for that ANZSIC in that meshblock was appended to the premises/licence[18]. Using the reconciled sample of premises, the average employment per geographic unit for each ANZSIC in each TA was then calculated. These local averages were applied to each unreconciled premises according to their estimated ANZSIC code in each respective TA location. While this is not ideal, at worst, this estimation related to 40% of premises (60% of premises in Waitomo District reconciled with the BD based on estimated ANZSICs) and at best, this estimation related to just 8% of premises (92% of premises in Kawerau District reconciled with the BD based on estimated ANZSICs). Following this step, an estimate of employment was appended to <u>all</u> premises/licences in the Licence Database (82% directly and 18% using TA averages) – providing a measure of outlet size/scale for each individual licensed premises.

Many licensed businesses are small and the incidence of working proprietors (who are not listed as paid employees) is high in some categories[19], particularly grocery stores, small bottle stores or wine makers/wineries, but not in other categories, particularly supermarkets and medium to large bottle stores. For this reason, a modified employment count (MEC) that takes account of estimated working proprietors was used, which includes both the SNZ published employee count (EC) and working proprietors for the BD

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[16] There was a 60% match of merchants in the Paymark database.

[17] Refers to a single business/commercial entity in the BD.

[18] In the case of multi-licence premises (8%), employment was split evenly across the licences held by the premises.

[19] This is apparent in the relatively high numbers of non-employee working proprietors relative to paid employees (the Employee Count), and to the number of outlets (geographic units).

reconciliation step, so as not to underrepresent the size/scale of licensed premises[20]. This is important as the research assumes a relationship between sales value and staff counts: outlets with lots of staff are assumed to have a greater volume of customers and alcohol sales relative to outlets with fewer staff in the same industry. Excluding working proprietors would result in a lower average employment per geographic unit for each ANZSIC in each TA and would lead to skewed sales estimates (discussed further below) due to the uneven incidence of working proprietors between small and large premises.

2.4.2   Estimated Alcohol Sales Value and Beverage Volume

A key step in the research is the estimation of the value and volume of alcoholic beverages sold by each type of licensed outlet. This is primarily a process of reconciling various pieces of national level information which are neither comprehensive nor fully detailed, to develop as robust an estimate as possible. The volume information is important because the most accurate indicator of the total alcohol market is the SNZ series on the total volume (nationally) of alcoholic beverages available for sale in the year to June 2014[21]. This data includes a breakdown of total litres of beer, wine and spirits.

There are not equivalent data on the value of sales of alcoholic beverages. The situation is complicated because sale prices vary considerably among different types of outlet, especially between off-licence outlets and on-licence and club licence outlets; sale prices per beverage in off-licence outlets are considerably lower. A systematic approach was applied as follows.

The total national sales for each ANZSIC were identified from the SNZ Retail Trade Survey (YE June 2014) and the SNZ Annual Enterprise Survey (2014). Sales in this dataset include alcohol and other goods and services sold. Data from the SNZ BD (2014) was used to identify total national employment by each ANZSIC, and from this national average sales per MEC were estimated for each ANZSIC.

A national summary of estimated employment by ANZSIC code was produced from the Licence Database (estimated in the BD reconciliation described above). The sales per MEC data was applied to the employment for each ANZSIC to generate estimated total national sales for 2014 (YE June) for licensed outlets. This assumes that sales per MEC is the same in licensed and non-licensed outlets in each ANZSIC. At this point in the analysis, sales include alcohol and non-alcohol related products/services.

Information on national alcohol sales (beer, wine, spirits) as a percentage share of total sales was sourced from the SNZ Retail Trade Survey Deflators Series for liquor retail stores, food and beverage retailers and accommodation providers, and from evidence to hearings[22] on LAPs for supermarkets. "The Retail Trade Survey deflators measure change in the prices of goods and services sold by businesses in the 15 retail industries. The deflator for each industry consists of a 'basket' of indexes, drawn mainly from the consumer price index (CPI). The CPI indexes and other indicators in each deflator's basket represent the goods and services sold by the industry. Each good or service is weighted to reflect the relative importance of the mix of goods and services sold by the industry" (SNZ)[23].

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[20] M.E's MEC data combines the BD employee count with estimates of working proprietors by ANZSIC derived from customised data sourced from SNZ, and proprietary analysis.

[21] SNZ series ALC011AA.

[22] Hearings under the Sale and Supply of Alcohol Act 2012 in relation to draft Local Alcohol Policy proposals by Wellington City Council, Waimakariri District Council, Tasman District Council, and Auckland Council.

[23] http://www.stats.govt.nz/browse_for_stats/industry_sectors/RetailTrade/RTS-deflator-weights-info.aspx

Although these sources covered only a few of the types of licensed outlet, the data does apply to the largest off-licence types (supermarkets and bottle stores), and the major on-licence types (bars and licensed restaurants). The (beer, wine and spirits) sales share of the liquor retail store category was applied (as a proxy) to other off-licence outlets, including those linked to outlets with club licences or on-licences. This step assumes sales shares by alcohol type are the same across New Zealand and are not influenced by outlet size. Appendix B summaries all sources of information for the percentage of total outlet sales that is alcohol for each licence type-category combination. The appendix includes a discussion on alternative data sources and their implications for the national sales structure. Section 3.4 of this report discusses the results of this step in more detail.

Data on advertised prices for off-licence alcohol was gathered from websites and newspapers, covering a range of stores/operators and locations throughout New Zealand.[24] These were used to estimate the national average price per litre (excluding GST) of beer, wine and spirits in off-licence outlets. While the price information was not comprehensive, and the volumes sold of various brand/price combinations is not known, the highly competitive nature of the liquor retail sector, and the dominant role of major liquor retailers and supermarkets suggests that other smaller types of outlet would need to be generally price-competitive with the major outlets.

Data on prices for on-licence alcohol were sourced from the SNZ Consumer Price Survey Basket of Goods (June Quarter 2014). While this is not comprehensive, it nonetheless shows the relativity of off-licence and on-licence beer, wine and spirits prices. Data on prices for club licence alcohol was difficult to access, although anecdotal evidence as to the nature of outlets with club-licences is that they are generally 15-25% cheaper than commercial on-licence establishments.

The combination of licensed outlet numbers, total employment and total sales, and estimated alcohol share of sales was used to estimate the total value of sales, for each of beer, wine and spirits. The mean sales prices for off-licence, on-licence, and club-licence outlets were then applied to express the value of sales as volumes of sales. The total volume of sales across all types of licensed outlet was required to reconcile with the SNZ national totals of alcoholic beverages for 2014[25]. The reconciliation accounted for 98.6% of the reported total volume of alcohol available for sale. Both sales value and volume for each licence type-category were expressed on a 'per MEC' basis, enabling sales to be distributed 'on the ground' based on the location of licenced outlets (and their estimated employment).

The estimation process is subject to a number of caveats. It requires reconciling incomplete information on $ value of sales and estimated alcohol prices, across a number of types of outlet, in order to match the total volumes for each type of alcoholic beverage. On the positive side, there is quite robust information for the outlet types which account for major shares of alcohol sales (supermarkets, liquor stores, taverns, clubs and bars), and separation of licensed outlets from un-licensed outlets for the restaurant sector.

Among outlet types for which there is less specific information, there are similarities in the nature of the food and beverage components of the operations which suggest similar sales profiles – especially for off-licence outlets attached to various types of on-licence, and for various club-licence outlets. There is also reasonably good information on prices for major outlets, and on price relativity between off- and on-licence

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[24] Price points were gathered duing April 2015.

[25] SNZ series ALC011AA. http://m.stats.govt.nz/browse_for_stats/industry_sectors/alcohol_and_tobacco_availability/Alcohol-available-for-consumption_HOTPYeDec16.aspx

outlets, while the large numbers of outlets and consequent strong competition means that there is a limited range of price points for alcohol products.

On the negative side, there are several inter-related steps in the reconciliation process, which means that errors in the estimates at one point – for example, alcoholic beverages' share of total outlet sales – will flow through to other points – for example, the volumes of beverages sold by that type of outlet.

2.5 Demand-side Approach

A key component of the research was to directly link the alcohol supply picture with actual purchasing behaviour by key market segments. The aim was to develop a clearer understanding of spending patterns and how spending patterns vary by location – for example, between major cities and regional cities, over time, and to enhance the definition of the source data to distinguish between licensed and un-licensed outlets (by drawing on the Licence Database).

This data, supplied by Market View, comprises detailed electronic transaction data (made on debit and credit cards in licensed merchants) by BNZ card holders aged 18+ years (one set of data) and by all domestic and international card holders purchasing from licensed merchants registered with Paymark (the second set of data). The transactions include alcohol and non-alcohol related goods and services in the licensed premises. Both are sample datasets reflecting the licensed merchants Market View were able to match to the Licence Database (discussed above). The size of the samples was not sufficiently large to allow transaction data to be disaggregated by outlet type, market segment and hour at the TA level – smaller TAs in particular could not satisfy the confidentiality rules for public data release. The samples *were* sufficiently large to allow transaction data to be disaggregated by outlet type, market segment and hour *if* defined urban areas were aggregated.

A geographic framework was devised to aggregate urban areas[26] according to broad urban location types – grouping them based on whether they formed major (main) cities, large regional cities or smaller (other) regional cities. The balance of the country, which includes large or small towns, rural villages and rural areas, was grouped as the 'rest of New Zealand' (Table 2.2). The rationale for the broad location types was that licensed outlets in the urban areas assigned to each location type would be more likely to operate in similar competitive environments and therefore serve similar roles[27]. As supply structures influence the opportunities that people have to purchase alcohol, it was assumed that market segments spending behaviour in different licensed premises would be similar between Auckland and Wellington for example, or between Palmerston North and Dunedin for example. So the analysis is limited (by necessity) to average demand-side patterns for each urban location type, and applying those average demand-side patterns at the urban location type level to each TA according to its fit within the geographic framework.

A limitation of this approach is that there may be variations in the demand-side patterns of one or more urban areas within a particular location type that are being obscured when combined and averaged with other urban areas. This could include variations between general licence and trading hours in different types of premises. This risk is considered small within the Main Cities group because of the broad similarities

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[26] Based on SNZ 2013 defined urban areas and associated Census 2013 usually resident population.

[27] Similarly, licensed outlets in rural areas were assumed to operate in a similar competitive environment and therefore serve simlar roles.

between the urban areas of Auckland, Wellington and Christchurch, but may be relevant within the other location types - for example, young male and female adults in university cities may have different drinking behaviours from young male and female adults in non-university cities. Or, if cities or town with significant tourism activity have longer trading hours than less tourism focussed cities and towns. How sensitive the research findings are to the specified geographic framework (including the effect of different and/or more TA groups) was not addressed in this research for time and cost reasons, but would be a beneficial next step.

Table 2.2 - Geographic Framework – Urban Location Type Classification

Location Type	City Name	Included Urban Areas
Main Cities	Auckland	Northern Auckland Zone
		Western Auckland Zone
		Central Auckland Zone
		Southern Auckland Zone
	Wellington	Upper Hutt Zone
		Lower Hutt Zone
		Wellington Zone
		Porirua Zone
	Christchurch	Christchurch
Large Regional Cities	Hamilton	Hamilton Zone
	Tauranga	Tauranga
	Napier	Napier Zone
	Hastings	Hastings Zone
	Palmerston North	Palmerston North
	Dunedin	Dunedin
Other Regional Cities	Whangarei	Whangarei
	Rotorua	Rotorua
	Gisborne	Gisborne
	New Plymouth	New Plymouth
	Wanganui	Wanganui
	Nelson	Nelson
	Timaru	Timaru
	Invercargill	Invercargill
Rest of New Zealand		*Balance of Urban areas and Rural areas*
Total New Zealand		*All Urban and Rural Areas*

Source: M.E

Using the date of the transactions, the datasets were produced for each aggregated location type for different time periods - the 2013 and 2014 calendar years - so that changes in demand patterns could begin to be monitored over time. The primary use of this demand-side data is:

- to create average percentage distributions of total sales occurring within the default national licence hours under the SSAA for each urban location type[28] that can be applied to estimates

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[28] Given the limited number of LAPs that have been approved across New Zealand to date, and the timing of when those few LAPs will take effect relative to the 2014 base year of this BNZ based demand-side analysis (i.e. mostly coming into effect in 2015 or 2016), the default national licence hours is considered to be the appropriate daily time-frame across which estimated alcohol sales are distributed within each urban location type, and then inferred at the TA level. These are 7am-11pm for off-licence premises,

of total alcohol related sales in each TA (supply-side data) to generate estimates of alcohol sales ($000) by outlet type and category, hour and day of week and market segment. The BNZ sample dataset (2014 calendar year) is utilised for this purpose as market segment detail of cardholders is collected by BNZ but not Paymark. The key limitation of this transaction data is that there is no insight of the timing and market segment of purchases specifically including alcohol and so the assumption is that alcohol related purchases are distributed according to the pattern of all purchases within the licensed trading hours. For some licence types, this will be one and the same thing (i.e. in bottle stores where the proportion of sales that are alcohol related is very high), but in others (such as licensed restaurants or supermarkets where the proportion of sales that are alcohol related is relatively low) there may be slight variations in the purchase patterns of alcohol from those shown in the total sales data. In the absence of better data, M.E's approach provides an accurate distribution of total (alcohol and/or other goods and services) purchase patterns in licensed outlets by category[29] in each urban location type for 2014 and a broadly accurate or indicative distribution of alcohol related purchase patterns.

- to analyse changes in supply and purchase patterns in licensed merchants between the two years to identify what effect the SSAA may be having on total sales patterns (alcohol and/or other goods and services) at the urban location type level across all trading hours (licensed and un-licensed). M.E has utilised the Paymark sample dataset for this purpose as it distinguishes domestic customers from international visitors, although does not provide age or sex breakdowns. A limitation of this transaction data is that it is not possible to isolate the effect that the SSAA might be having on 2014 sales and purchase patterns relative to other supply-side or wider economic changes over that period (not explored in this research). In saying that, M.E is not aware of any potential market forces that would have a specific influence on the *timing* of purchases other than the SSAA. To help mitigate the potential effect of other market forces (such as inflation) on the sales data across time, M.E has analysed this Paymark demand-side dataset using a 'shift in share' approach that focusses on the relative shift in sales across days, hours, and licence types.

2.6 The Alcohol Supply and Demand Model

The various components of the research (described above) are drawn together in the ASDM (2014). This Model provides the capability to identify and examine the key parameters of alcohol supply structures and purchasing patterns for any TA or urban location type in New Zealand as well as for New Zealand overall. The Model also provides a base for monitoring shifts in demand-side patterns over time (albeit one year), as the effects of the SSAA unfold.

8am-4am the next day for on-licence and club licences premises. It is acknowledged that this assumption may not be *as* appropriate if replicated in future years when LAPs do start to come into effect. If a TA enforces reduced licence hours, then the average purchase patterns for that TA's urban location type may not be representative of local supply and demand patterns and a more refined spatial framework may be needed to accommodate this.

[29] This is according to transactions paid for by debit or credit cards. The research assumes that cash and cheque based purchases have the same purchase patterns as electronic transactions.

Due to the complexity of the methodology developed for this research and the large volume of output data, the Model is relatively technical. The chosen structure provides opportunity to focus on specific parts of the alcohol demand and sales structure in any location, from different perspectives. The Model also allows for high level analysis, as well as the detail. The underlying datasets are structured to include sub-totals and totals, to provide for various combinations of detail and generality. Thus, at the most general level it can describe spending by all segments combined, for total New Zealand, for total licensed outlets. At the other end of the spectrum, it can describe estimated spending/sales in one of the 60 outlet categories, in a single TA, and for a single market segment. The full capability of the Model cannot practically be covered in this report – a selection of higher level results are however included in the following sections.

Alcohol sales/spend results are generated by the same fundamental process within the Model. That is, estimated employment (MECs) for the selected location by each licence type-category combination is multiplied by average alcohol sales per MEC for each licence type-category which is estimated at the urban location type level. For example, if the selected TA is coded as being within 'Main Cities' by virtue of its urban area, the analysis applies the average alcohol sales per MEC for each licence type-category associated with Main Cities to each MEC in the selected TA. This generates estimated total alcohol sales by licence type-category for the selected location.

Total estimated alcohol sales are then disaggregated across market segments (age-sex cohorts) based on the average distribution of total sales[30] found in the relevant urban location type (i.e. purchase patterns in Main Cities). Sales to each market segment are then further distributed across national default licence hours and days of the week based on that same demand-side dataset.

As discussed above, a key assumption in the overall sales (demand-side) distribution approach is that alcohol sales and purchase patterns for each TA reflect the average patterns of that TA's urban location type. The resulting values from those patterns are simply scaled according the number, size and type of licences found within that TA. The results are generally most reliable at the national level, with care needed to acknowledge the limitations of results at the TA and (to a lesser extent) the urban location type level.

2.7 Overview of Assumptions and Limitations

M.E's research methodology relies on a number of assumptions and estimations at each key step in the analysis – several of which have already been discussed above. That is, assumptions and limitations apply to the cleaning of the Licence Database, geocoding of licences, estimating the primary ANZSIC, reconciling employment data with licence data, estimating national alcohol sales by outlet type, estimating the share of total sales that are alcohol related, generating demand-side datasets and the processes in operation within the ASDM as mentioned above[31]. These have been necessary to fill gaps, link datasets and reconcile results.

To a considerable degree, the estimations embedded in the methodology are a balancing process. It is important to acknowledge that changes to information or assumptions at one point in the structure flow

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[30] Within national default licence hours.

[31] Refer the associated Technical Report for more detailed discussion of assumptions and limitations for each key step in the methodology. Available from HPA upon request.

directly through to other points. For example:

- The count of licences by type and category in each TA in the (cleaned) Licence Database is assumed to represent the actual supply side as at June 2014 (but is not easily verified on the ground). If M.E's cleaning of that database (including cross checks built into the BD reconciliation) did not remove all duplicate licences (or did not accurately group all licences to a common premises) then this potentially overestimates licences and premises in a TA respectively. This flows through to the allocation of estimated employment to each licence which in turn flows through (at the national total) to the calculation of average sales per MEC for each licence type-category combination. In the ASDM this will not impact on the reporting of alcohol sales at the national level (as it multiplies the ratio back by the same number of MECs), but the combination of potential licence over-counts and application of average sales per MEC ratios at the TA level will affect the accuracy of the alcohol sales estimates in individual TAs.

- Adopting a different price structure for off-licence outlets flows directly through to their estimated sales volume, which would mean the total of off-, on- and club-licence sales differs from the SNZ data on total alcohol beverages for sale. Because of this, it has been very important to maintain consistency within the assumptions, especially in regard to the sales structures of different types of outlet. The balancing process has meant a number of iterations were worked through, to settle on a point where the total alcohol for sale volume is accounted for[32], and consistency within the estimates is maintained.

- The application of demand-side distributions to supply-side estimates in the Model necessarily brings together the assumptions and limitations from both sub-models. Adopting different estimates or structures in either side (or both) will produce different results in the Model.

Accordingly, the Model results should be taken as what they are – best estimates based on a combination of strong information on some aspects (generally covering the main outlet types contributing to the sale and supply of alcohol), and partial information on other aspects (generally the minor outlet types), and general understanding of the various types of outlet which sell alcohol. As better information becomes available, then the Model structure is set up so that it can potentially be utilised directly, with adjustments made to maintain the overall reconciliation with known values such as the SNZ data on the volume of alcoholic beverages available for sale.

The following report sections contain a summary of research findings. Section 3 examines supply-side structures in terms of the count of licences, estimated employment and estimated alcohol sales by type and category. Analysis is provided at the national, urban location type and TA level. Section 4 examines demand-side structures nationally and across urban location types. It demonstrates patterns by licence type according to age, gender, day of week and time of day (and in combination). Section 5 examines observed changes in demand-side patterns in the year before the implementation of the SSAA and the first year after. It reports on actual and relative shifts in spending between licence types, between licence categories within each type and across the day and night.

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[32] The analysis was able to account of 98.6% while maintaining other assumptions.

3   Alcohol Supply Patterns & Analysis

The research examines estimated sales of alcohol according to a breakdown of outlet type – comprising combinations of club, off-, and on-licence types and licence categories. This section examines the research findings from the perspective of supply by outlet type. That is, what types of premises are selling alcohol and how much are they selling? It contrasts the mix and scale of outlet types across the four main urban typologies and by TA.

3.1   National Supply Structure

It is useful to understand the main parameters of the alcohol licensing structure. There are an estimated 12,390 licences (June 2014), or about one licence per 390 persons, nationally[33]. Of these, 6,911 or 56% are on-licences (about one licence per 640 persons), while 3,442 (28%) are off-licences (one per 1,300 persons), and the remaining 2,037 (16%) are club licences (one per 2,200 persons) (Table 3.1).

While there are some 58 different licence type and category combinations, a number of categories stand out. Most numerous are restaurants which account for 29% of all licences (and over half of all on-licences), ahead of taverns (15%), sports clubs (13%), bottle stores (8%), hotels (8%) and grocery stores (4%). Together, these six outlet types account for over three quarters of all licences. At the other end of the spectrum there are several licence categories with very low representation, including TAB outlets and music studios (1 each), hospitals (2), distilleries (9), as well as conference centres (8) and casinos (6).

However, while the number of outlets is an important indicator of overall accessibility to licensed outlets, the major differences among types in sales per outlet means that the supply picture is quite different in terms of $ sales and volumes sold. This is discussed further in Section 3.4 (Table 3.3, page 36).

3.2 Supply Structure by Urban Location

The geography of the alcohol supply structure is also important. While there is limited difference between different parts of New Zealand for the main types of outlet (such as restaurants and bottle stores), there are regional differences for the less numerous types. Table 2.2 (page 18) shows the geographies which have been applied in this research, with a breakdown of Main Cities, Large Regional Cities, Other Regional Cities, and the Rest of New Zealand (and TAs allocated accordingly).

This geographic structure has been applied to reflect expected differences in supply and demand between types of (urban) locations (and the rest of New Zealand), while still accessing sufficiently detailed data to offer robust assessment. Anecdotal evidence suggested that the structure of the alcohol supply-side would vary, with larger cities having greater incidence of on-licence clubs, bars and licensed restaurants, compared with other parts of New Zealand. Associated with this would be sales patterns extending later in the evenings and post-midnight, reflecting the more comprehensive hospitality and entertainment sector in Auckland, as well as Wellington and Christchurch.

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[33] Based on the usually resident population, SNZ.

Table 3.1 - National Matrix of Licences by Type and Category, 2014 (Cleaned Database)

Licence Category	Off-licence	On-licence	Club Licence	Total Licences	Share of Total Licences
Adult	-	38	-	38	0%
Aero Club	-	-	20	20	0%
Airport	-	16	-	16	0%
Auctioneer Endorsed	12	-	-	12	0%
Bottle Store	979	4	-	983	8%
Brewer	48	10	-	58	0%
BYO Endorsed	-	174	-	174	1%
Casino	-	6	-	6	0%
Caterer Endorsed	172	7	-	179	1%
Chartered Club	129	1	284	414	3%
Combined Sports Club	-	-	128	128	1%
Complementary to type of goods sold	6	-	-	6	0%
Complimentary	99	1	-	100	1%
Conference Centre	-	8	-	8	0%
Conveyances	-	202	-	202	2%
Country Club	-	-	14	14	0%
Cultural Club	-	-	11	11	0%
Distillery	9	-	-	9	0%
Function Centre	1	194	-	195	2%
Grocery Store	452	3	-	455	4%
Hospital	-	2	-	2	0%
Hotel	287	646	-	933	8%
Location	18	-	-	18	0%
Mail Order	172	-	-	172	1%
Music Studio	-	-	1	1	0%
Nightclub	-	35	-	35	0%
Other	-	3	-	3	0%
Restaurant	19	3,597	1	3,617	29%
Social Club	5	-	91	96	1%
Sports Club	1	98	1,485	1,584	13%
Supermarket	347	-	-	347	3%
TAB	-	1	-	1	0%
Taste	1	30	-	31	0%
Tavern	341	1,535	-	1,876	15%
Theatre/Cinema	-	83	2	85	1%
Tourist House	16	157	-	173	1%
University/Polytechnic	1	21	-	22	0%
Wine Maker	327	39	-	366	3%
Total Licences by Category	3,442	6,911	2,037	12,390	100%
Share of Total Licences	28%	56%	16%	100%	

Source: National Liqour Licence Database, Ministry of Justice June 2014 (modified by M.E)

Table 3.2 and Figures 3.1–3.5 and Appendix C contain a summary of licence numbers and estimated employment (2014) for each of the urban location types used in the analysis. Overall, Main Cities account

for 4,744 licences (38%), Large Regional Cities account for 1,558 licences (13%), Other Regional Cities account for 1,091 licences (9%) and the Rest of New Zealand the remaining 4,997 licences (40%).

Table 3.2 - Summary of Licences and Estimated Employment by Urban Location Type

Location Type	Count				Share by Location Type (%)				Share by Licence Type (%)			
	Club Licence	Off-Licence	On-Licence	TOTAL	Club Licence	Off-Licence	On-Licence	TOTAL	Club Licence	Off-Licence	On-Licence	TOTAL
Licences 2014												
Main Cities	560	1,166	3,018	4,744	27%	34%	44%	38%	12%	25%	64%	100%
Large Regional Cities	245	379	934	1,558	12%	11%	14%	13%	16%	24%	60%	100%
Other Regional Cities	221	271	599	1,091	11%	8%	9%	9%	20%	25%	55%	100%
Rest of New Zealand	1,011	1,626	2,360	4,997	50%	47%	34%	40%	20%	33%	47%	100%
Total New Zealand	2,037	3,442	6,911	12,390	100%	100%	100%	100%	16%	28%	56%	100%
Estimated Employment (MECs) 2014 *												
Main Cities	2,719	20,879	34,764	58,362	28%	39%	48%	43%	5%	36%	60%	100%
Large Regional Cities	1,188	7,853	10,615	19,656	12%	15%	15%	15%	6%	40%	54%	100%
Other Regional Cities	2,806	5,724	6,530	15,060	29%	11%	9%	11%	19%	38%	43%	100%
Rest of New Zealand	3,013	18,786	19,826	41,626	31%	35%	28%	31%	7%	45%	48%	100%
Total New Zealand	9,726	53,242	71,735	134,703	100%	100%	100%	100%	7%	40%	53%	100%

Source: M.E - Alcohol Supply and Demand Model (2014). Refer Appendix C for further breakdown.

* MECS - Modified Employment Count (Employee Count plus estimated working proprietors), Employment Duplicated for Multi Licences, excludes conveyance licences.

An obvious feature in this summary is the ubiquitous nature of the main licence categories, with widespread incidence of sports clubs and chartered clubs, bottle stores and off-licence outlets attached to clubs and hotels, grocery and supermarket off-licences, and on-licences in hotels, restaurants and taverns. Another feature is the generally small size of club-licence outlets throughout the country (in terms of estimated average persons employed), reflecting the pattern of often part-time operation and weekend focus of many clubs. A third feature is the generally larger mean size of outlets in the Main Cities, especially among on-licence outlets, reflecting the larger population base and available market in those centres.

Figure 3.4 portrays the incidence of licence categories across the four urban location typologies. Figure 3.5 portrays the incidence of licence categories across the four urban locations in terms of employment rather than licence numbers. This provides a clearer picture of the importance of the Main Cities within the overall alcohol supply sector.

Figure 3.1 - Mean Employment per Club Licence by Category & Urban Location 2014
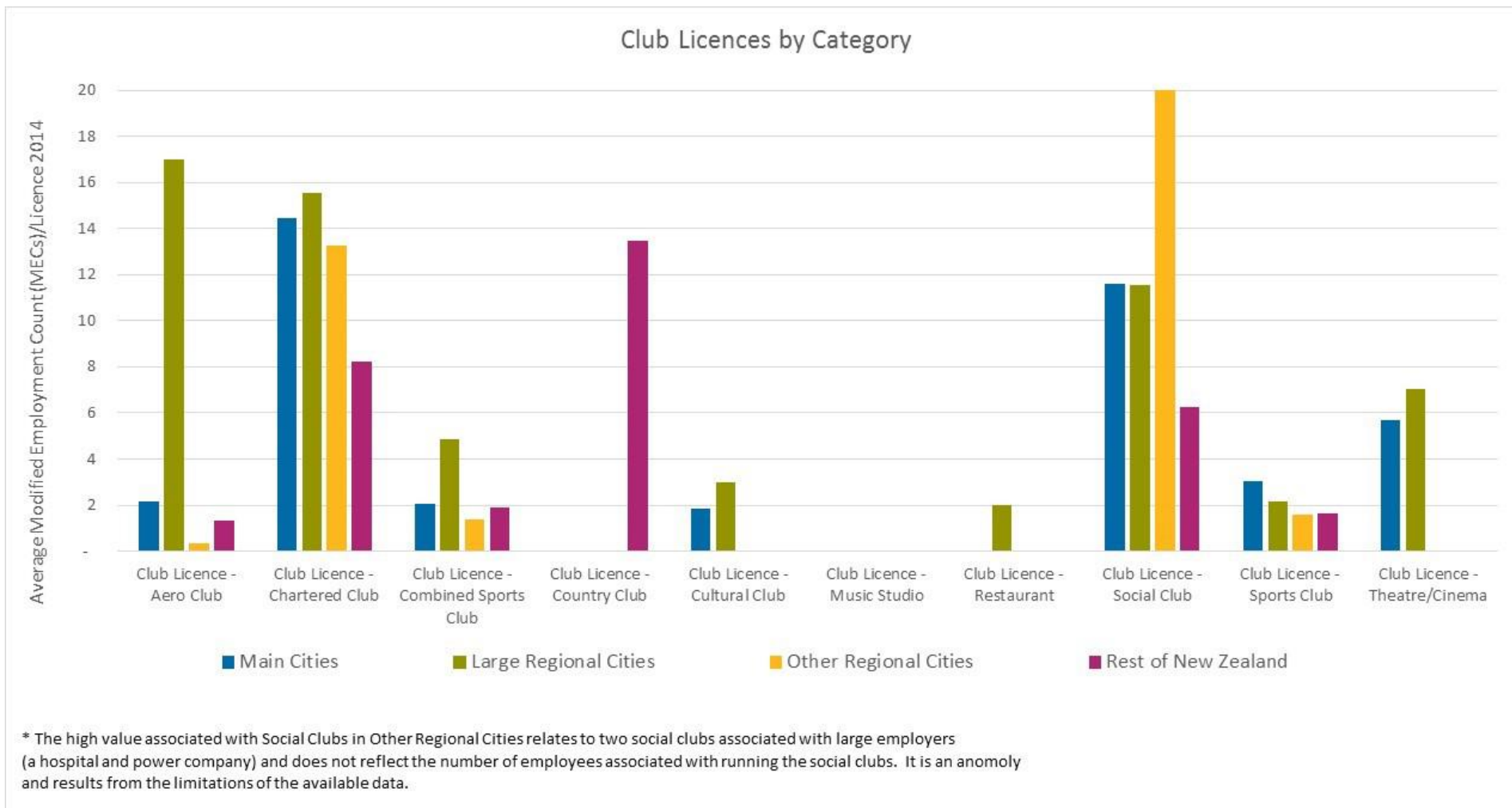
Figure 3.2 - Mean Employment per Selected Off-Licence by Category & Urban Location 2014
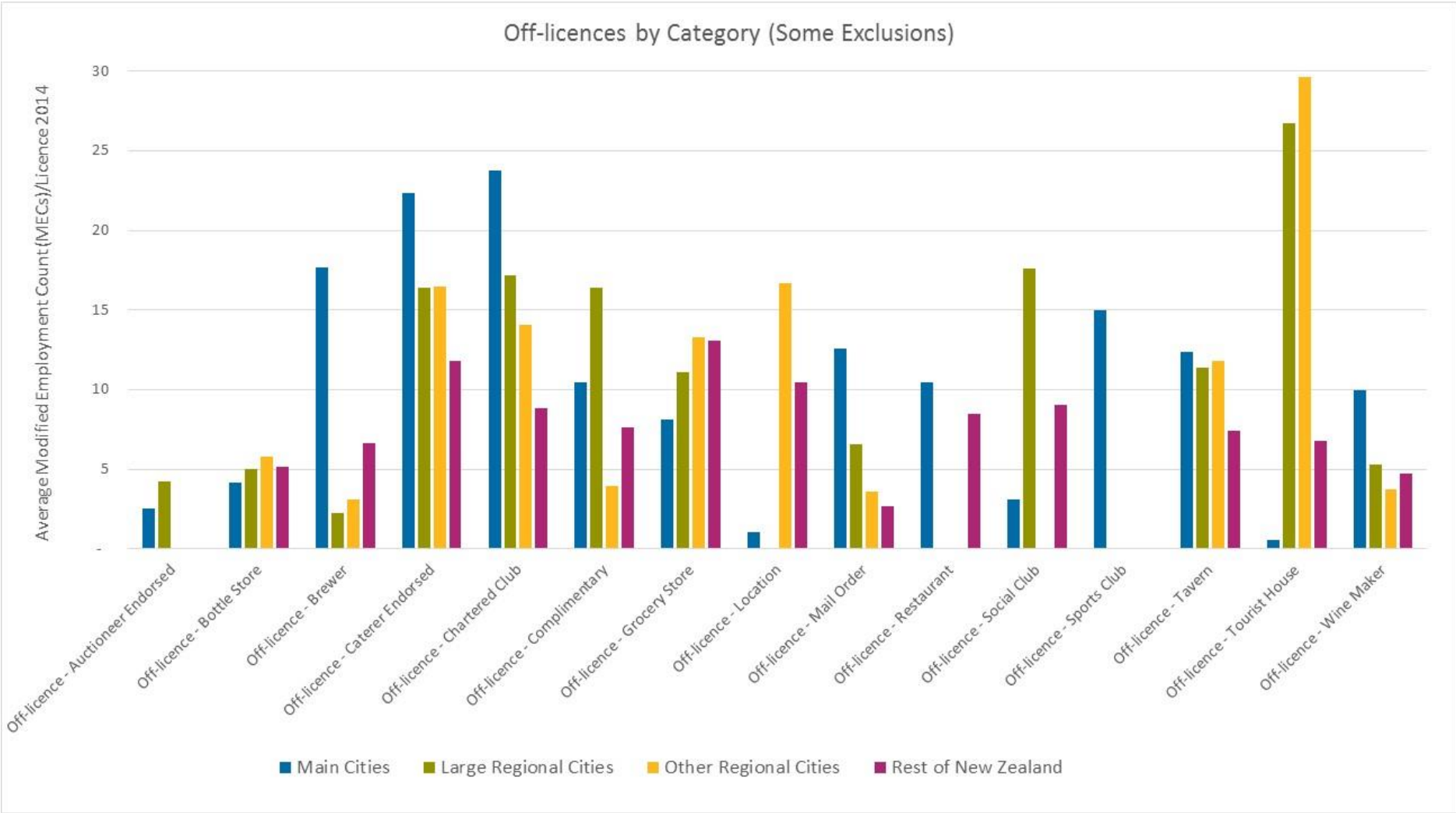
Figure 3.3 - Mean Employment per Selected On-Licence by Category & Urban Location 2014
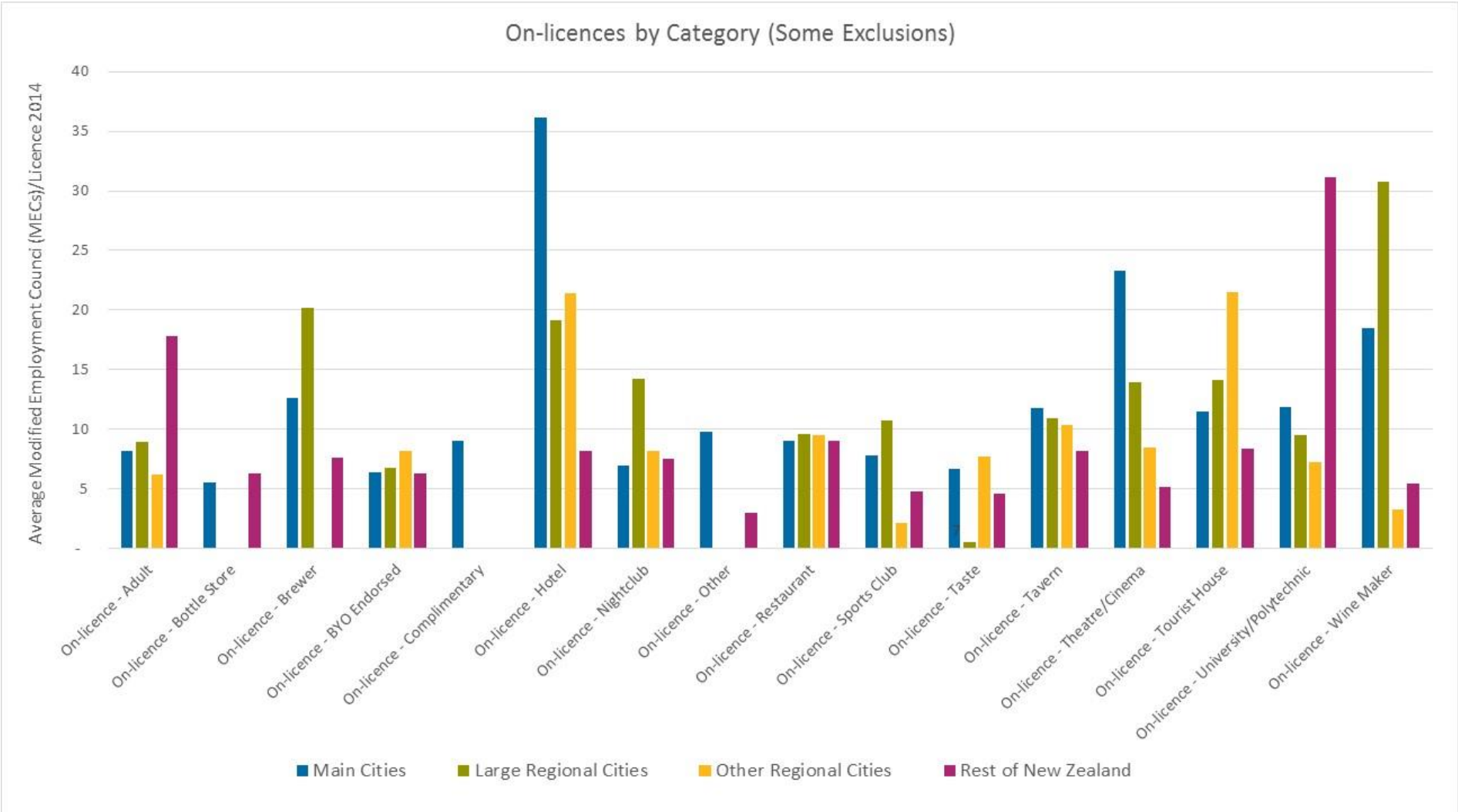
On-licences by Category (Some Exclusions)

Legend: Main Cities | Large Regional Cities | Other Regional Cities | Rest of New Zealand

Share of Licences by Type-Category Combination and Urban Location

Legend: ■ Main Cities ■ Large Regional Cities ■ Other Regional Cities ■ Rest of New Zealand

Share of Estimated Modified Employment Count (MECS) by Licence Type-Category Combination and Urban Location

Legend: Main Cities | Large Regional Cities | Other Regional Cities | Rest of New Zealand
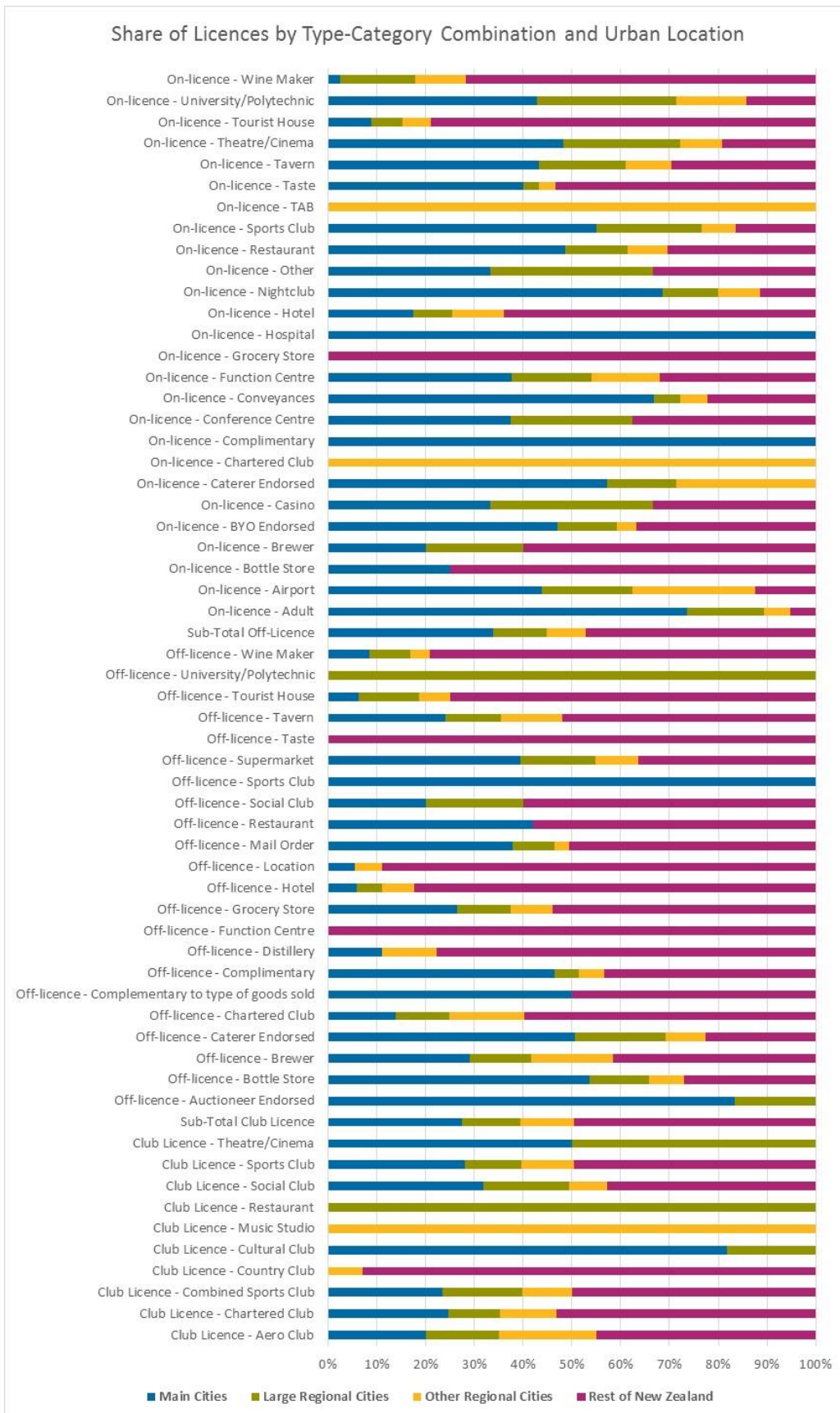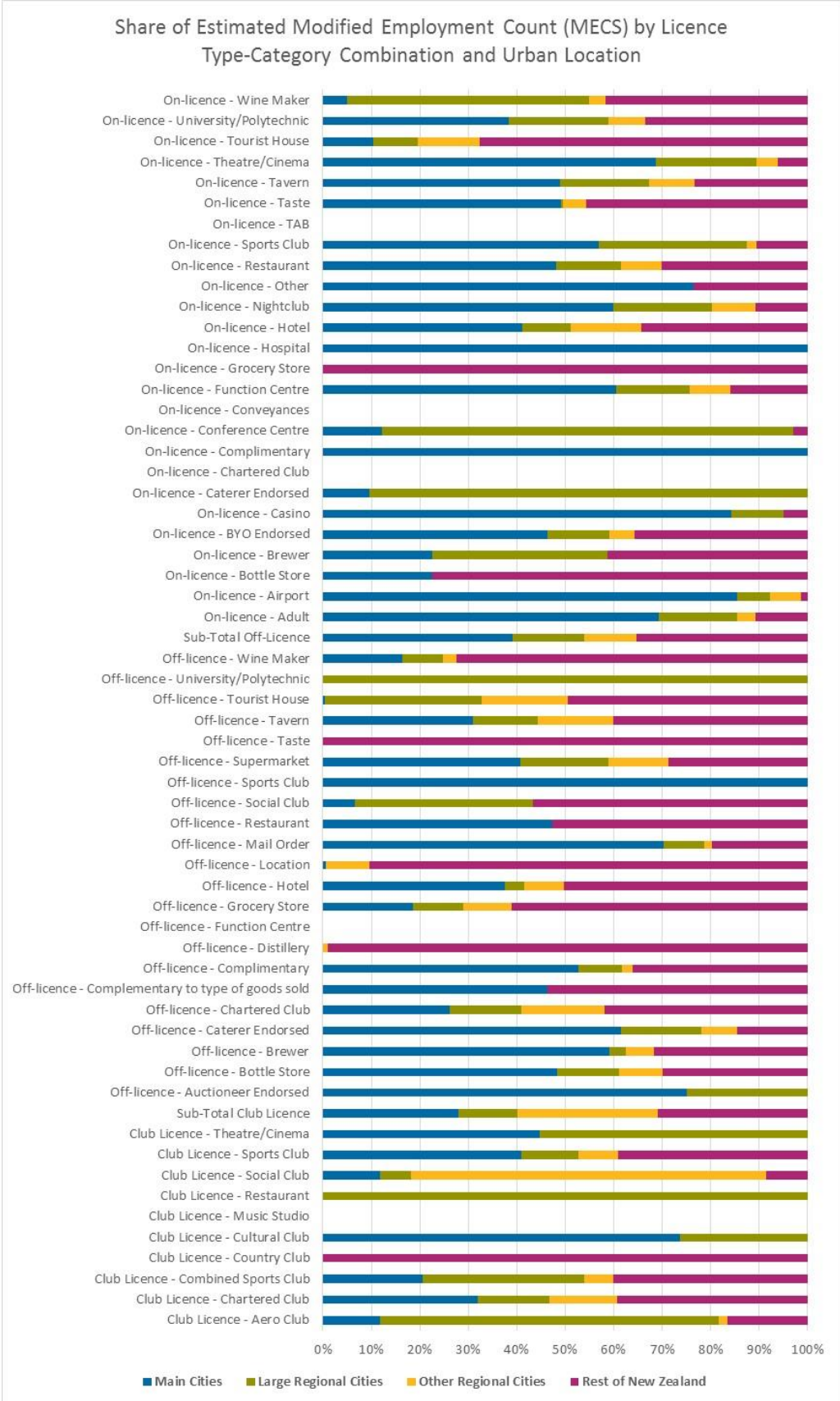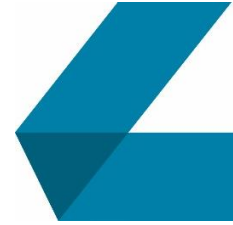
3.3 Supply Structure by Territorial Authority

Figures 3.6 and Appendix D portray the incidence and distribution of licence types across TAs according to their urban type grouping[34]. Note, the sum of TAs in each location type differs from the location type data in Section 3.2 as the TAs include rural areas that are included in the Rest of New Zealand category. The data shows that Auckland City accounts for 27% of all licences in New Zealand (June 2014) with an estimated 3,340 licences spread across 3,205 premises. A distant second is Wellington (Wellington City, Porirua City, Upper Hutt City and Lower Hutt City combined) with 987 licences or 8% of the national total, and Christchurch City with 827 licences (7%). TAs falling within the Large Regional Cities location type range from 421 licences in Dunedin City (3% of the national total) to 174 licences (1%) in Palmerston North City. TAs falling within the Other Regional Cities location type range from 251 licences (2%) in Rotorua District through to 95 licences in Wanganui District (1%).

Figure 3.6 - Count of Licences by Outlet Type and TA 2014 – Main, Large Regional & Other Cities
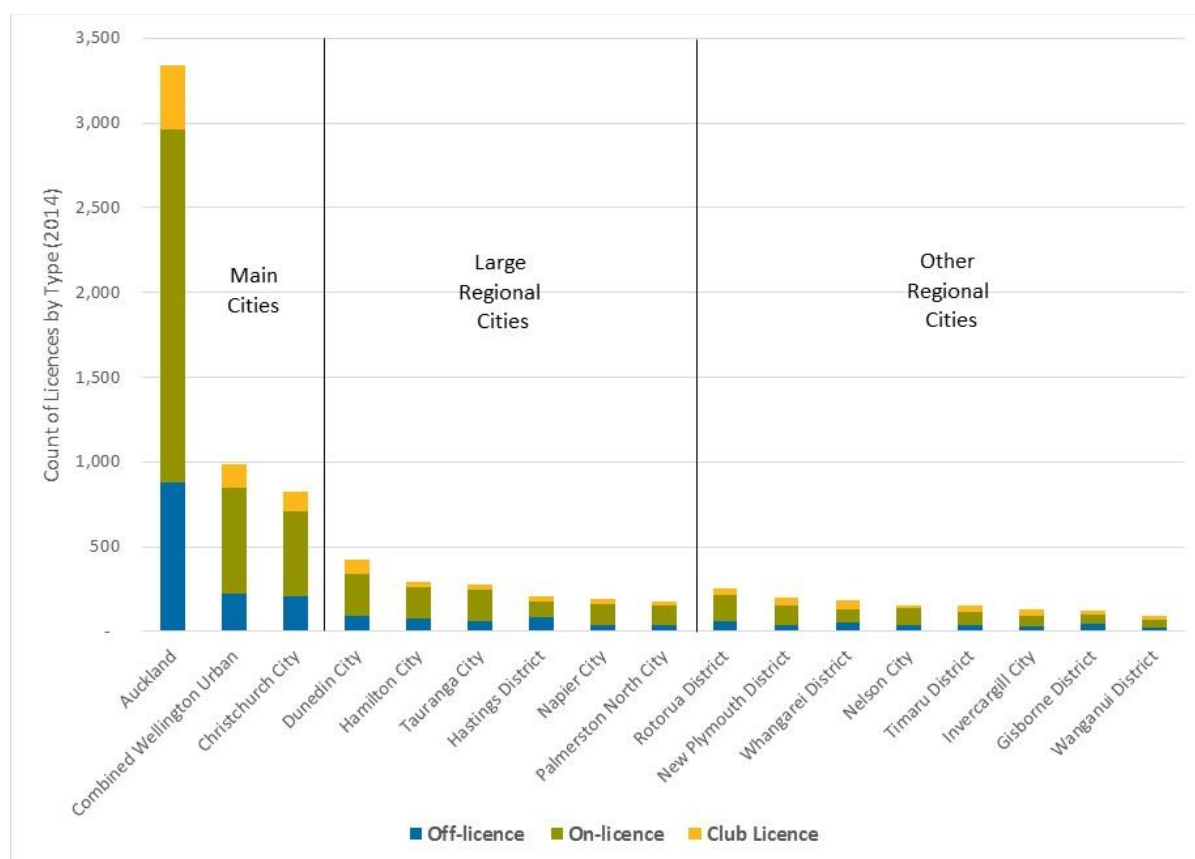
Figure 3.7 shows the mix of licences by type in each TA in Main, Large Regional and Other Regional Cities. In Main City TAs, the mix between on, off and club licences is broadly similar. Within the Large Regional City TAs, Hastings District stands out with a greater than average share of off-licences (39%) and an associated lower than average share of on-licences (47%). The higher off-licence share is driven by the winemaker licence category (with Hawke's Bay being one of the country's wine producing areas). Dunedin City and Napier City stand out for having a higher than average share of club licences compared to other

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[34] A TA is assigned to a location type by virtue of its urban area(s).

TAs in that group. Within the Other Regional City TAs, Gisborne District stands out with a greater than average share of off-licences (35%, also driven by the addition of the winemaker licences) and an associated lower than average share of club licences (20%). Nelson City and Rotorua District stand out for having a lower than average share of club licences and a higher than average shares of on-licences compared to other TAs in that group – reflecting their tourism role which supports a greater number of food and beverage outlets. Conversely, Invercargill City and to a slightly lesser extent Whangarei District have an above average share of club licences and a below average share of on-licences.

Figure 3.7 – Distribution of Licences by Type and TA 2014 – Main, Large Regional & Other Cities
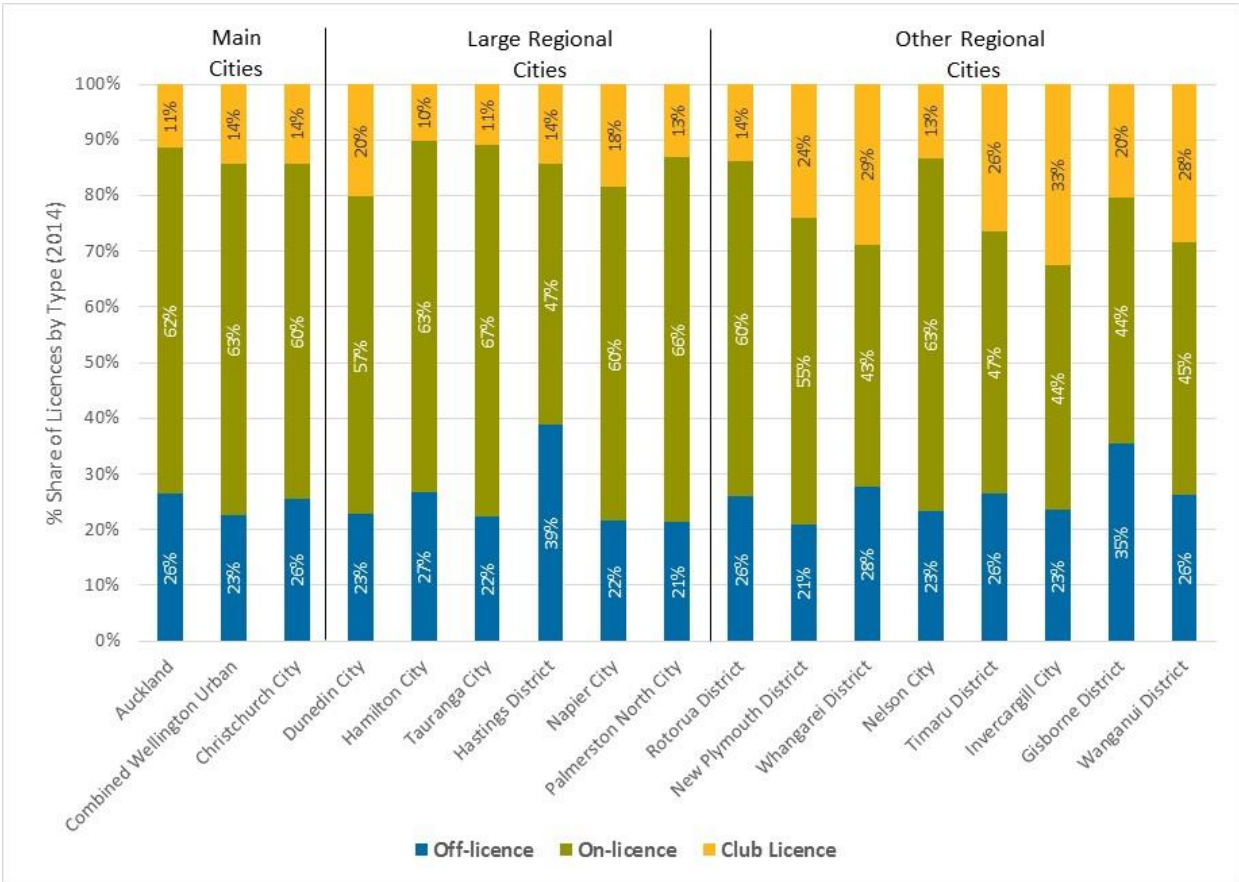
Figure 3.8 and Appendix D portray the incidence and distribution of licence types across TAs in the remaining Rest of New Zealand location type. This location type is defined by urban areas that have relatively small resident populations and includes rural areas. However, they show a wide range when it comes to licence counts. Queenstown Lakes District accounts for the largest number of licences with 317 (3% of all licences in New Zealand, June 2014). This makes Queenstown Lakes District rank higher than all TAs in the Other Regional Cities location type and higher than all but Dunedin City in the Large Regional Cities location type – 5th overall[35] due to its significant tourism role. Far North District is a close second in this group (and 8th overall in New Zealand). Marlborough District and Central Otago District also rank high (within this group and overall) – both wine growing areas. At the other end of the range is Chatham Islands Territory with just 6 licences according to the Licence Database (June 2014).

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[35] If shown in relation to Figure 3.6 which combines the four main urban cities of Wellington.

Figure 3.8 – Count of Licences by Outlet Type and TA 2014 – Rest of New Zealand
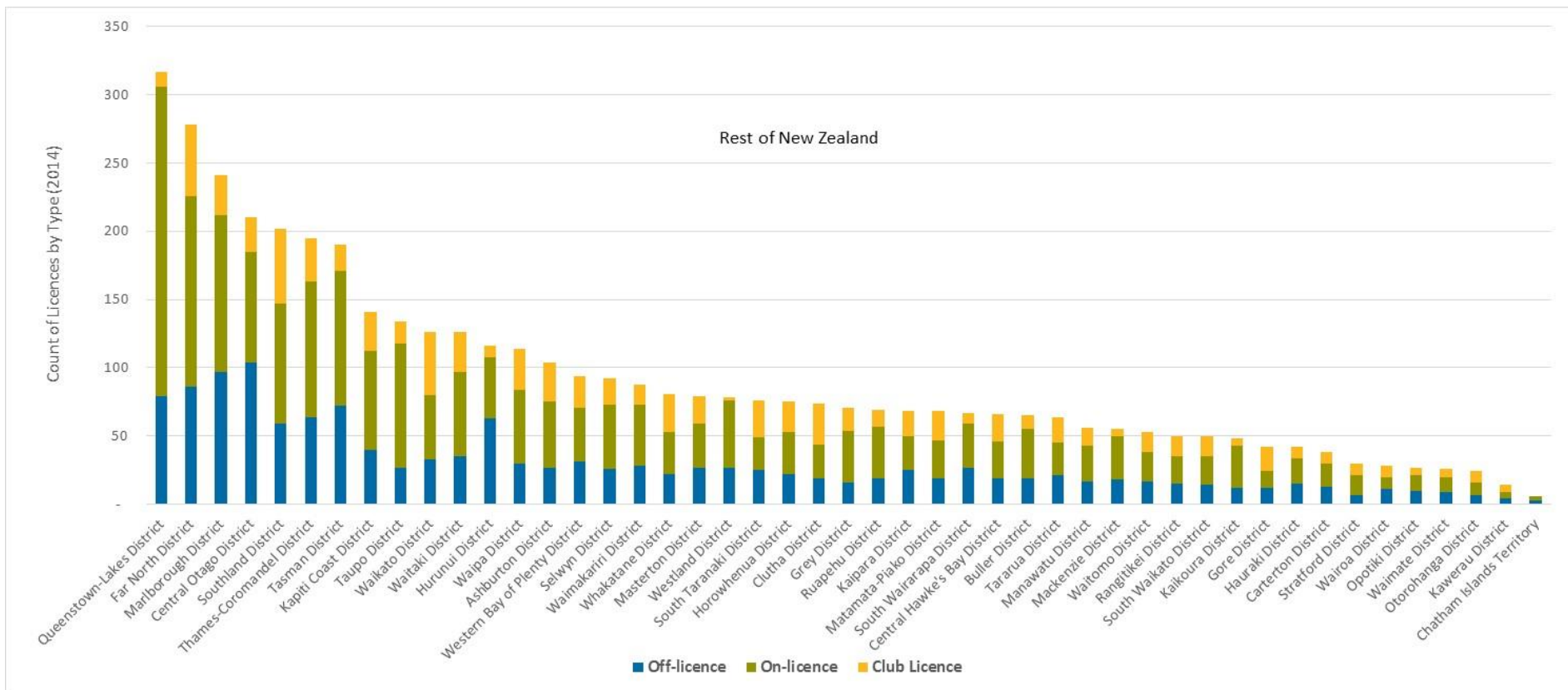
Figure 3.9 - Distribution of Licences by Outlet Type and TA 2014 – Rest of New Zealand
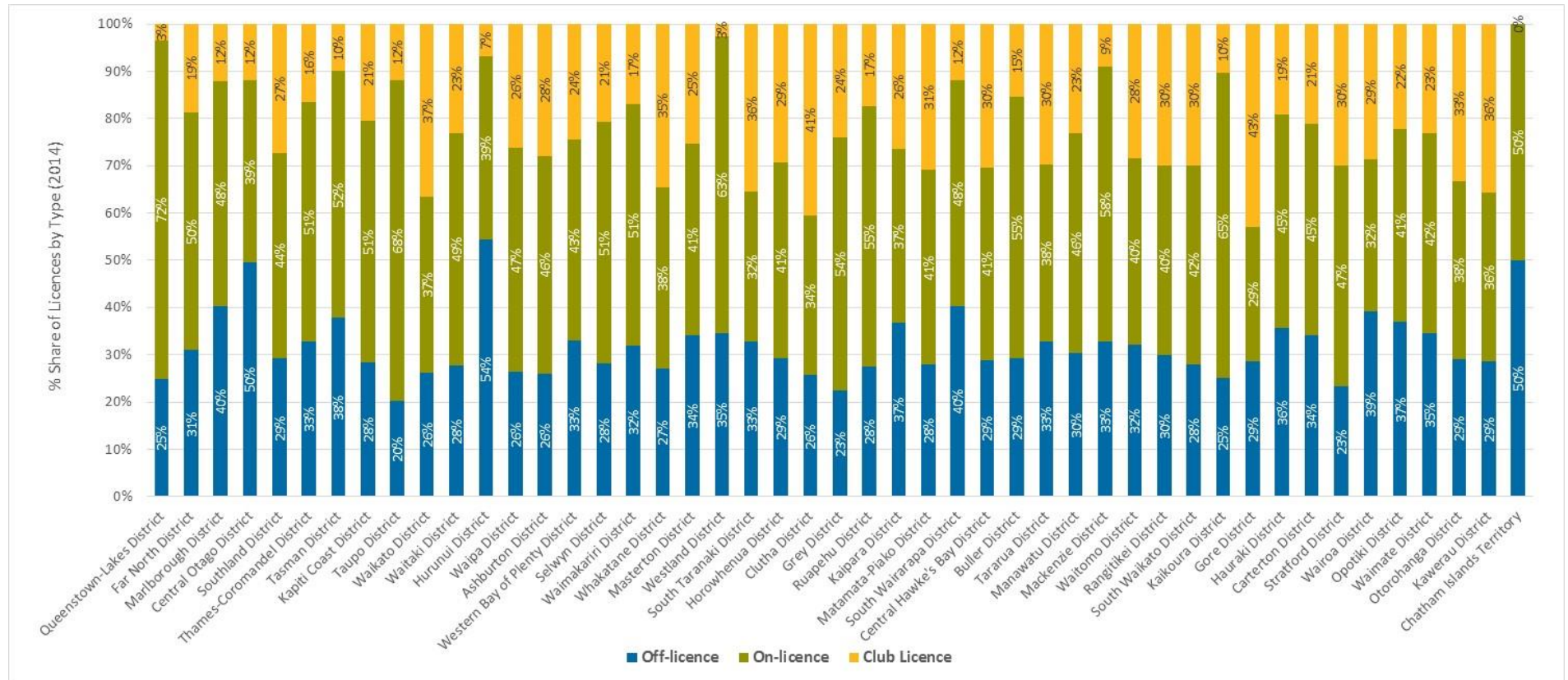
Figure 3.9 shows the mix of licences by type in each TA in the Rest of New Zealand group. A few notable outliers include:

- A very low share of club licences in Queenstown Lakes District and Westland District and no club licences in the Chatham Islands;

- A high share of club licences in Gore District and Clutha District (with a correspondingly low share of on-licences;

- A high share of off-licences in Hurunui District, Central Otago District, Marlborough District South Wairarapa District – driven by winemaker and/or mail order licence categories.

- By contrast, the relatively high share of off-licences in the Far North District is driven by a large count of grocery stores. This reflects a population spread across a number of small rural towns/communities.

- A high share of on-licences in Queenstown Lakes District (dominated by restaurants and then taverns) and in Westland District dominated by hotels and then restaurants.

3.4 Estimated Alcohol Sales by Licence Category

The national structure of estimated alcohol sales values and volumes by licence type and category for 2014 is shown in Table 3.3. This shows:

a) Total value of estimated sales/purchasing of alcoholic beverages in New Zealand of some $5,747 million for the year, covering 99% of the total beverages available for sale nationally (450 million litres);

b) Off-licence outlets account for the largest share of estimated sales by value (66%), just over twice that of on-licences (32%). Club licences account for an estimated 2% of sales by value;

c) Supermarkets account for an estimated 20% of national alcohol sales by value, bottle stores an estimated 26%, taverns 11% and restaurants 11%. Combined these four types of premises account for 68% of total alcohol sales (2014);

d) The lower price levels of off-licence sales mean that off-licence outlets account for the largest share of sales by total beverage volume (estimated at 84%), with on-licence outlets accounting for 14%. Club licences account for an estimated 1% of sales by volume;

e) Supermarkets account for an estimated 31% of national alcohol sales by total beverage volume, bottle stores an estimated 33%, taverns 6% and restaurants 4%. Combined these four types of premises account for 74% of total alcohol sold (2014);

Note that the estimates are specific to both outlet type and licence category, and the share of sales which alcohol accounts for varies between licence types – in particular, most off-licences associated with on-

licence operations are assumed to perform similarly to bottle stores, whereas the on-licence sales structure reflects the core operation of those outlets (for example, restaurants) [36].

The 2014 card transaction data indicates that international visitors account for an important share of total sales (i.e. alcohol and other goods and services) in on-licence premises (11%) though substantially smaller shares of total sales in off-licence premises (2%) and club licence premises (2%). Internationals' share of total card sales is 4% across all licence types, with domestic card holders at 96%. However, the card data does not capture purchases made by cash or cheque, which across all retail types still accounts for around a quarter of spending[37].

Total alcohol sales also includes spending by businesses (especially for hospitality and entertainment purposes), although there is limited information on spending by businesses on alcohol, and the licence types to which it is directed. As a consequence of this data gap, it is assumed that all estimated alcohol sales are made directly to individuals in the community, according to the purchasing patterns revealed in the card transaction data[38]. While this may overestimate sales across all age-sex cohorts for a small number of licence type-categories or locations relied upon by businesses purchasing alcohol, the impact of this assumption is expected to be quite small.

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[36] See Table 3.3 and also Appendix B.

[37] This research has not investigated the propensity of domestic purchasers and international visitors to pay by cash and so it is not possible to determine if the above shares of total sales in licensed premises hold true for total spending. For the purpose of this research, we have assumed that cash and cheque purchase patterns are the same as the credit and debit card purchase patterns.

[38] In accordance with the BNZ sample dataset.

Table 3.3 - Estimated National Alcohol Sales Structure by Licence Type and Category, 2014

Licence Type	Licence Category	No of Licences June 2014	Estimated Employment 2014 (MEC)	Estimated Total Outlet Sales ($m)[1]	Alcohol Share of Total Sales (%)[2]	Estimated Alcohol Sales ($m)	Share of Alcohol Sales (%)	Estimated Alcohol Volume (litres, m)	Share of Alcohol Volume (%)
CLUB LICENCE	Aero Club	20	73	$ 4	3%	$ 0.1	0.0%	0.0	0.0%
	Chartered Club	284	3,162	$ 113	30%	$ 34.0	0.6%	1.6	0.4%
	Combined Sports Club	128	303	$ 9	30%	$ 2.8	0.0%	0.1	0.0%
	Country Club	14	175	$ 3	30%	$ 1.0	0.0%	0.0	0.0%
	Cultural Club	11	23	$ 0	30%	$ 0.1	0.0%	0.0	0.0%
	Music Studio	1	-	$ -	30%	$ -	0.0%	-	0.0%
	Restaurant	1	2	$ 0	30%	$ 0.0	0.0%	0.0	0.0%
	Social Club	91	2,856	$ 84	30%	$ 25.3	0.4%	1.2	0.3%
	Sports Club	1,485	3,118	$ 242	30%	$ 72.7	1.3%	3.5	0.8%
	Theatre/Cinema	2	13	$ 0	30%	$ 0.0	0.0%	0.0	0.0%
	TOTAL CLUB LICENCE	**2,037**	**9,726**	**$ 458**	**30%**	**$ 136.2**	**2.4%**	**6.6**	**1.5%**
OFF-LICENCE	Auctioneer Endorsed	12	34	$ 10	1%	$ 0.1	0.0%	0.0	0.0%
	Bottle Store	979	4,548	$ 1,532	96%	$ 1,473.4	25.6%	146.2	32.5%
	Brewer	48	418	$ 85	95%	$ 80.3	1.4%	4.3	1.0%
	Caterer Endorsed	172	3,160	$ 223	96%	$ 214.8	3.7%	6.3	1.4%
	Chartered Club	129	1,630	$ 75	96%	$ 72.5	1.3%	7.2	1.6%
	Complementary to goods sold	6	10	$ 2	15%	$ 0.3	0.0%	0.0	0.0%
	Complimentary	99	908	$ 116	24%	$ 27.8	0.5%	2.8	0.6%
	Distillery	9	15	$ 5	92%	$ 4.5	0.1%	0.2	0.1%
	Function Centre	1	-	$ -	96%	$ -	0.0%	-	0.0%
	Grocery Store	452	5,216	$ 1,191	13%	$ 149.3	2.6%	17.5	3.9%
	Hotel	287	3,294	$ 169	48%	$ 81.3	1.4%	8.1	1.8%
	Location	18	185	$ 47	96%	$ 45.4	0.8%	4.5	1.0%
	Mail Order	172	1,163	$ 173	58%	$ 99.9	1.7%	9.9	2.2%
	Restaurant	19	177	$ 12	96%	$ 11.3	0.2%	1.1	0.2%
	Social Club	5	48	$ 2	96%	$ 2.0	0.0%	0.2	0.0%
	Sports Club	1	15	$ 0	96%	$ 0.4	0.0%	0.0	0.0%
	Supermarket	347	27,276	$ 11,693	10%	$ 1,157.6	20.1%	140.7	31.2%
	Taste	1	3	$ 1	0%	$ -	0.0%	-	0.0%
	Tavern	341	3,279	$ 169	96%	$ 162.4	2.8%	16.1	3.6%
	Tourist House	16	165	$ 10	96%	$ 9.7	0.2%	1.0	0.2%
	University/Polytechnic	1	5	$ 1	96%	$ 0.9	0.0%	0.1	0.0%
	Wine Maker	327	1,694	$ 196	90%	$ 176.7	3.1%	12.7	2.8%
	TOTAL OFF-LICENCE	**3,442**	**53,242**	**$ 15,710**	**24%**	**$ 3,770.5**	**65.6%**	**379.0**	**84.2%**
ON-LICENCE	Adult	38	331	$ 26	31%	$ 8.0	0.1%	0.2	0.1%
	Airport	16	893	$ 433	1%	$ 2.6	0.0%	0.1	0.0%
	Bottle Store	4	25	$ 5	96%	$ 4.5	0.1%	0.1	0.0%
	Brewer	10	111	$ 8	28%	$ 2.2	0.0%	0.1	0.0%
	BYO Endorsed	174	1,126	$ 71	0%	$ -	0.0%	-	0.0%
	Casino	6	1,204	$ 395	6%	$ 23.7	0.4%	0.8	0.2%
	Caterer Endorsed	7	189	$ 10	27%	$ 2.8	0.0%	0.1	0.0%
	Chartered Club	1	-	$ -	30%	$ 0.1	0.0%	0.0	0.0%
	Complimentary	1	9	$ 1	15%	$ 0.1	0.0%	0.0	0.0%
	Conference Centre	8	207	$ 11	27%	$ 3.1	0.1%	0.1	0.0%
	Conveyances	202	na	na	na	na	na	na	na
	Function Centre	194	3,364	$ 166	27%	$ 45.2	0.8%	1.5	0.3%
	Grocery Store	3	106	$ 3	27%	$ 0.9	0.0%	0.0	0.0%
	Hospital	2	407	$ 7	28%	$ 2.0	0.0%	0.1	0.0%
	Hotel	646	9,932	$ 1,344	27%	$ 365.5	6.4%	12.5	2.8%
	Nightclub	35	280	$ 22	31%	$ 6.9	0.1%	0.2	0.1%
	Other	3	13	$ 1	28%	$ 0.3	0.0%	0.0	0.0%
	Restaurant	3,597	33,058	$ 2,223	28%	$ 622.4	10.8%	19.6	4.4%
	Sports Club	98	739	$ 53	27%	$ 14.3	0.2%	0.8	0.2%
	TAB	1	na	na	0%	$ -	0.0%	-	0.0%
	Taste	30	163	$ 25	0%	$ -	0.0%	-	0.0%
	Tavern	1,535	16,042	$ 1,114	58%	$ 646.1	11.2%	25.3	5.6%
	Theatre/Cinema	83	1,353	$ 122	6%	$ 7.3	0.1%	0.2	0.1%
	Tourist House	157	1,532	$ 234	27%	$ 63.7	1.1%	2.2	0.5%
	University/Polytechnic	21	280	$ 21	38%	$ 7.9	0.1%	0.5	0.1%
	Wine Maker	39	370	$ 46	23%	$ 10.6	0.2%	0.3	0.1%
	TOTAL ON-LICENCE	**6,911**	**71,735**	**$ 6,342**	**29%**	**$ 1,840.1**	**32.0%**	**65**	**14.4%**
TOTAL[3]		**12,390**	**134,703**	**$ 22,510**	**26%**	**$ 5,747**	**100.0%**	**450**	**100.0%**

Note 1 - total sales of all goods and services by licensed outlets   *Note 2 - Refer to Appendix B for data sources*

Note 3 - the total alcohol beverages accounts for 98.6 % of SNZ Total Beverages for 2014

3.5 Supply Structures – Selected Case Studies

This section draws on the outputs of the ASDM, summarising 2014 supply structures (licence counts, employment and estimated alcohol sales by licence type) for a selected TA in each of the urban location types. The results are estimates only and reliability is limited to the accuracy of the Licence Database (and cleaning of it) to record licences in each location, the ability to reconcile employment estimates by ANZSIC to liquor licences and the application of national average alcohol sales per MEC.

3.5.1   Christchurch City

Figure 3.10 provides the breakdown of licences and employment by licence type in Christchurch City. There are an estimated 827 licences in the TA (all but 33 of them in the defined urban area). This equates to 17% of all licences in the Main Cities location type (urban extents only) and 7% of all licences in New Zealand in 2014 (spread among 770 premises). On-licences account for a 60% share of Christchurch licences and a similar share of estimated employment in licensed premises (56%). Club licences account for a 14% share of licences but only 5% of estimated employment (clubs are often small in size, operate with the help of volunteers and/or do not operate all days of the week). Off-licences account for a 26% share of licences and a larger 39% share of estimated employment. Overall, Christchurch City contributes approximately 20% and 8% of the employment in licensed premises in Main Cities and New Zealand respectively.

Figure 3.10 – Share of Licences and Employment by Licence Type – Christchurch City 2014
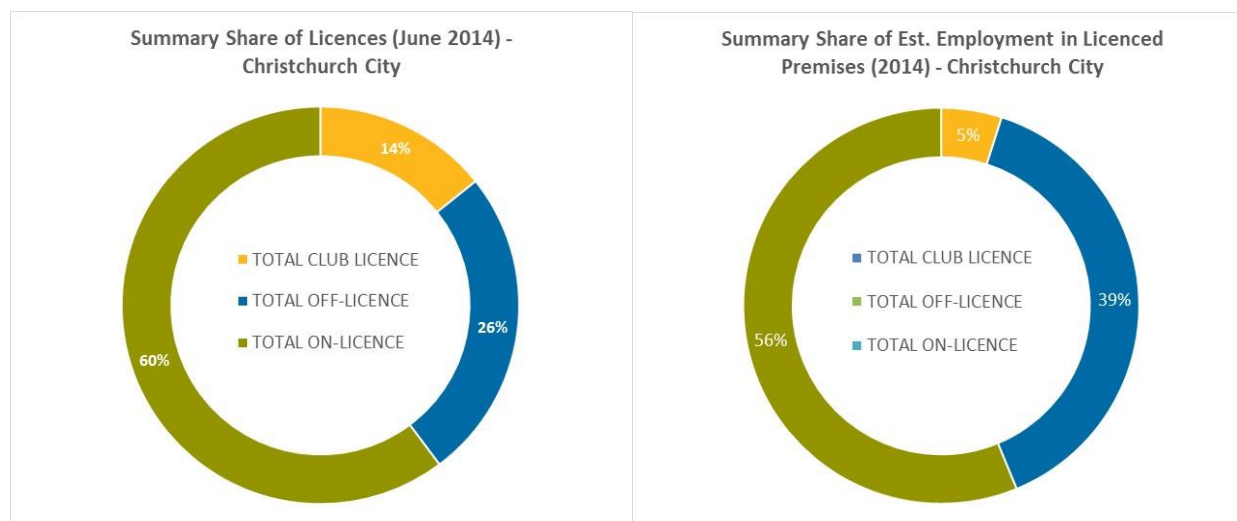
Figure 3.11 shows the results of estimated spend (i.e. sales) on alcohol in Christchurch City, all Main Cities and total New Zealand in 2014. The percentage shares in Christchurch are similar to the average shares of all Main Cities. In total, it is estimated that there is $173m spent on alcohol in Christchurch on-licences (36% of estimated alcohol spend), $297m spent on alcohol in off-licence premises (62%) and $9m spent on alcohol in club-licence premises (2%).

Figure 3.11 – Estimated Spend/Sales on Alcohol – Christchurch City 2014

Estimated Spend ($000) on Alcohol by Licence Type 2014

	Christchurch City	Main Cities	Total New Zealand
On-licence	173,100	894,780	1,840,020
Off-licence	296,572	1,692,031	3,770,463
Club Licence	8,753	46,557	136,151
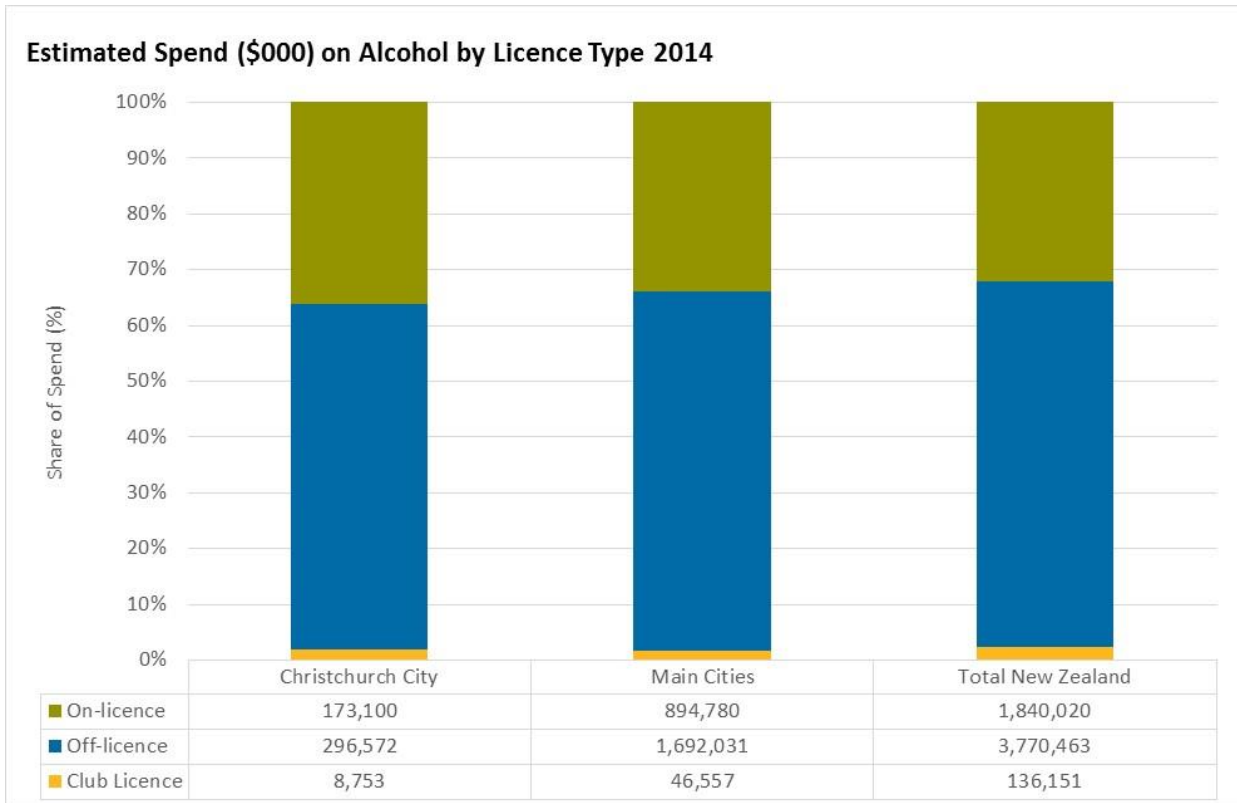
3.5.2   Tauranga City

Figure 3.12 provides the breakdown of licences and employment by licence type in Tauranga City. There are an estimated 281 licences in the TA (all in the defined urban area and spread among 281 premises). This equates to 18% of all licences in the Large Regional Cities location type (urban extents only) and 2% of all licences in New Zealand in 2014. On-licences account for a 67% share of Tauranga licences and a lower share of estimated employment in licensed premises (50%). Club licences account for an 11% share of licences and a similar share of estimated employment (10%). Off-licences account for a 22% share of licences and a larger 40% share of estimated employment. Overall, Tauranga City contributes approximately 19% and 3% of the employment in licensed premises in Large Regional Cities and New Zealand respectively.
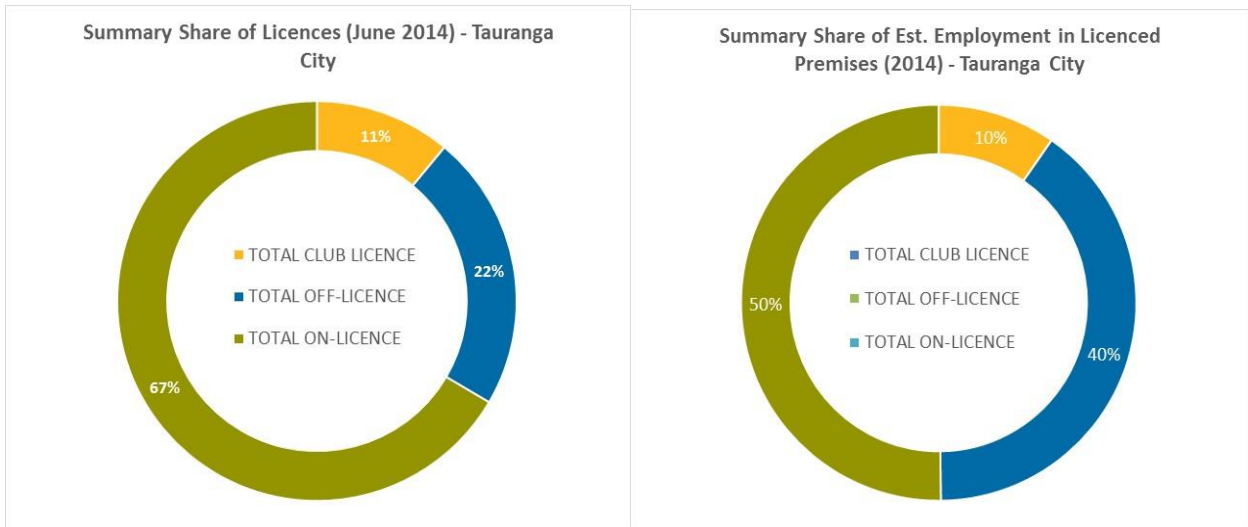
Figure 3.13 shows the results of estimated spend (i.e. sales) on alcohol in Tauranga City, all Large Regional Cities and total New Zealand in 2014. The percentage shares in Tauranga vary slightly from the average shares of all Large Regional Cities. In total, it is estimated that there is $45m spent on alcohol in Tauranga on-licences (30% of estimated alcohol spend), $103m spent on alcohol in off-licence premises (68%) and $4m spent on alcohol in club-licence premises (3%).

Figure 3.13 – Estimated Spend/Sales on Alcohol – Tauranga City 2014
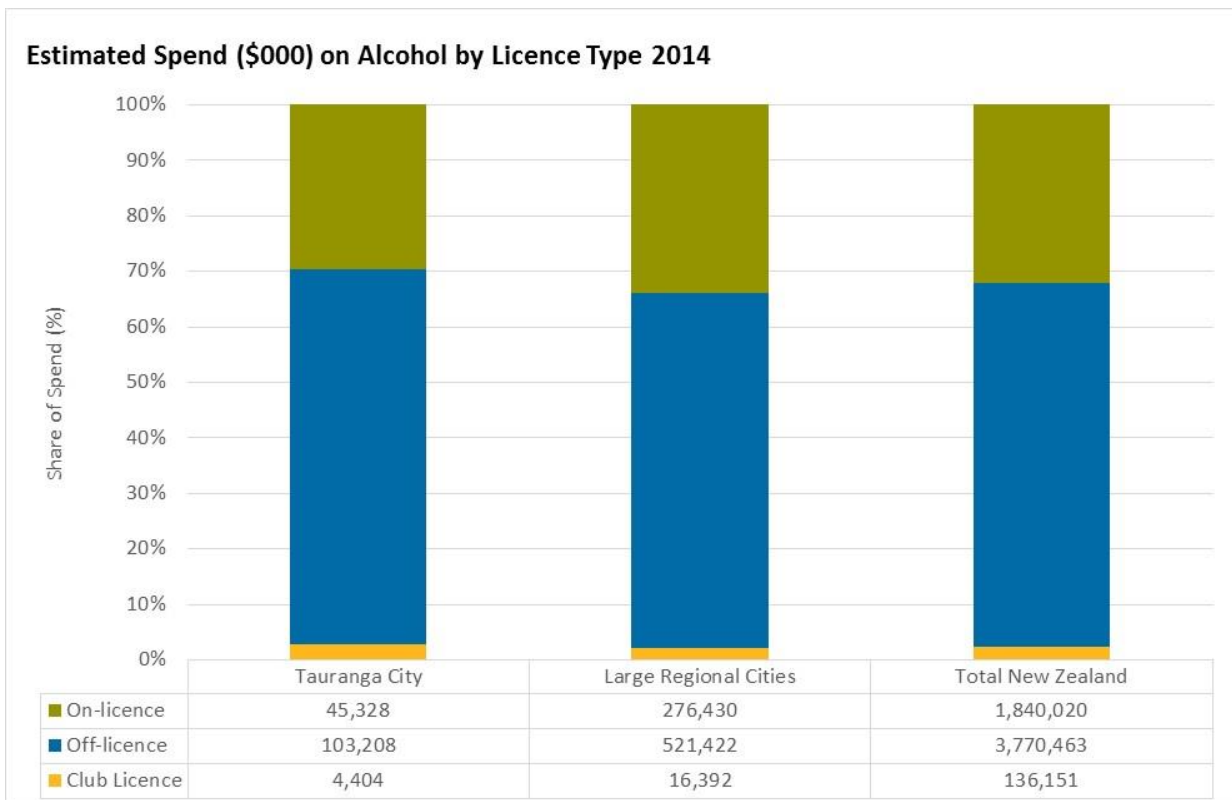
3.5.3   Nelson City

Figure 3.14 provides the breakdown of licences and employment by licence type in Nelson City. There are an estimated 158 licences in the TA (spread among 141 premises). All by 3 licences are in the defined urban area. This equates to 14% of all licences in the Other Regional Cities location type (urban extents only) and 1% of all licences in New Zealand in 2014. On-licences account for a 63% share of Nelson licences and a similar share of estimated employment in licensed premises (59%). Club licences account for a 13% share of licences and a much smaller share of estimated employment (4%). Off-licences account for a 24% share of licences and a larger 37% share of estimated employment.   Overall, Nelson City contributes approximately 13% and 1% of the employment in licensed premises in Other Regional Cities and New Zealand respectively.

Figure 3.14 – Share of Licences and Employment by Licence Type – Nelson City 2014
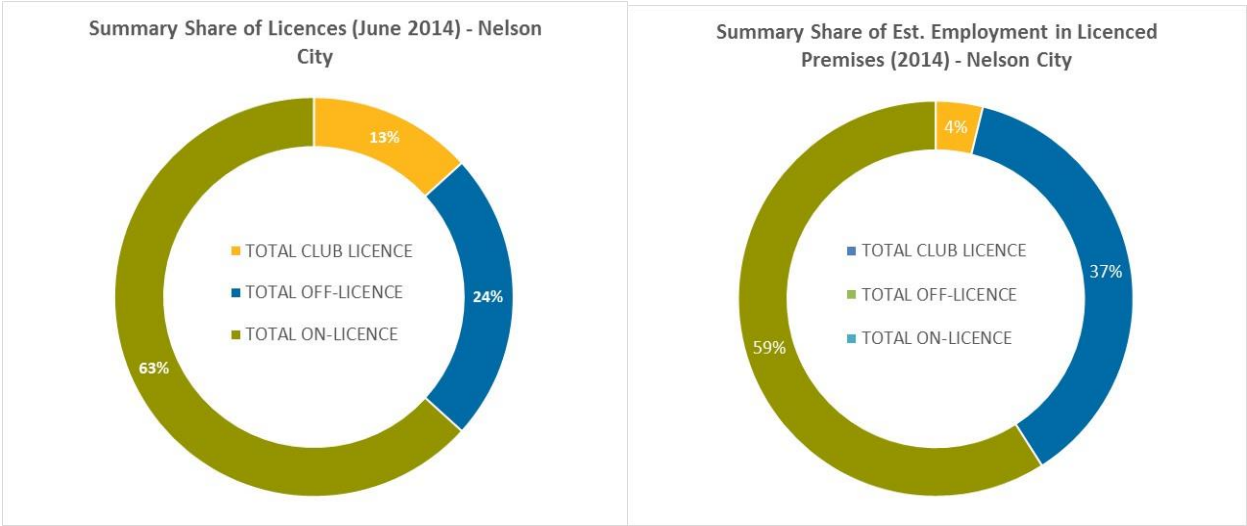
Figure 3.15 shows the results of estimated spend (i.e. sales) on alcohol in Nelson City, all Other Regional Cities and total New Zealand in 2014. The percentage shares in Nelson vary somewhat from the average shares of all Other Regional Cities. In total, it is estimated that there is $31m spent on alcohol in Nelson on-licences (44% of estimated alcohol spend), $39m spent on alcohol in off-licence premises (55%) and $1m spent on alcohol in club-licence premises (2%).

Figure 3.15 – Estimated Spend/Sales on Alcohol – Nelson City 2014

Estimated Spend ($000) on Alcohol by Licence Type 2014

	Nelson City	Other Regional Cities	Total New Zealand
On-licence	30,795	178,108	1,840,020
Off-licence	38,721	359,772	3,770,463
Club Licence	1,202	28,775	136,151
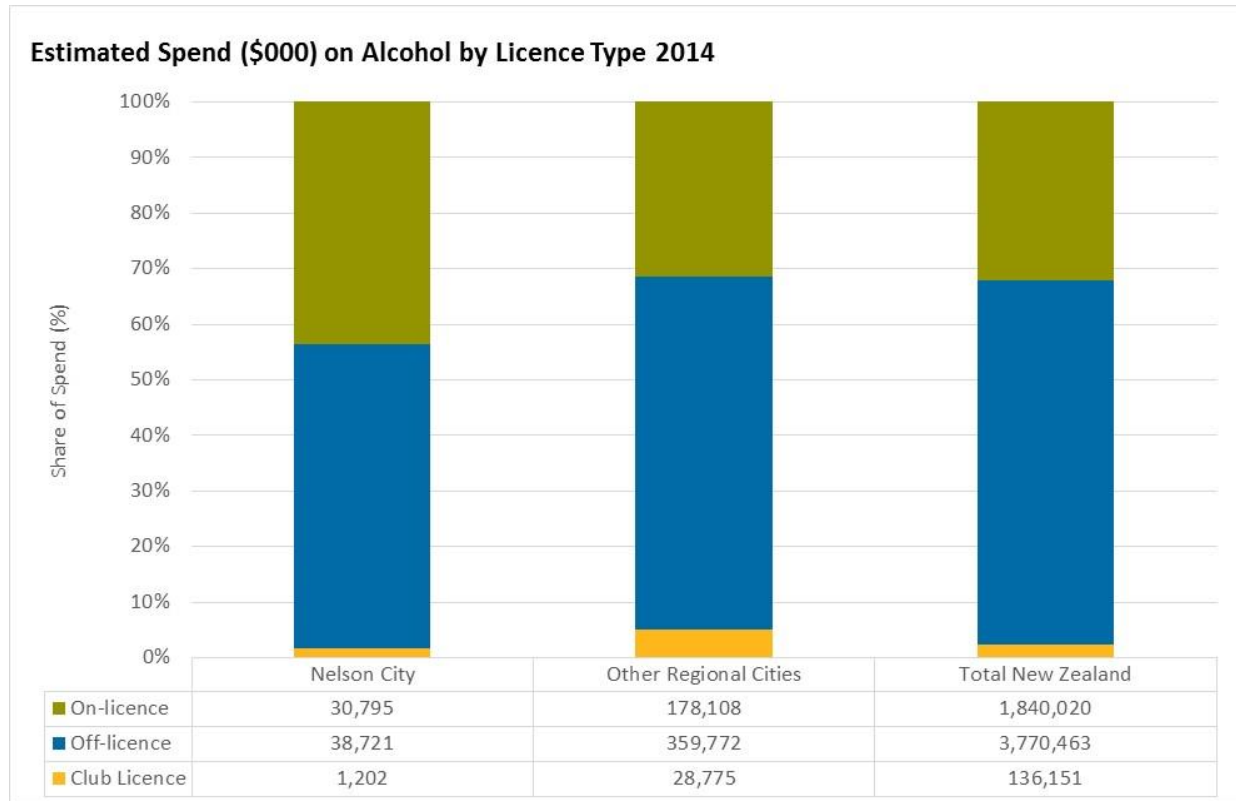
3.5.4   Clutha District

Figure 3.16 provides the breakdown of licences and employment by licence type in Clutha District. There are an estimated 74 licences in the TA (spread among 62 premises). This equates to 1% of all licences in the Rest of New Zealand location type and 1% of all licences in New Zealand in 2014. On-licences account for a 34% share of Clutha licences and a slightly higher share of estimated employment in licensed premises (40%). Club licences account for a 40% share of licences and a much smaller share of estimated employment (10%). Off-licences account for a 26% share of licences and a larger 50% share of estimated employment. Overall, Clutha District contributes approximately 1% and less than 1% of the employment in licensed premises in the Rest of New Zealand location type and New Zealand respectively.

Summary Share of Licences (June 2014) - Clutha District

Summary Share of Est. Employment in Licenced Premises (2014) - Clutha District
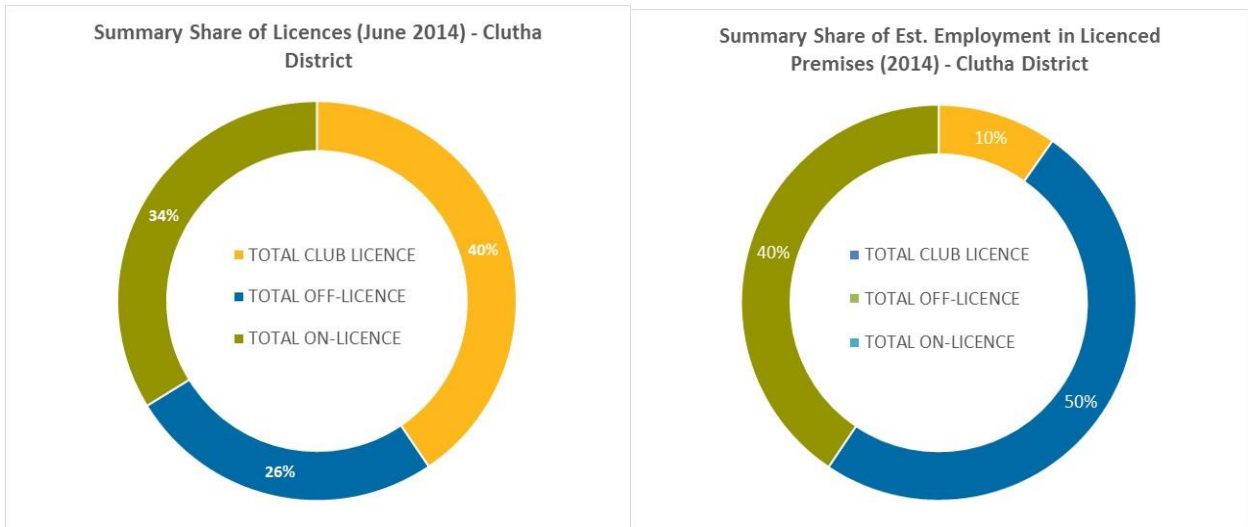
Figure 3.17 shows the results of estimated spend (i.e. sales) on alcohol in Clutha District, all Rest of New Zealand and total New Zealand in 2014. The percentage shares in Clutha vary somewhat from the average shares of all Rest of New Zealand TAs. In total, it is estimated that there is $7m spent on alcohol in Clutha on-licences (36% of estimated alcohol spend), $11m spent on alcohol in off-licence premises (59%) and $815,000 spent on alcohol in club-licence premises (4%).

Figure 3.17 – Estimated Spend/Sales on Alcohol – Clutha District 2014

Estimated Spend ($000) on Alcohol by Licence Type 2014

	Clutha District	Rest of New Zealand	Total New Zealand
On-licence	6,803	503,192	1,840,020
Off-licence	11,084	1,206,945	3,770,463
Club Licence	815	43,754	136,151
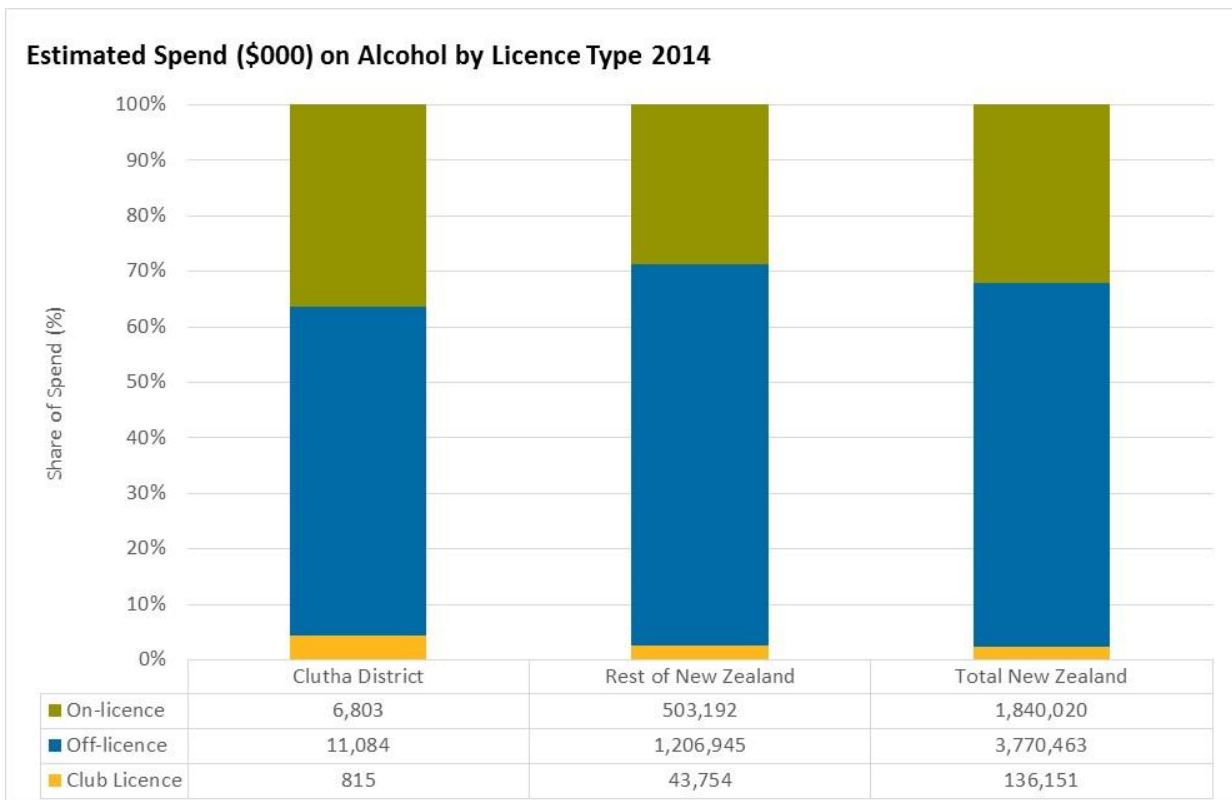
4   Alcohol Demand Patterns & Analysis

The research examines spending on alcohol according to a breakdown of males and females and five year age-cohorts, starting at 18 years (the minimum legal age to purchase alcohol) through to the 70+ age group. This section examines the research findings from the perspective of demand by market segment. That is, who is buying alcohol, where are they buying it, when are they buying it and how much are they buying? It draws on the outputs of the ASDM.

As discussed in Section 2.5, demand patterns by market segment are based on a sample[39] of annual transactions made in licensed premises on debit and credit cards[40]. The sample of transactions covers 72% of total New Zealand licensed premises (2014) which are categorised by urban location type – the patterns are therefore an average for each location type[41]. The gender and age of the purchaser are known as is the hour and day of transaction and the licence type and category of the premises.

The key limitation of the available data is that transactions cover all goods and services sold by the licensed premises. Therefore, any one transaction may or may not contain alcohol. For the purpose of modelling alcohol demand patterns, this research has assumed that spending on alcohol has the same distribution as total spending in licensed premises within the maximum national trading hours. That is, the results described below assume that alcohol is purchased throughout the maximum trading hours pro rata total spending patterns. The degree to which the following aggregate licence type patterns reflect alcohol only purchase patterns, especially in licence type-category combinations for which alcohol represents a low estimated share of total sales, cannot be accurately determined from the data utilised for this research.

Section 4.1 describes average spending patterns at licensed premises at the national level by age and gender, including across days of the week and hours of the day. Section 4.2 contrasts national average spending patterns between off-licence premises and on-licence premises (total market segments). Section 4.3 contrasts demand patterns by market segment across the four main urban locations types.

4.1 National Demand Structure Summary

It is important to understand the patterns of alcohol purchasing, including purchasing at different licence types and categories, and how these vary among segments of the population and visitor market. There is considerable information available in the ASDM, and this discussion focusses on the key patterns.

Table 4.1 shows estimated alcohol purchasing ($ million) among club, off- and on-licence outlets, for each age group (cohort) in the market in 2014. It covers total estimated alcohol spend by residents and visitors in each age group and not per-capita spending. Several patterns are important. First, expenditure varies among age groups, with both younger (18-24 year old) and older (65 years and over) accounting for smaller

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[39] Based on BNZ card holders.

[40] And exclude cash and cheque purchases, and business to business retail transactions.

[41] Actual patterns of spending (demand) in any one TA may vary from the average patterns of spending determined for its broader urban location type for any particular licence type-category combination.

shares of total spending than other adult groups, especially those in the 40-64 year cohorts. This is further evident in Figure 4.1, which compares each cohort's share of alcohol spend with its share of the adult population usually resident in New Zealand (Statistics NZ, Census 2013), and shows relative concentration of spending in the over 40s.

Table 4.1 – National Estimated Alcohol Demand by Age Cohort and Licence Type, 2014 ($m)

Age Group	Spend ($m)				Share of Spend by Cohort (%)				Share of Spend by Licence Type (%)			
	Club Licence	Off-Licence	On-Licence	TOTAL	Club Licence	Off-Licence	On-Licence	TOTAL	Club Licence	Off-Licence	On-Licence	TOTAL
18 - 24	$ 5	$ 192	$ 116	$ 312	4%	5%	6%	5%	2%	61%	37%	100%
25- 29	$ 5	$ 201	$ 127	$ 332	4%	5%	7%	6%	2%	60%	38%	100%
30- 34	$ 5	$ 249	$ 136	$ 390	4%	7%	7%	7%	1%	64%	35%	100%
35- 39	$ 7	$ 302	$ 145	$ 454	5%	8%	8%	8%	1%	67%	32%	100%
40- 44	$ 11	$ 429	$ 195	$ 634	8%	11%	11%	11%	2%	68%	31%	100%
45- 49	$ 14	$ 471	$ 234	$ 718	10%	12%	13%	12%	2%	66%	33%	100%
50- 54	$ 16	$ 502	$ 243	$ 761	12%	13%	13%	13%	2%	66%	32%	100%
55- 59	$ 16	$ 430	$ 209	$ 654	11%	11%	11%	11%	2%	66%	32%	100%
60- 64	$ 18	$ 355	$ 172	$ 546	14%	9%	9%	9%	3%	65%	32%	100%
65- 69	$ 16	$ 288	$ 127	$ 431	12%	8%	7%	8%	4%	67%	30%	100%
70+	$ 23	$ 352	$ 137	$ 513	17%	9%	7%	9%	5%	69%	27%	100%
TOTAL	$ 136	$ 3,770	$ 1,840	$ 5,747	100%	100%	100%	100%	2%	66%	32%	100%

Source: M.E - Alcohol Supply and Demand Model (2014)
Spending patterns based on transactions made in all licensed premises by type. Transactions may or may not include alcohol.

Figure 4.1 - Distribution of Estimated Alcohol Spend by Cohort and 2013 Population Structure
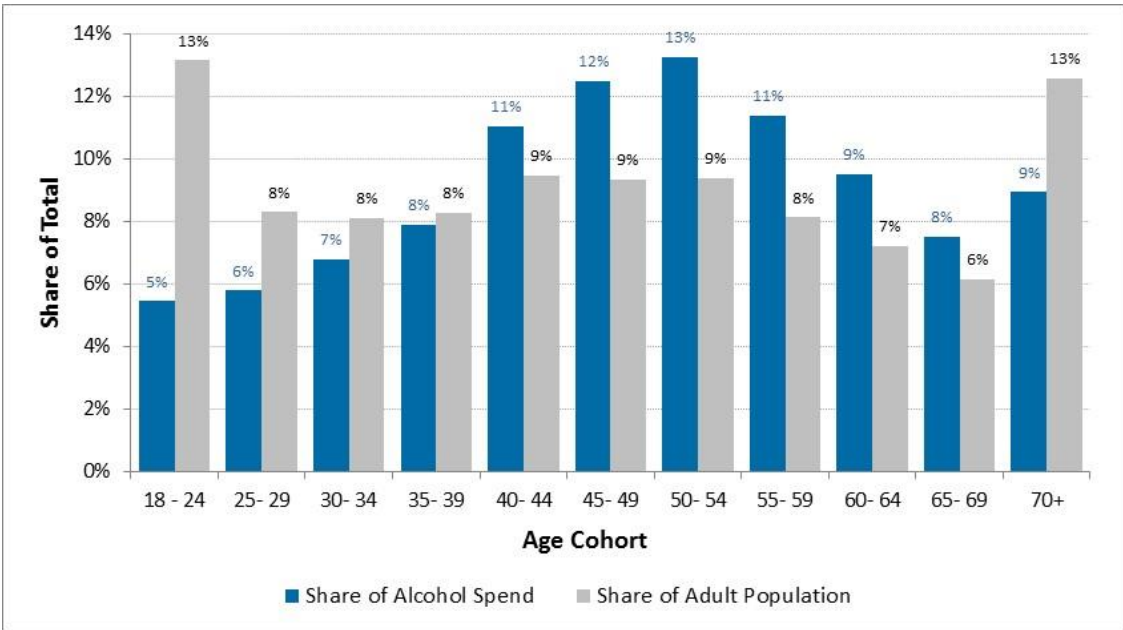
Second, estimated alcohol spending by age group is relatively consistent across on-licence and off-licence types, but there is much stronger spending at club licence outlets by the older age groups (Table 4.1). This is consistent with the role of sports and social clubs in the community, including their popularity with more mature and retired persons.

Third, there are clear differences in spending patterns between males and females (Table 4.2) and between males and females in each age group (Table 4.3). The card data indicates that purchasing by males heavily outweighs that by females, in the order of 1.7 times overall. Females spend an estimated $2,131 million on alcohol, with 68% in off-licence premises and 30% in on-licence premises (2014). Males spend an estimated $3,616 million on alcohol, with 64% in off-licence premises and 33% in on-licence premises.

Table 4.2 - Share of Gender Estimated Alcohol Purchases by Licence Type, 2014

Gender	Estimated Alcohol Spend 2014 ($m)				Share by Location Type (%)				Share by Licence Type (%)			
	Club Licence	Off-Licence	On-Licence	TOTAL	Club Licence	Off-Licence	On-Licence	TOTAL	Club Licence	Off-Licence	On-Licence	TOTAL
Male	$ 97	$ 2,315	$ 1,204	$ 3,616	72%	61%	65%	63%	3%	64%	33%	100%
Female	$ 39	$ 1,455	$ 637	$ 2,131	28%	39%	35%	37%	2%	68%	30%	100%
TOTAL	$ 136	$ 3,770	$ 1,840	$ 5,747	100%	100%	100%	100%	2%	66%	32%	100%

Source: M.E - Alcohol Supply and Demand Model (2014).

Males in New Zealand spend 27% of all their estimated alcohol spend in licensed premises in Bottle Stores, 16% in Supermarkets, 13% in Taverns and 11% in licensed Restaurants (Appendix E). These top four sources of supply account for 66% of estimated male alcohol spend (and 72% of purchased alcohol volume). In contrast, total females in New Zealand spend 30% of all their estimated alcohol spend in Supermarkets, 19% in Bottle Stores, 12% in licensed Restaurants and 10% in Taverns. These top four sources of supply account for 70% of estimated female alcohol spend (and 76% of purchased alcohol volume).

Table 4.3 - Share of Cohort Estimated Alcohol Purchases by Licence Type and Gender, 2014

Age Group	Market Segment and Licence Type Share of Total Estimated Alcohol Spending (%)											
	Club Licence			Off-Licence			On-Licence			TOTAL		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
18 - 24	1%	0%	2%	38%	24%	61%	22%	15%	37%	61%	39%	100%
25- 29	1%	0%	2%	37%	24%	60%	24%	15%	38%	61%	39%	100%
30- 34	1%	0%	1%	39%	25%	64%	22%	13%	35%	61%	39%	100%
35- 39	1%	1%	1%	39%	28%	67%	20%	12%	32%	60%	40%	100%
40- 44	1%	1%	2%	40%	28%	68%	19%	11%	31%	60%	40%	100%
45- 49	1%	1%	2%	38%	28%	66%	20%	12%	33%	59%	41%	100%
50- 54	2%	1%	2%	40%	26%	66%	21%	11%	32%	63%	37%	100%
55- 59	2%	1%	2%	43%	23%	66%	22%	10%	32%	66%	34%	100%
60- 64	3%	1%	3%	42%	23%	65%	23%	9%	32%	68%	32%	100%
65- 69	3%	1%	4%	44%	23%	67%	21%	8%	30%	68%	32%	100%
70+	3%	1%	5%	42%	26%	69%	19%	8%	27%	64%	36%	100%
TOTAL	2%	1%	2%	40%	25%	66%	21%	11%	32%	63%	37%	100%

Source: M.E - Alcohol Supply and Demand Model (2014)
Spending patterns based on transactions made in all licensed premises by type. Transactions may or may not include alcohol.

The differential in spending by gender is fairly consistent across all age groups, though it is higher in the 55 years and over groups (Table 4.3). In club licence premises, purchasing by males outweighs that by females in the order of 2.5 times on average across all age groups nationally. This differential varies by age group, but is lowest in the 35-39 year cohort and highest in the 60-64 year cohort. In off-licence premises, male purchasing outweighs female purchasing 1.6 times on average. This differential is higher in the 55-69 year cohorts. In on-licences males outweigh females by 1.9 times on average in terms of total purchase value. Again, this differential is more pronounced for those aged 55 years and over. It should be noted that this

reflects purchasing patterns, and not necessarily consumption patterns, since, anecdotally, it is common for people to purchase alcohol for themselves and others in one transaction.

There are also clear differences in estimated alcohol purchasing patterns across the week by age group (cohort). While total purchasing in licensed premises by younger persons is at a generally lower level than for the adult population as a whole – reflecting as much as anything the lesser spending power of those who are relatively early in their working lives – it is more heavily concentrated into Fridays and Saturdays (Table 4.4)[42]. A significant 47% of 18-24 year old licensed premises spend occurs between midnight on Thursday and midnight on Saturday (and a portion of Sunday spending occurs in the early morning hours). By contrast, the 70+ age group spends 33% of their total spend in these two days.

This trend is reversed at the beginning of the week. The 18-24 year olds spend just 28% of their total spend in licensed premises between Monday and Wednesday compared to 41% of the total spend by 70+ year olds.

Table 4.4 - Share of Cohort Alcohol Purchases by Day of Week, 2014

Day	Age Group (Years)											TOTAL
	18 - 24	25- 29	30- 34	35- 39	40- 44	45- 49	50- 54	55- 59	60- 64	65- 69	70+	
COHORT SHARE OF ALCOHOL SPEND BY DAY (%)												
Monday	7.4%	8.3%	9.3%	9.4%	9.4%	9.9%	9.9%	9.3%	10.2%	10.7%	11.4%	9.7%
Tuesday	8.4%	9.4%	10.0%	10.5%	10.7%	10.6%	10.2%	10.9%	10.9%	12.9%	14.7%	10.9%
Wednesday	12.4%	13.0%	13.2%	13.1%	13.0%	13.0%	13.2%	13.5%	13.6%	13.8%	14.8%	13.3%
Thursday	13.3%	13.2%	13.4%	14.0%	13.7%	14.2%	14.2%	14.3%	13.8%	14.7%	15.4%	14.1%
Friday	20.3%	19.9%	19.3%	19.3%	18.8%	18.8%	18.9%	18.9%	18.6%	18.2%	18.0%	18.9%
Saturday	26.7%	23.2%	21.5%	20.5%	20.9%	20.2%	20.2%	19.9%	19.3%	17.5%	14.8%	20.1%
Sunday	11.5%	13.0%	13.3%	13.2%	13.5%	13.4%	13.4%	13.3%	13.5%	12.2%	11.0%	13.0%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
DAY SHARE OF ALCOHOL SPEND BY COHORT (%)												
Monday	4.1%	4.9%	6.5%	7.6%	10.7%	12.8%	13.6%	10.9%	10.0%	8.3%	10.5%	100%
Tuesday	4.2%	5.0%	6.2%	7.6%	10.8%	12.1%	12.3%	11.3%	9.5%	8.9%	12.0%	100%
Wednesday	5.0%	5.6%	6.7%	7.8%	10.8%	12.2%	13.1%	11.5%	9.7%	7.8%	9.9%	100%
Thursday	5.2%	5.4%	6.4%	7.8%	10.7%	12.6%	13.4%	11.6%	9.3%	7.8%	9.7%	100%
Friday	5.8%	6.1%	6.9%	8.1%	11.0%	12.4%	13.2%	11.4%	9.4%	7.2%	8.5%	100%
Saturday	7.2%	6.7%	7.2%	8.1%	11.5%	12.6%	13.3%	11.3%	9.1%	6.5%	6.6%	100%
Sunday	4.8%	5.8%	7.0%	8.0%	11.5%	12.9%	13.7%	11.7%	9.9%	7.1%	7.6%	100%
TOTAL	5.4%	5.8%	6.8%	7.9%	11.0%	12.5%	13.2%	11.4%	9.5%	7.5%	8.9%	100%

Source: M.E - Alcohol Supply and Demand Model (2014)

Spending patterns based on transactions made in all licensed premises. Transactions in any particular hour may or may not include alcohol.

Table 4.5 compares the national distribution of spending in total licensed premises by age group and period of the day. The 4am-7am period shows no alcohol spending on account of being outside the maximum national trading hours for all licence types. Off-licences can trade alcohol from 7am (predominantly supermarkets, with most bottle stores opening around 9am) and on-licences and club-licences can trade alcohol from 8am. At the other end of the day, all off-licences must cease trading alcohol at 11pm while all on-licences and club-licences must cease trading alcohol by 4am the following day.

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[42] The top block of figures shows how each age group spreads their spending acrorss the week. The bottom block of figures shows how spending in each day is spread across the age groups.

Younger person spending in licensed premises is more concentrated in the late evening and after 11pm periods (Table 4.5) [43]. The 18-24 year old group spends 19% of their total spend in licensed premises in the period between 9pm and 4am. This compares to an average share across all age groups of 7.4% and just 2.5% for the 70+ year olds. In the period of 11pm-1am, purchasers aged between 18 years and 34 years account for 52% of all spend. Between 1am and 4am this group make up 70% of all spending in licensed premises.

Table 4.5 - Share of Cohort Purchases in Total Licensed Premises by Period of Day, 2014

| Period of Day | Age Group (Years) | | | | | | | | | | | TOTAL |
	18 - 24	25- 29	30- 34	35- 39	40- 44	45- 49	50- 54	55- 59	60- 64	65- 69	70+	
COHORT SHARE OF TOTAL SPEND IN LICENSED PREMISES BY TIME PERIOD (%)												
4am - 7am	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
7am - 9am	1.0%	1.3%	1.8%	2.2%	2.7%	2.6%	2.5%	2.4%	2.6%	2.6%	2.1%	2.3%
9am - noon	7.4%	10.3%	12.7%	14.5%	15.4%	15.0%	14.8%	16.2%	17.6%	20.6%	24.7%	15.8%
noon - 3pm	16.5%	18.3%	21.1%	22.8%	23.5%	23.7%	25.0%	25.3%	27.1%	30.2%	34.9%	24.9%
3pm - 6pm	23.7%	25.4%	26.9%	28.5%	29.7%	29.7%	29.9%	29.9%	29.2%	27.1%	24.0%	28.1%
6pm - 9pm	32.4%	29.1%	25.8%	23.4%	21.9%	22.5%	21.7%	20.3%	18.4%	15.6%	11.9%	21.4%
9pm - 11pm	11.4%	10.3%	8.3%	6.4%	5.4%	5.4%	5.3%	5.4%	4.7%	3.7%	2.3%	5.8%
11pm-1am	4.5%	3.3%	2.2%	1.5%	1.0%	0.8%	0.6%	0.5%	0.4%	0.2%	0.1%	1.1%
1am - 4am	3.1%	2.0%	1.2%	0.6%	0.4%	0.2%	0.2%	0.1%	0.1%	0.0%	0.0%	0.5%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
TIME PERIOD SHARE OF TOTAL SPEND IN LICENSED PREMISES BY COHORT (%)												
4am - 7am	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
7am - 9am	2.4%	3.3%	5.4%	7.7%	12.9%	14.3%	14.5%	11.9%	10.9%	8.6%	8.2%	100.0%
9am - noon	2.5%	3.8%	5.5%	7.2%	10.8%	11.9%	12.4%	11.6%	10.6%	9.8%	13.9%	100.0%
noon - 3pm	3.6%	4.2%	5.7%	7.2%	10.4%	11.9%	13.3%	11.6%	10.3%	9.1%	12.5%	100.0%
3pm - 6pm	4.6%	5.2%	6.5%	8.0%	11.6%	13.2%	14.1%	12.1%	9.8%	7.2%	7.6%	100.0%
6pm - 9pm	8.2%	7.9%	8.2%	8.6%	11.3%	13.1%	13.4%	10.8%	8.2%	5.5%	5.0%	100.0%
9pm - 11pm	10.7%	10.2%	9.7%	8.8%	10.3%	11.7%	12.0%	10.5%	7.6%	4.8%	3.6%	100.0%
11pm-1am	21.9%	16.9%	13.4%	10.6%	10.3%	9.0%	7.4%	4.9%	3.1%	1.4%	1.0%	100.0%
1am - 4am	32.4%	22.7%	15.2%	9.4%	7.5%	5.3%	3.9%	1.7%	1.2%	0.3%	0.1%	100.0%
TOTAL	5.4%	5.8%	6.8%	7.9%	11.0%	12.5%	13.2%	11.4%	9.5%	7.5%	8.9%	100%

Source: M.E - Alcohol Supply and Demand Model (2014)

Spending patterns based on transactions made in all licensed premises. Transactions in any particular hour may or may not include alcohol.

4.2   Demand Structure by Licence Type: On- vs. Off-licence

There are an estimated 6,911 on-licences throughout New Zealand. On-licence premises employ an estimated 71,735 MECs[44] (2014), indicating an average size of 10 staff/workers per licence. In contrast, there are an estimated 3,442 off-licences in New Zealand in 2014 – approximately half as many as on-licences. Total employment in off-licence premises is estimated at 53,242 MECs, indicating an average size of 15 staff per licence.

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[43] The top block of figures shows how each age group spreads their spending acrorss the time periods. The bottom block of figures shows how spending in each time period is spread across the age groups.

[44] Employees and working proprietors.

Despite the greater number of on-licences than off-licences, the spending at off-licences is much higher. Total national spend on alcohol in all on-licences is estimated at $1.84 billion in 2014, compared to $3.77 billion in all off-licences (Figure 4.2).

Figure 4.2 - Estimated National Alcohol Spending – On-licence vs. Off-Licence, 2014
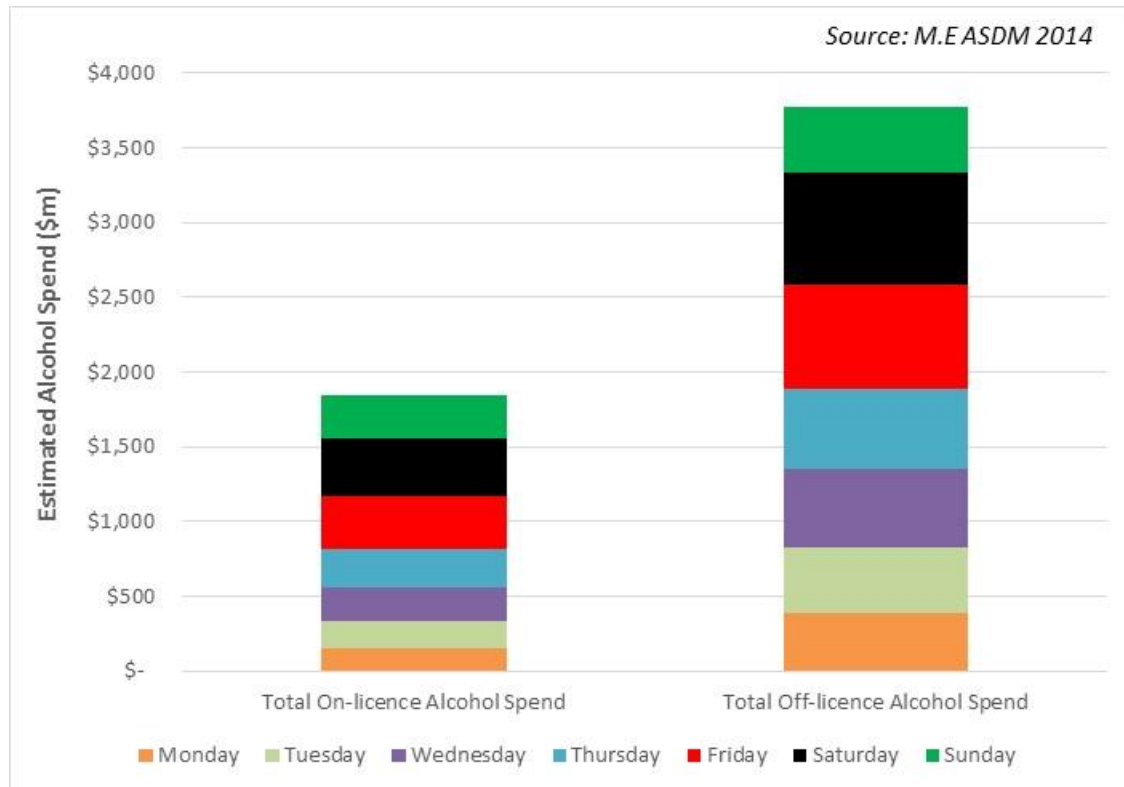
Figure 4.3 compares estimated national spend on alcohol in each licence type by day of the week. The spending profiles are similar in that they both rise to a peak on Saturdays, although are different in scale. Estimated spending on Sundays (16% of the total week) is more differentiated from spending on Mondays (9%) in on-licence outlets compared to off-licence outlets, where the two days represent 12% and 10% of estimated total weekly spending on alcohol respectively. Aside from this, the other days account for a similar share of weekly sales (within 1-2%) for both licence types. Overall, spending is highest on Saturdays and lowest on Mondays.

Figure 4.4 compares estimated national alcohol spending in on- and off-licence types by age cohort. Again, the spending profiles are similar in that they peak in the 50-54 year cohort, but are different in scale. Estimated spending by 18-24 year olds and 25-29 year olds account for slightly larger shares of spending in on-licence premises (6% and 7% of the estimated sales) compared to off-licence premises (5% and 5% respectively). Also, spending by 70+ year olds accounts for a slightly smaller share of total spending in on-licence premises (7% of estimated sales) compared to off-licence premises (9%). Aside from this, the other age cohorts account for a similar share of total sales (within 1%) for both licence types. Overall, spending is highest for those aged 40-59 and particularly the 50-54 year cohort.
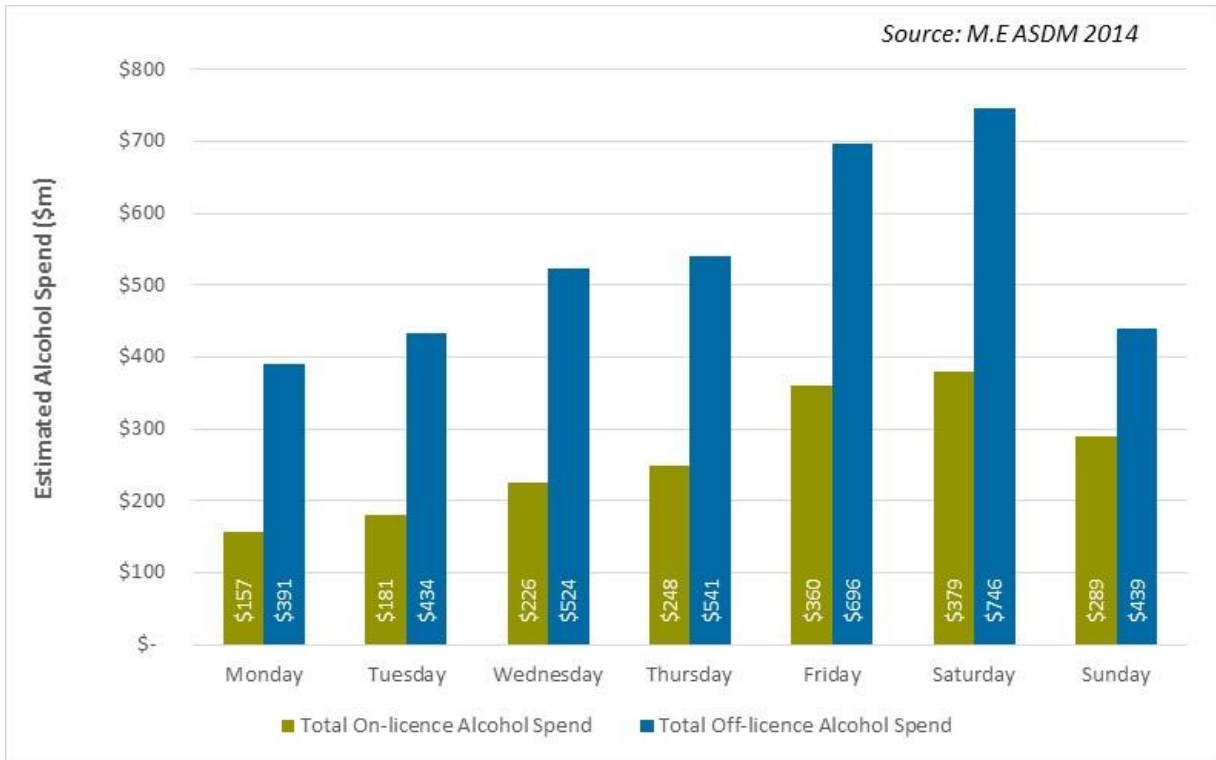
Figure 4.4 - Estimated National Alcohol Spending by Cohort – On-licence vs. Off-licence, 2014
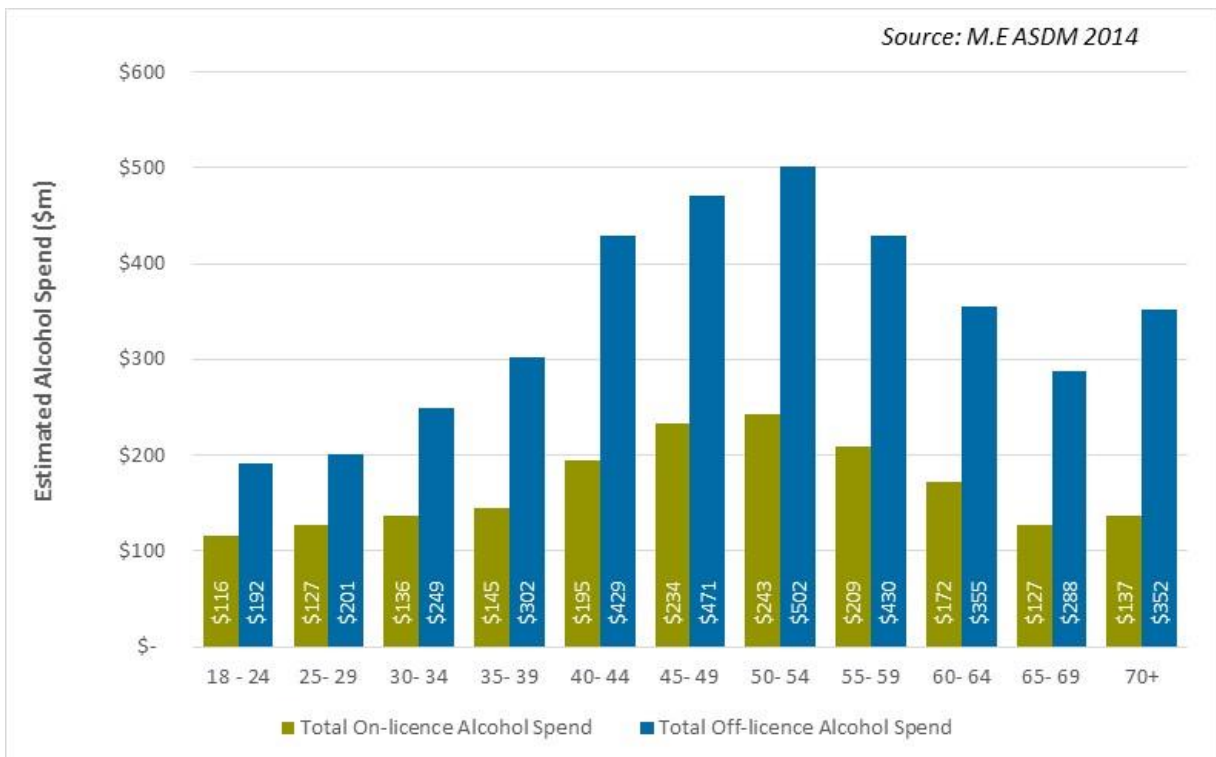
Figure 4.5 compares estimated national alcohol spending on each licence type by hour for each day – based on the assumption that alcohol spending is distributed pro-rata total spending in licensed premises within

the maximum national trading hours. A sample of four graphs have been included – Wednesday (first), Friday (second), Saturday (third) and Sunday (fourth). Despite similar spending profiles by day across the week for each licence type, the timing of spending in on-licence outlets is distinct from off-licence outlets – reflecting the different nature of these two licence types (i.e. the role they play in supplying alcohol in conjunction with other goods and services) and their associated licence/trading hours.

Across all of the selected days above, on-licence premises tend to have increasing hourly sales in the morning, which level off late morning before rising again for a mid-day (lunch) peak, slowing in the mid afternoon and rising again for a longer late afternoon/evening (dinner) peak. Only on Sundays is the on-licence noon peak in alcohol spending higher than the evening peak. The early morning peak is also more pronounced on Sundays.

Figure 4.5 - National Spending by Hour and Day – On-licence vs. Off-licence, 2014
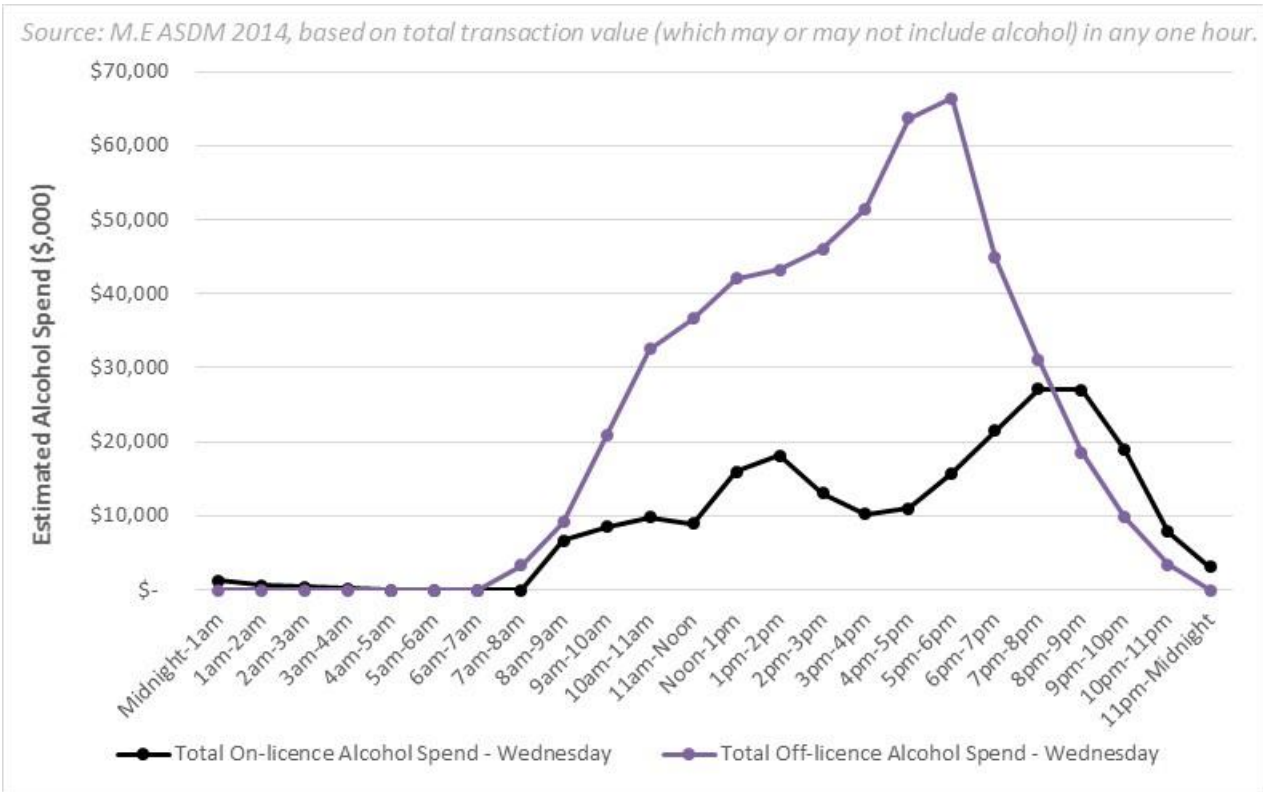
Source: M.E ASDM 2014, based on total transaction value (which may or may not include alcohol) in any one hour.
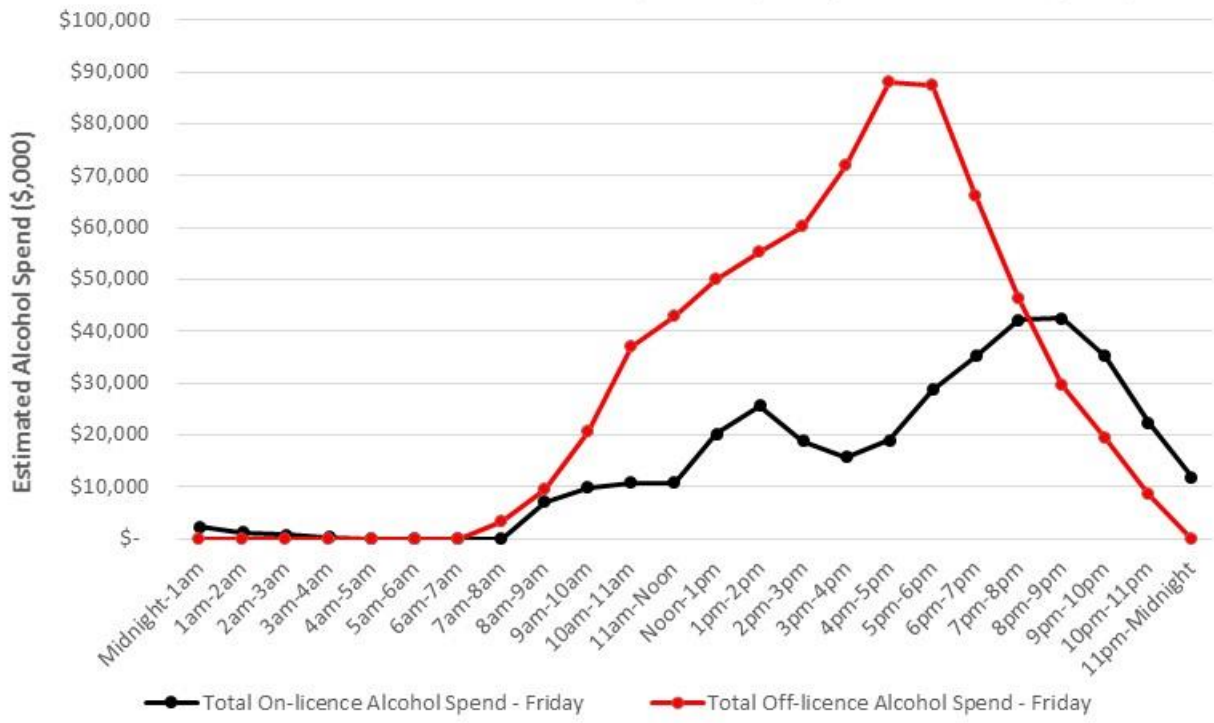
Source: M.E ASDM 2014, based on total transaction value (which may or may not include alcohol) in any one hour.
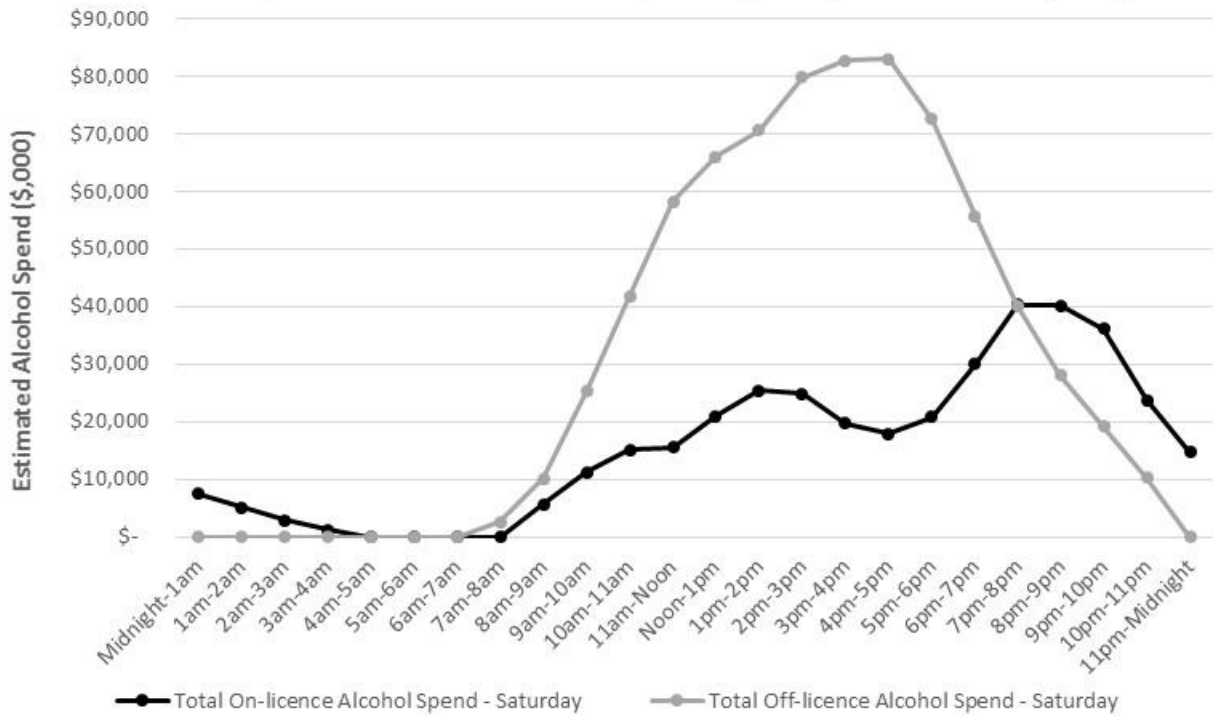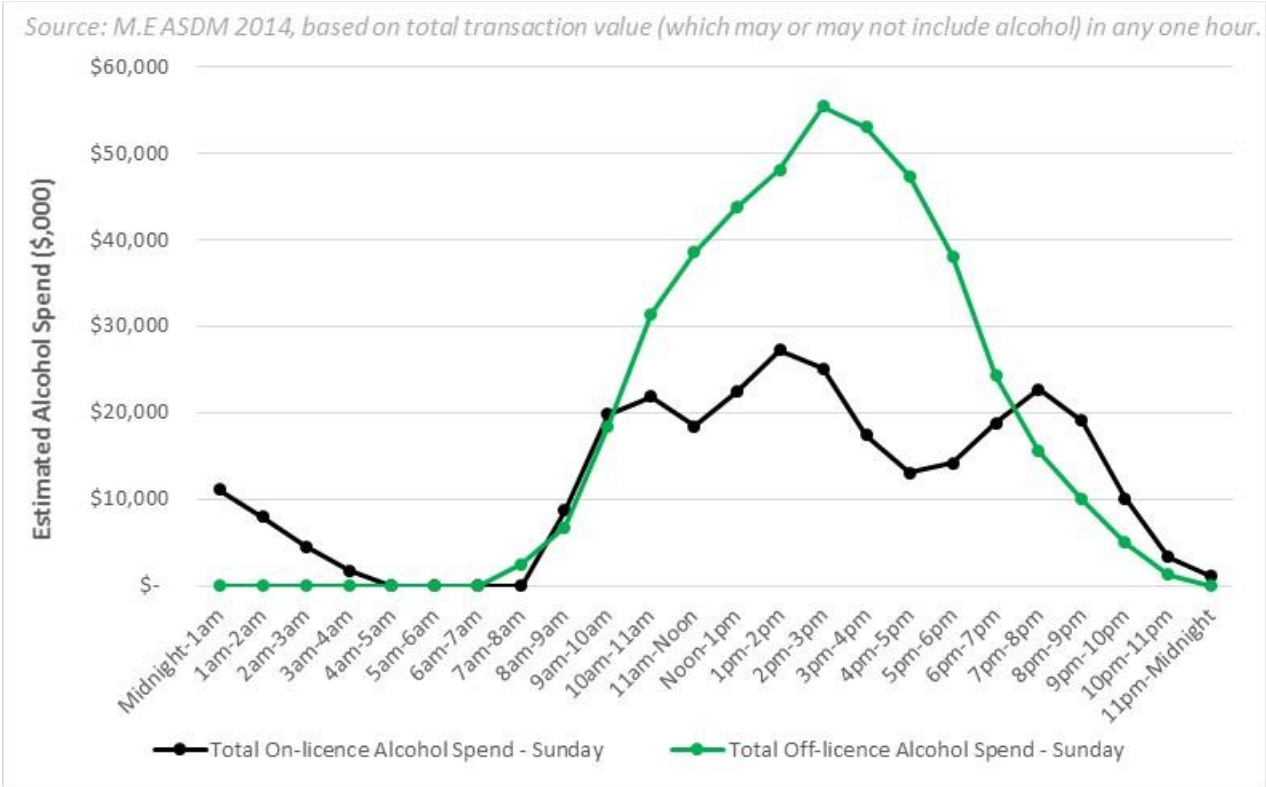
In contrast, off-licence premises tend, on average, to have a greater share of spending occurring in the late afternoon/early evening. Spending builds up more steadily to a single predominant peak in the early evening, with some noticeable increases around noon. On weekdays, including Fridays, the evening peak in spending is concentrated over a few hours, while in the weekend, the peak in spending is sustained over a longer period and is slightly earlier in the day.

Across all days, 16% of (alcohol and non-alcohol related) spending in on-licence premises nationally occurs between 7am and noon (and not before 8am) compared to 19% of spending in off-licence premises. A further 26% of on-licencing spending nationally occurs between noon and 4pm compared to 37% in off-licence premises. A further 20% of on-licencing spending nationally occurs between 4pm and 7pm compared to 31% in off-licence premises. Last, 35% of on-licencing spending nationally occurs between 7pm and midnight compared to 12% in off-licence premises (which stop selling alcohol at 11pm or earlier). Just 3% of total spending in on-licences occurs after midnight and before 4am in 2014.

4.3 Demand Structure by Urban Location

It is also important to understand whether the assumed patterns of alcohol purchasing, including purchasing and use of different licence types and categories, vary by urban location across New Zealand. Again, there is considerable information available from the ASDM, and this discussion focusses on the key patterns (the same limitations apply).

Table 4.6 - Share of Cohort Purchases in Licensed Premises by Type and Urban Location, 2014

Cohort	Main Cities	Large Regional Cities	Other Regional Cities	Rest of NZ	Total NZ	Main Cities	Large Regional Cities	Other Regional Cities	Rest of NZ	Total NZ
CLUB LICENCES						**OFF-LICENCES**				
18 - 24	3%	4%	2%	3%	4%	5%	8%	5%	5%	5%
25- 29	3%	5%	3%	4%	4%	5%	6%	5%	5%	5%
30- 34	3%	3%	4%	4%	4%	7%	7%	6%	6%	7%
35- 39	5%	5%	6%	4%	5%	8%	8%	8%	7%	8%
40- 44	9%	5%	5%	7%	8%	12%	10%	11%	10%	11%
45- 49	11%	9%	7%	10%	10%	13%	11%	13%	12%	12%
50- 54	12%	9%	9%	11%	12%	13%	12%	13%	12%	13%
55- 59	12%	12%	6%	12%	11%	12%	11%	11%	12%	11%
60- 64	13%	12%	42%	14%	14%	9%	9%	10%	11%	9%
65- 69	12%	13%	6%	15%	12%	7%	8%	9%	9%	8%
70+	16%	22%	9%	16%	17%	8%	11%	11%	11%	9%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
ON-LICENCES						**TOTAL ALL LICENCES**				
18 - 24	6%	8%	5%	5%	6%	5%	8%	5%	5%	5%
25- 29	7%	7%	5%	6%	7%	6%	6%	5%	5%	6%
30- 34	8%	6%	7%	6%	7%	7%	7%	6%	6%	7%
35- 39	8%	7%	7%	7%	8%	8%	7%	7%	7%	8%
40- 44	11%	9%	10%	10%	11%	12%	10%	10%	10%	11%
45- 49	13%	12%	12%	13%	13%	13%	11%	12%	12%	12%
50- 54	13%	14%	14%	13%	13%	13%	12%	13%	13%	13%
55- 59	11%	12%	12%	12%	11%	11%	11%	11%	12%	11%
60- 64	9%	10%	10%	10%	9%	9%	9%	11%	11%	9%
65- 69	6%	7%	8%	8%	7%	7%	8%	8%	9%	8%
70+	7%	8%	9%	9%	7%	8%	10%	10%	11%	9%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: M.E - Alcohol Supply and Demand Model (2014)

Spending patterns based on transactions made in all licensed premises by type. Transactions may or may not include alcohol.

Table 4.6 shows estimated alcohol purchasing (% share of total) among club, off- and on-licence outlets, for each age group (cohort) in the market in 2014. Notwithstanding the varying scale of alcohol spend across the four urban typologies, the results show that the role of each cohort as a share of overall demand is broadly similar for on-licence outlets (bottom left of table) and off-licence outlets (top right of table) irrespective of the size of the urban area. Any variability in the role of specific cohorts occurs at the two ends of the age scale. The youngest drinkers (18-24 year olds) account for a slightly higher share of off-licence and on-licence spend in Large Regional Cities compared to elsewhere. The over 70s account for a slightly lower share of off-licence and on-licence spend in Main Cities compared to elsewhere. These variations reflect the different average age structures of each location type, noting, for example, that some of the TAs included in Large Regional Cities have universities and relatively high proportions of young adults in their populations.

There is greater variation in purchase patterns by cohort in club-licensed outlets across urban location types. This is driven by the different mix of club outlets in each type of location (i.e. Cultural Clubs are more likely to be located in Main Cities and Country Clubs in the Rest of New Zealand), as well as the different role that clubs play relative to on- and off-licensed outlets in different parts of New Zealand. In the Main

Cities, club spend is mostly attributable to adults aged 40+. In Large Regional Cities and the Rest of New Zealand, club spend is mostly attributable to adults aged 45+. Last, in Other Regional Cities it is mostly attributable to adults aged between 50 and 64 years or 70+ (Table 4.6).

Figure 4.6 - Daily Share of Spending in Licensed Premises by Urban Location, 2014
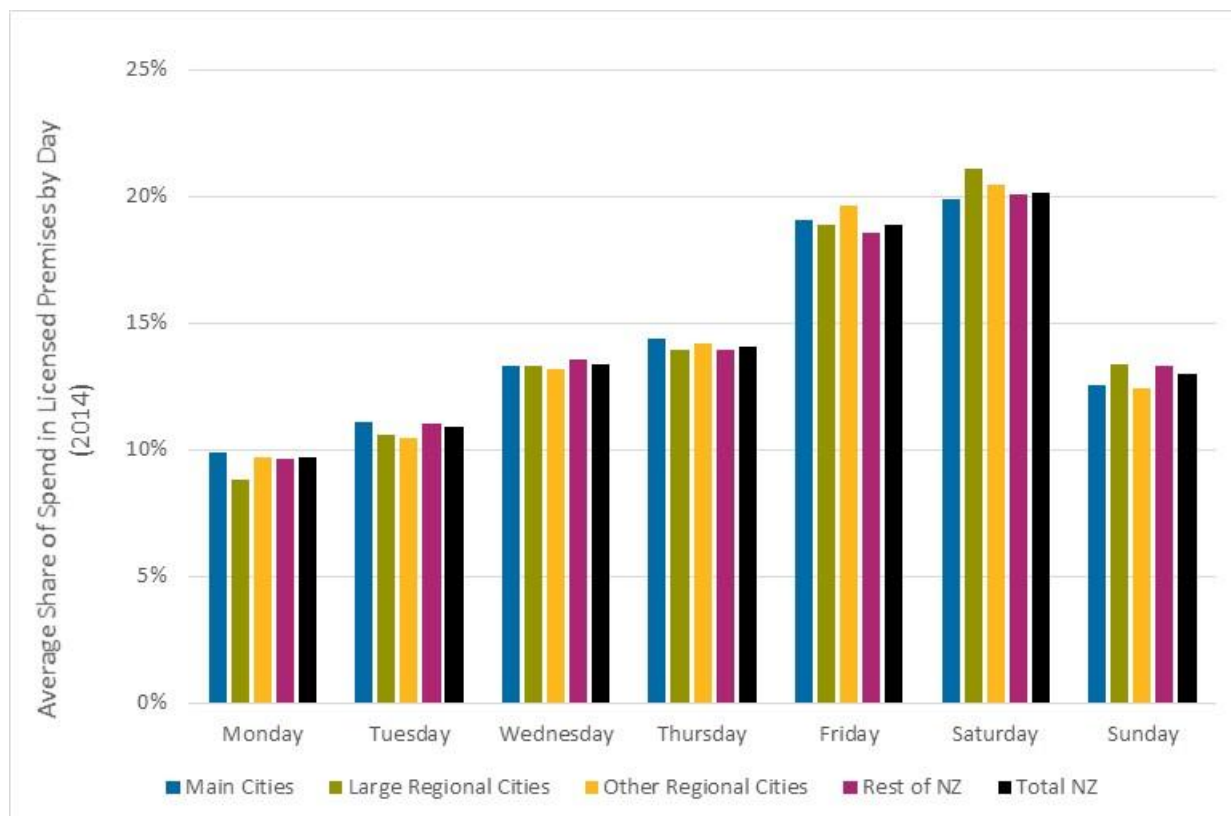
Figure 4.6 compares estimated alcohol spending patterns by day of week across the four urban location types. It shows that demand patterns by day are very similar irrespective of location. Slightly greater shares of total estimated alcohol spending occurs Mondays, Tuesdays and Thursdays in Main Cities compared to other locations. A slightly greater share of spending occurs on Fridays in Other Regional Cities compared to elsewhere and last, a slightly greater share of spending occurs on Saturdays in Large Regional Cities compared to other locations in New Zealand.

Table 4.7 compares estimated alcohol spending patterns by time period and by customer gender across the four urban location types[45]. The top part of the table shows how males and females distribute their respective spending across the average day in each location type. These patterns reflect the different trading hours of urban areas – i.e. areas with a large population base sustain a greater range of opening hours generally and in particular, Main Cities and Large Regional Cities are more likely to sustain a late night/early morning entertainment and hospitality culture. The bottom part of the table shows how total sales in each time period are distributed across male and female purchasers on an average day in each location type.

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[45] Based on the gender of the card holder in the electronic transaction data.

It shows that in the Rest of New Zealand, there is proportionately more money spent at licensed premises during the day (from 9am-6pm) than late at night compared to other locations. Further, a greater share of spend in Large Regional Cities occurs during 6pm and 9pm compared to other locations across New Zealand and a greater share of spend in Main Cities occurs between 11pm and 4am (2.1%) compared to all other location types but particularly Other Regional Cities and the Rest of New Zealand (1.3% and 0.9% shares respectively).

Table 4.7 also shows that males account for a greater share (and females a lesser share) of total spending across all licensed outlets in Main Cities (64%) than males in other locations (i.e. purchasing in licensed premises is more male dominated in Main Cities relative to other parts of New Zealand). This pattern also applies during the morning, noon and afternoon periods (7am to 6pm). Females account for a greater share of total spend between noon and 3pm in Other Regional Cities than females elsewhere in New Zealand. Males also account for a greater share of total spend between 9pm and 4am in the Rest of New Zealand than males elsewhere in New Zealand.

Table 4.7 - Share of Purchases in Licensed Premises by Time Period and Urban Location, 2014

Period of Day	Main Cities			Large Regional Cities			Other Regional Cities			Rest of NZ		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
GENDER SHARE OF TOTAL SPEND IN LICENSED PREMISES BY TIME PERIOD (%)												
4am - 7am	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
7am - 9am	2.1%	2.0%	2.0%	2.2%	2.4%	2.3%	2.6%	2.4%	2.5%	2.3%	2.4%	2.3%
9am - noon	15.1%	16.7%	15.7%	13.6%	16.4%	14.7%	15.1%	18.3%	16.3%	15.0%	18.6%	16.4%
noon - 3pm	23.7%	27.6%	25.1%	21.3%	26.9%	23.5%	20.3%	27.8%	23.2%	24.2%	29.8%	26.3%
3pm - 6pm	27.1%	26.3%	26.8%	29.0%	27.7%	28.5%	30.3%	28.7%	29.7%	31.2%	28.8%	30.3%
6pm - 9pm	22.9%	20.5%	22.0%	25.0%	20.2%	23.1%	24.6%	18.2%	22.1%	21.3%	16.6%	19.5%
9pm - 11pm	6.8%	5.5%	6.3%	6.8%	5.2%	6.2%	5.6%	3.8%	4.9%	5.0%	3.3%	4.3%
11pm-1am	1.6%	1.0%	1.4%	1.3%	0.8%	1.1%	1.1%	0.6%	0.9%	0.8%	0.5%	0.7%
1am - 4am	0.8%	0.4%	0.7%	0.8%	0.4%	0.6%	0.5%	0.2%	0.4%	0.2%	0.1%	0.2%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
TIME PERIOD SHARE OF TOTAL SPEND IN LICENSED PREMISES BY GENDER (%)												
4am - 7am	0.0%	0.0%	0%	0.0%	0.0%	0%	0.0%	0.0%	0%	0.0%	0.0%	0%
7am - 9am	64.9%	35.1%	100%	59.3%	40.7%	100%	63.5%	36.5%	100%	61.1%	38.9%	100%
9am - noon	61.7%	38.3%	100%	56.5%	43.5%	100%	56.4%	43.6%	100%	56.9%	43.1%	100%
noon - 3pm	60.4%	39.6%	100%	55.4%	44.6%	100%	53.4%	46.6%	100%	57.0%	43.0%	100%
3pm - 6pm	64.7%	35.3%	100%	62.1%	37.9%	100%	62.3%	37.7%	100%	63.8%	36.2%	100%
6pm - 9pm	66.5%	33.5%	100%	65.9%	34.1%	100%	67.9%	32.1%	100%	67.7%	32.3%	100%
9pm - 11pm	68.7%	31.3%	100%	67.2%	32.8%	100%	69.4%	30.6%	100%	71.4%	28.6%	100%
11pm-1am	72.8%	27.2%	100%	71.5%	28.5%	100%	74.7%	25.3%	100%	74.7%	25.3%	100%
1am - 4am	77.7%	22.3%	100%	78.1%	21.9%	100%	77.9%	22.1%	100%	80.2%	19.8%	100%
TOTAL	64.0%	36.0%	100%	61.1%	38.9%	100%	61.1%	38.9%	100%	62.0%	38.0%	100%

Source: M.E - Alcohol Supply and Demand Model (2014)

Spending patterns based on transactions made in all licensed premises. Transactions in any particular hour may or may not include alcohol.

5   Changes 2013 to 2014

This section examines whether there have been changes in total purchasing patterns in licensed outlets between the 2013 year (pre-SSAA) and 2014 - the first full year post-SSAA. Realistically, 12 months post the implementation of the SSAA is a very limited time period to identify and confirm permanent changes in the market – particularly in the supply-side. For these reasons, results should be viewed as only early indications of demand-side change at this stage.

The default hours of the SSAA place a 7am-11pm limit on alcohol sales for off-licences and an 8am-4am the following day limit on alcohol sales for on-licences and club licences. One expected effect of this would be net reduction in total sales outside those time periods in 2014 (to the extent that alcohol related sales impact on total sales at those times). Related effects may include a shift in the timing of spend on goods and services (including alcohol) – as alcohol purchasing was diverted to hours when the SSAA restrictions did not apply - and shifts in the pattern of spending, between licence types, and among licence categories.

However, any changes resulting from the introduction of the SSAA are likely to have been in combination with other changes in the alcohol sector, since the market is dynamic, and influences in addition to the effects of the SSAA will have been evident over the period. These will include changes in the number of licenced outlets 2013-2014, changes in population and tourism, changes in prices and potential changes in the share of total sales that are alcohol related. Examination of these market factors is outside the scope of this research.

For the comparison of 2013 and 2014 annual patterns, four aspects have been examined (and are described in the following sections):

a)   The amount of total sales in licensed outlets (that is, alcohol and other goods);

b)   The shares of total sales among licence types;

c)   The shares of total sales among licence categories;

d)   The timing of total sales across the week.

The changes have been assessed by direct comparison of total (alcohol and other goods) sales across licensed outlets, by time of week and <u>all</u> trading hours[46]. For this, changes in card-based sales/purchases in licensed outlets have been analysed, between 2013 and 2014[47]. This comparison is based on the raw sample data – that is, it has not been adjusted to factor the card-based figures to estimated national totals, nor to estimate the alcohol component of total sales. This is because the adjustment required for this may obscure rather than elucidate the actual changes. The card-based data provides the direct comparison

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[46] This differs from Section 4 where demand patterns were based on the distribution of total sales occuring within maximum national trading hours only at licensed premises.
[47] Based on the Paymark sample of transactions by all domestic and international cardholders in matched licensed premises (60% of merchants in New Zealand matched).

between 2013 and 2014 for the same set of licensed outlets, and focuses on the patterns and changes for those outlets. The card data shows total sales/purchases in each outlet category.

5.1 Shifts in Total Sales 2013-2014

The licensed outlets contained in the transaction dataset recorded an overall increase in total sales/purchases between 2013 and 2014 of 7.3%. The increase was not uniform across licence types. Club licence sales increased by 6.2%, while off-licence sales increased by 6.7%. The largest increase was among on-licence outlets, up 8.9%.

However, the increase in $ sales does not necessarily mean a corresponding increase in the volume of alcohol sold. Direct comparison of the volume of alcoholic beverages available nationally in 2014 shows an overall decrease of -2% from 2013 (Table 5.1). The 2013 and 2014 volumes are for the calendar years.

Table 5.1 - Alcoholic Beverages Available for Consumption 2013 and 2014

| Beverage | Alcoholic Beverages Available (million litres) | | | |
	2013	2014	2013-2014	2013-2014 %
Beer	288.8	282.3	-6.5	-2.3%
Spirits	71.2	66.7	-4.5	-6.3%
Wine	105.9	107.6	1.6	1.6%
TOTAL	465.9	456.5	-9.4	-2.0%

Source : Statistics NZ ALC011AA

The obvious contrast between the sales increase recorded by licensed outlets, and the reduction in alcohol available for consumption may arise for several reasons. First, there is a potential difference in timing. The outlet sales figures are as recorded on a day by day basis, whereas the alcohol series shows the volumes available for consumption as distinct from the volumes actually sold. This means that alcohol produced and available for consumption in one quarter may not show up as sales until the following quarter(s).

Second, the card sales data is not comprehensive. The sample does not cover all licensed outlets, whereas the alcohol availability data is a national estimate. This means that the outlets in the dataset may have recorded sales growth which does not match that for those outlet types as a whole across New Zealand.

Nevertheless, within these limitations, the unadjusted card data for the substantial dataset of licensed outlets does provide valuable information on actual change and relative change in total sales and purchase patterns. Care is however needed in interpreting the cause of those changes. Specifically, what role the SSAA has played.

5.2 Shifts by Licence Type 2013-2014

There was also some shift apparent in the relative roles of each licence type. Club licence outlets overall saw their role in the total licensed premises market reduce slightly, as did off-licence outlets, while on-

licence outlets' role increased within the dataset, by +1.6 percentage points. This is shown in Table 5.2 as the 'Relative Shift'.

These shifts are quite minor, although they suggest a slight shift of total sales away from club and off-licence outlets to on-licence outlets. There was also some variation by geography, with the increase in Other and Large Regional City outlets less than the national shift, the increase in Main City outlets the same as the national shift, while across the rest of the country the shift was slightly ahead of the national change (by 0.8 percentage points across all licences types).

The change was mixed for on-licence outlets which did relatively better in the Rest of New Zealand in particular (+6.1 percentage points), but also in the Main Cities and Other Regional Cities compared to those in Large Regional Cities. The change was also mixed for club licence outlets which did relatively better in Large Regional Cities (+3.9 percentage points), but experienced relative decreases in Other Regional Cities and across the Rest of New Zealand.

For off-licence outlets, a different trend was apparent, with relative decreases more pronounced in Large Regional Cities (-1.3 percentage points), followed by Other Regional Cities. The relative decrease was least in Main City outlets.

Overall, however, the main finding is that the observed change was relatively minor. The increase in share by on-licence outlets was minor, as was the relative decrease in market share by off-licence and club licence outlets. This indicates changes occurred at the margin, without substantive shift in the sale and supply structure across all licensed outlets between 2013 and 2014. The differences have not been tested for any statistical significance, acknowledging both the short time frame, and the potential for a range of factors each having influence.

Table 5.2 - Changes in Total Sales/Purchases 2013-2014 by Urban Location and Licence Type

Urban Location & Licence Type	Actual Shift (%)	Relative Shift (% Point)
Main Cities		
Club Licence	7.7%	0.4
Off-licence	7.0%	-0.4
On-Licence	8.0%	0.7
TOTAL	**7.3%**	**0.0**
Large Regional Cities		
Club Licence	11.2%	3.9
Off-licence	6.0%	-1.3
On-Licence	7.5%	0.1
TOTAL	**6.4%**	**-0.9**
Other Regional Cities		
Club Licence	1.7%	-5.6
Off-licence	6.5%	-0.8
On-Licence	8.3%	1.0
TOTAL	**6.8%**	**-0.5**
Rest of NZ		
Club Licence	2.8%	-4.5
Off-licence	6.7%	-0.6
On-Licence	13.4%	6.1
TOTAL	**8.1%**	**0.8**
Total NZ		
Club Licence	6.2%	-1.1
Off-licence	6.7%	-0.6
On-Licence	8.9%	1.6
TOTAL	**7.3%**	

Source: M.E - NZ Alcohol Supply & Demand Model (2014)

5.4 Shifts by Licence Category 2013-2014

Within that overall pattern there were also changes apparent among the different licence categories. Table 5.3 shows the changes for club licence outlets by category. The table shows for each category:

a) The actual shift (%) in total sales according to card data;

b) The relative shift of total sales for that licence category compared with all club licence outlets. If the value is highlighted blue, then that category increased its position among club licence outlets. If highlighted red, then it declined relative to other club licence categories;

c) The relative shift of total sales for that licence category compared with all licensed outlets (club, off- and on-licences). The same colour coding applies, this time relative to all licence types;

d) The final column shows that category's share of all total estimated alcohol sales (nationally) in club licence outlets for 2014. This is important because categories may show up as having made substantial shifts between 2013 and 2014 relative to club licences or all licences, but may still represent only a small component within the alcohol sales sector.

Within the club licence type, Chartered Clubs and Sports Clubs account for approximately 78% of estimated national alcohol sales for all club licences (2014). Both showed a very small increase relative to all club licence outlets ('*Relative Shift within Licence Type*'), and small decreases relative to all licensed outlets ('*Relative Shift All Types*'), consistent with the small overall decrease for club licence outlets. Assuming the alcohol sales in each licence category changed pro rata with the change in total sales, this indicates quite minor change for the club licence type overall, and <u>within</u> the club licence type.

Table 5.3 - Club Licence Outlets – Changes in Total Sales/Purchases 2013-2014

Club Licence Category	Actual Shift 2013-14 (%)	Relative Shift within Licence Type (% Point)	Relative Shift All Types (% Point)	Share of est. NZ Alcohol Sales by Licence Type *
Aero Club	9.3%	3.0	2.0	0.1%
Chartered Club	**6.4%**	**0.1**	- 0.9	**25.0%**
Combined Sports Club	0.4%	- 5.8	- 6.9	2.0%
Country Club	0.9%	- 5.3	- 6.4	0.8%
Cultural Club	18.0%	11.7	10.7	0.1%
Music Studio	-20.2%	- 26.4	- 27.5	0.0%
Restaurant	0.0%	- 6.2	- 7.3	0.0%
Social Club	-4.0%	- 10.3	- 11.3	18.5%
Sports Club	**6.4%**	**0.2**	- 0.9	**53.4%**
Theatre/Cinema	27.6%	21.3	20.3	0.1%
TOTAL CLUB LICENCE	6.2%	-	- 1.1	100.0%

Source: M.E - NZ Alcohol Supply & Demand Model (2014)

* Percentages based on modelled 2014 national alcohol only sales by licence type-category and not raw Paymark sales dataset (as per other columns)

Table 5.4 shows the changes for off-licence outlets by category, with the same table structure and highlighting code as for club licences (Table 5.3).

Within the off-licence type, bottle stores / liquor stores, supermarkets and grocery stores together account for nearly 74% of estimated national alcohol sales for all off-licences (2014). Bottle stores showed a slight increase between 2013 and 2014 relative to all off-licence outlets ('*Relative Shift within Licence Type*'), and no change relative to all licensed outlets ('*Relative Shift All Types*') which contrasts with the small overall decrease for off-licence outlets.

Supermarkets showed a small decrease relative to all off-licence outlets (-0.6 percentage points) and a small decrease relative to all licensed outlets (-1.2 percentage points). Licensed grocery stores showed an increase relative to all off-licence outlets (+4.3 percentage points) and an increase relative to all licensed outlets (+3.7 percentage points).

Assuming the alcohol sales in each licence category changed pro rata with the change in total sales, the information suggests quite minor change also for the off-licence type overall, and within the off-licence type.

Table 5.4 - Off-licence Outlets – Changes in Alcohol Sales/Purchases 2013-2014

Off-licence Category	Actual Shift 2013-14 (%)	Relative Shift within Licence Type (% Point)		Relative Shift All Types (% Point)		Share of est. NZ Alcohol Sales by Licence Type *
Auctioneer Endorsed	-15.9%	-	22.6	-	23.2	0.0%
Bottle Store	**7.3%**		**0.6**	-	**0.0**	**39.1%**
Brewer	41.7%		35.0		34.4	2.1%
Caterer Endorsed	-2.0%	-	8.8	-	9.4	5.7%
Chartered Club	4.3%	-	2.4	-	3.0	1.9%
Complementary to type of goods sold	5.9%	-	0.8	-	1.4	0.0%
Complimentary	1.5%	-	5.3	-	5.9	0.7%
Distillery	-3.6%	-	10.3	-	10.9	0.1%
Function Centre	0.0%	-	6.7	-	7.3	0.0%
Grocery Store	**11.0%**		**4.3**		**3.7**	**4.0%**
Hotel	9.6%		2.9		2.3	2.2%
Location	16.4%		9.7		9.1	1.2%
Mail Order	22.1%		15.4		14.8	2.6%
Restaurant	-11.6%	-	18.3	-	18.9	0.3%
Social Club	0.0%	-	6.7	-	7.3	0.1%
Sports Club	0.0%	-	6.7	-	7.3	0.0%
Supermarket	**6.1%**	-	**0.6**	-	**1.2**	**30.7%**
Taste	0.0%	-	6.7	-	7.3	0.0%
Tavern	20.3%		13.6		13.0	4.3%
Tourist House	13.3%		6.6		6.0	0.3%
University/Polytechnic	0.0%	-	6.7	-	7.3	0.0%
Wine Maker	15.7%		9.0		8.4	4.7%
TOTAL OFF-LICENCE	**6.7%**		-	-	0.6	100.0%

Source: M.E - NZ Alcohol Supply & Demand Model (2014)
* Percentages based on modelled 2014 national alcohol only sales by licence type-category and not raw
Paymark sales dataset (as per other columns)

Table 5.5 shows the changes for on-licence outlets by category, with the same table structure and high-lighting code as for club and off-licences (Tables 5.3 and 5.4).

Within the on-licence type, restaurant, tavern and hotel licences together account for nearly 89% of estimated national alcohol sales for all on-licences (2014). Within the overall pattern, which indicates that

on-licence outlets increased their share of total sales, restaurants showed a slight increase relative to all on-licence outlets ('*Relative Shift within Licence Type*'), and an increase also relative to all licensed outlets ('*Relative Shift All Types*').

Taverns showed a small decrease relative to all off-licence outlets (-1.1 percentage points) indicating reduced market share and a very small increase relative to all licensed outlets (+0.5 percentage points). However, there was a clear increase in total sales. Hotels showed no change in market share relative to all on-licence outlets, and an increase relative to all licensed outlets (+1.6 percentage points).

Table 5.5 - On-licence Outlets – Changes in Alcohol Sales/Purchases 2013-2014

On-licence Category	Actual Shift 2013-14 (%)	Relative Shift within Licence Type (% Point)	Relative Shift All Types (% Point)	Share of est. NZ Alcohol Sales by Licence Type *
Adult	17.0%	8.1	9.7	0.4%
Airport	0.0%	- 8.9	- 7.3	0.1%
Bottle Store	27.6%	18.7	20.3	0.2%
Brewer	38.3%	29.4	31.0	0.1%
BYO Endorsed	-1.0%	- 9.9	- 8.4	0.0%
Casino	1.3%	- 7.6	- 6.1	1.3%
Caterer Endorsed	180.0%	171.1	172.7	0.2%
Chartered Club	0.0%	- 8.9	- 7.3	0.0%
Complimentary	17.0%	8.1	9.7	0.0%
Conference Centre	-29.9%	- 38.8	- 37.2	0.2%
Conveyances	0.0%	- 8.9	- 7.3	0.0%
Function Centre	6.4%	- 2.5	- 0.9	2.5%
Grocery Store	22.8%	13.9	15.5	0.0%
Hospital	0.0%	- 8.9	- 7.3	0.1%
Hotel	**8.9%**	**- 0.0**	**1.6**	**19.9%**
Nightclub	-11.3%	- 20.2	- 18.6	0.4%
Other	18.0%	9.1	10.7	0.0%
Restaurant	**9.9%**	**1.0**	**2.6**	**33.8%**
Sports Club	17.0%	8.1	9.7	0.8%
On-licence - TAB	0.0%	- 8.9	- 7.3	0.0%
Taste	20.9%	12.0	13.6	0.0%
Tavern	**7.8%**	**- 1.1**	**0.5**	**35.1%**
Theatre/Cinema	1.8%	- 7.1	- 5.5	0.4%
Tourist House	9.9%	1.1	2.6	3.5%
University/Polytechnic	175.8%	166.9	168.5	0.4%
Wine Maker	0.8%	- 8.1	- 6.6	0.6%
TOTAL ON-LICENCE	**8.9%**	**-**	**1.6**	**100.0%**

Source: M.E - NZ Alcohol Supply & Demand Model (2014)
* Percentages based on modelled 2014 national alcohol only sales by licence type-category and not raw
Paymark sales dataset (as per other columns)

As with club and off-licence outlets, assuming the alcohol sales in each licence category changed pro rata with the change in total sales, the information suggests relatively minor change also for the on-licence type overall, and within the on-licence type.

The tables also highlight the structure of the licensed outlet sales sector, in that 2-3 licence categories dominate the total pattern within each of club, off- and on-licence types. Other licence categories can

exhibit seemingly quite substantial shifts year on year, but because they account for small shares of total sales they have limited effect on each of the licence types.

This does not mean that the observed shifts for the smaller categories are necessarily unimportant, rather that such shifts need to be monitored for more than a single year to indicate their significance.

5.5 Changes in Timing of Purchases 2013-2014

The fourth aspect of the shifts in purchasing patterns between 2013 and 2014 is the changes in the timing of sales at licensed outlets. While shifts in timing per se are important, it is also very relevant to consider changes in both timing and the types of outlet, since that better indicates the nature of changes in consumers' purchasing behaviour.

Figure 5.1 shows the relative shifts in the timing of card-based sales between 2013 and 2014 by day of week. The shifts are indexed relative to a base of '1' – being the expected average shift. Shifts greater than 1 equal a relative increase in sales (above what was expected) and shifts less than 1 equal a relative decrease in sales (below what was expected) between the two years (and before and after the implementation of the SSAA). Across all types of licensed outlet New Zealand wide, there was little change expected by day of the week as the SSAA did not introduce any restrictions specific to days of the week. In the Model, little change was evident (top left graph), beyond a slight shift towards Wednesday sales (from a 13.2% share of total weekly sales in licenced premises in 2013 to a 14.1% share in 2014[48]) and away from Tuesday (from a 12.7% in 2013 to a 12.3% share in 2014), Thursday, Friday and to a lesser extent Monday. There is also a very small relative shift toward Sunday, which may be associated with the shift toward on-licence outlets. Total sales on Saturday match the expected average change – so there is no relative shift.

However, Figure 5.1 also suggests the minor change in purchasing across the week is common to all licence types (graphs top right and bottom). That is, a slight shift in sales to Wednesday and Sunday and away from Monday, Tuesday, Thursday and Friday. Only in total on-licenses does Monday also accrue a slightly greater share of total sales than expected. The reasons for the possible shift in sales towards Wednesdays has not been investigated by this research, and it may reflect some actual small shift in sales, and/or differences in the data collation, and/or the influence of unidentified factors. The extent to which the impact is associated with the SSAA (and not some other market driver) is also unable to be determined from the data available.

Figure 5.2 shows the relative shifts in the timing of total sales across the day of card-based sales between 2013 and 2014, across all types of licensed outlet New Zealand wide. Due to the introduction of the national maximum trading hours, some reductions in sales outside the hours for each licence type were expected (to the extent that alcohol represents a share of transaction value in those trading hours). On the premise that some customers might adjust their purchase patterns for alcohol and potentially other goods and services (particularly for off-licence), an increase in total sales within the maximum trading hours was also expected.

[48] Source: NZ ASDM 2014 (not shown).

Figure 5.1 - Changes in Total Sales by Day of Week 2013-2014 – All Licences and Licence by Type
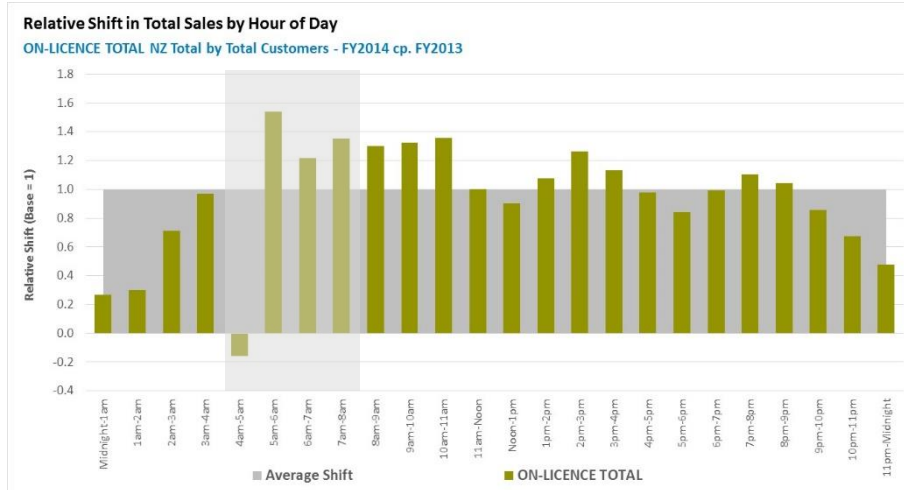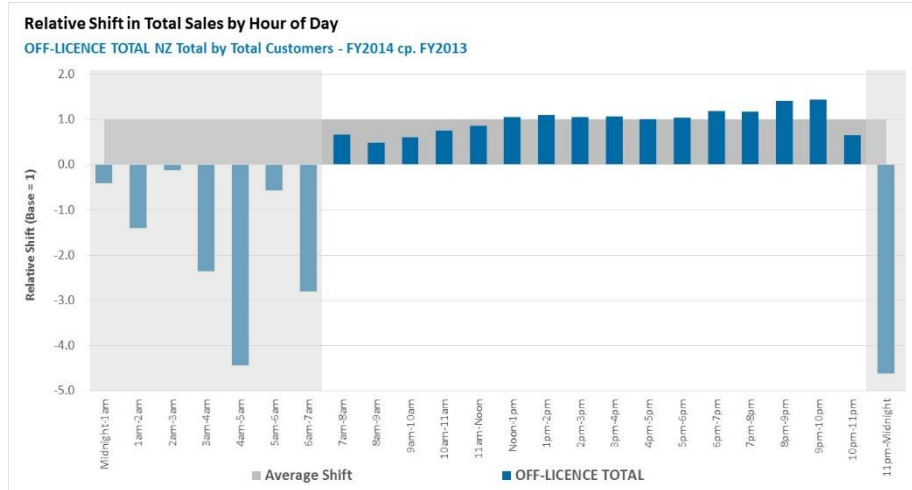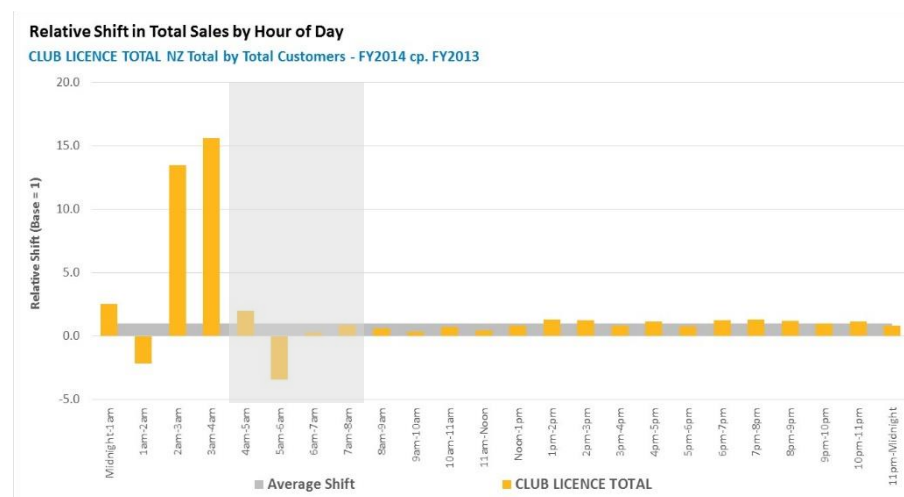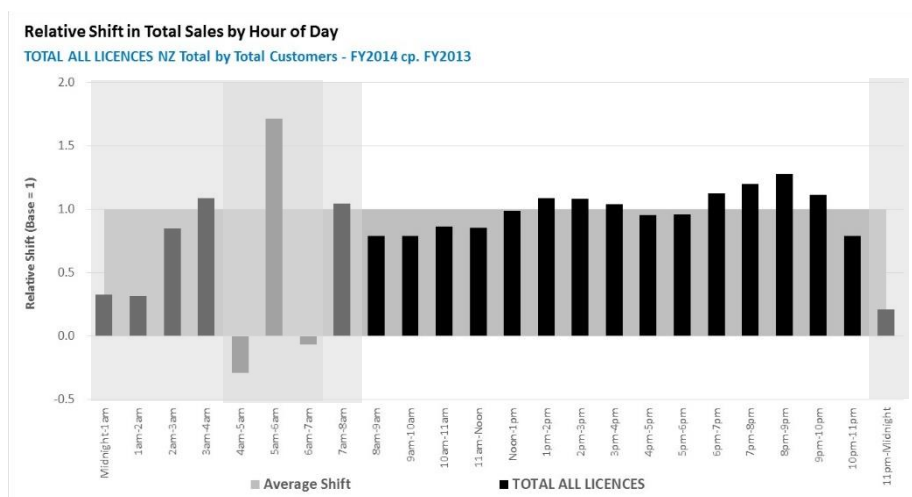
Note – Y axis scales vary. Shaded block represents hours restricted by the national maximum trading hours (SSAA)

The scale of change was expected to be small given that relatively few premises traded alcohol outside the maximum hours in 2013[49] – i.e. the SSAA impacted on the normal operation of relatively few businesses (with the impact most likely limited to 1 or 2 hours of alcohol trading[50]).

In the Model, the relative reduction in total sales in the period from 10pm until 3am, and again between 4am and 5am and 6am and 7am is clearly evident. The data shows a relative increase in sales in the hour leading up to 4am and again between 5am and 6am in 2014 compared to 2013. The latter is presumably unrelated to the SSAA. However, the scale of the total change between 10pm through to 7am is relatively small, since that period accounted for an estimated 3.8% of sales in the sample dataset in 2013, and this declined to 3.6% for 2014. Nonetheless, the reduction in this time period indicates that the introduction of the SSAA hours may have had some direct effect on the timing of total sales in licensed premises.

That is further apparent in the relative shifts for both on-licence and off-licence outlets (Figure 5.2 - bottom graphs), where there has been a relative decrease in total sales in the 10pm-7am period for both on-licence (from 14.6% to 14.1%) and off-licence outlets (from 1.2% to 1.1%) between 2013 and 2014, though an increase for club licences (3.4% to 3.5% - top right graph).

Of interest is the relative decline in the share of sales in the 10-11pm period for off-licences given that the national maximum trading hours do not impact on that hour, but on the following hours. Combined with the relative increase in the share of total sales in the preceding 4 hours (6pm-10pm) this might suggest that shoppers have adjusted their alcohol related purchasing earlier and given the licence closing hour a 'wider berth' A definitive cause and effect relationship is however unable to be confirmed. Again, such shifts need to be monitored for more than a single year to indicate their significance (and permanence).

5.5.1 Club Licences

This section focuses on the two largest club licence categories, Chartered Clubs (25% of estimated national club licence alcohol sales) and Sports Clubs (53% of estimated national alcohol club licence sales).

Figure 5.3 shows the relative shifts in the timing of total sales by day of week and across the day for Chartered Clubs. The shifts by day of week are consistent with the overall patterns of slightly greater focus on Wednesdays and Sundays, though with limited real change. The changes by hour of the day indicate a relative reduction overall in the 10pm-noon period, which includes the period (4am to 8am) when alcohol sales are not permitted under the SSAA (2014).

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[49] For example few supermarkets had a licence that extended to midnight or was 24 hour and most bars outside of the CBDs of main cities closed before 4am.

[50] Normal trading of non-alcohol goods and services is unaffected by the SSAA.

Figure 5.3 - Changes in Total Sales 2013-2014 – Chartered Clubs

Relative Shift in Total Sales by Day of Week
CLUB LICENCE-CHARTERED CLUB NZ Total by Total Customers - FY2014 cp. FY2013

Relative Shift in Total Sales by Hour of Day
CLUB LICENCE-CHARTERED CLUB NZ Total by Total Customers - FY2014 cp. FY2013
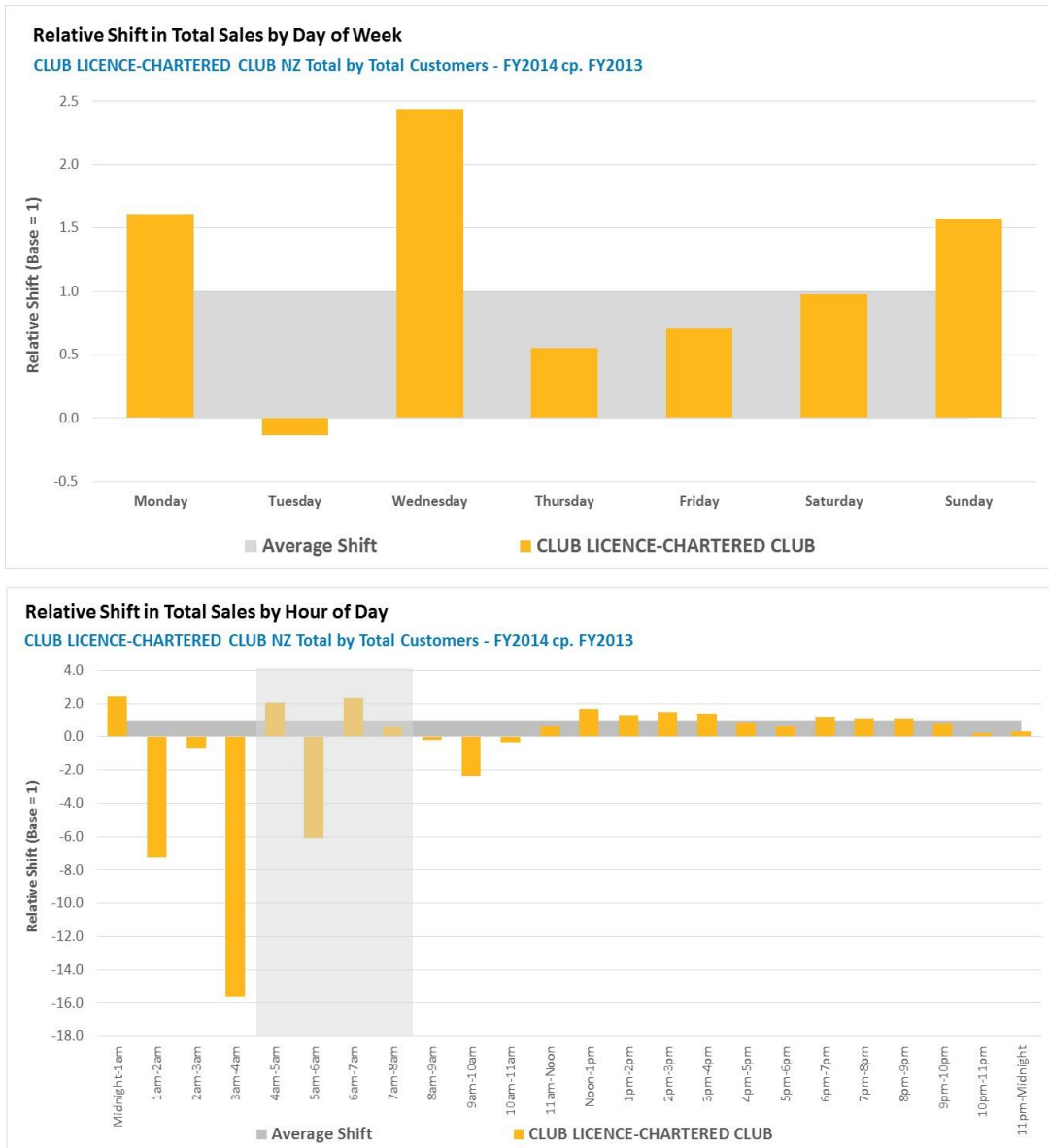
Figure 5.4 shows the relative shifts in the timing of total sales by day of week and across the day for Sports Clubs. The shifts by day of week show greater focus on weekends, though the relative shift towards Wednesdays is also apparent. The patterns by hour of the day do not indicate a relative reduction in the 10pm-7am period (or for that matter 4am-8am), although the total sales in that period are just over 3% of the weekly total (2013 and 2014).

Figure 5.4 - Changes in Total Sales 2013-2014 – Sports Clubs

Relative Shift in Total Sales by Day of Week
CLUB LICENCE-SPORTS CLUB NZ Total by Total Customers - FY2014 cp. FY2013

Relative Shift in Total Sales by Hour of Day
CLUB LICENCE-SPORTS CLUB NZ Total by Total Customers - FY2014 cp. FY2013
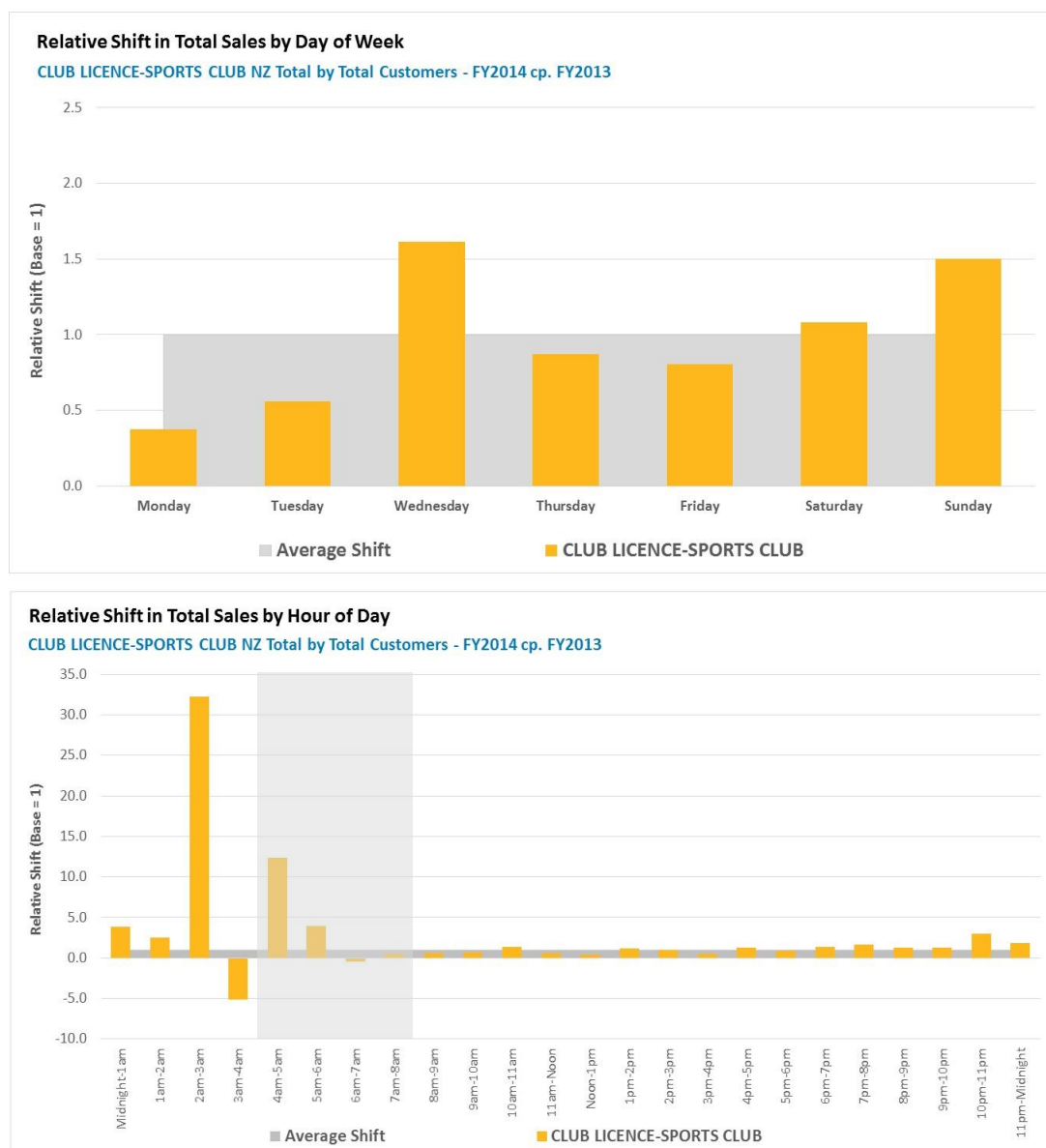
5.5.2   Off-licences

This section focuses on the two largest off-licence categories, Bottle Stores (39% of estimated national off-licence alcohol sales) and Supermarkets (31% of estimated alcohol sales).

Figure 5.5 shows the relative shifts in the timing of total sales by day of week and across the day for Bottle Stores. The shifts by day of week show little overall change (notwithstanding the slight relative shift towards Wednesdays). The patterns by hour of the day show a very clear actual and relative reduction in the 10pm-6am period. Given the high share of total sales that are alcohol related for bottle stores, the relative increase in the share of total sales in the 6am-7am period (which is restricted under the SSAA) is not easily explained. However, it may have to do with the recording of transactions, including manual (paper) transactions on cards, being outside sale hours but during the before- or after-hours administrative tasks of licensed outlets.

Figure 5.5 - Changes in Total Sales 2013-2014 – Bottle Stores

Relative Shift in Total Sales by Day of Week

OFF-LICENCE-BOTTLE STORE NZ Total by Total Customers - FY2014 cp. FY2013

Relative Shift in Total Sales by Hour of Day

OFF-LICENCE-BOTTLE STORE NZ Total by Total Customers - FY2014 cp. FY2013
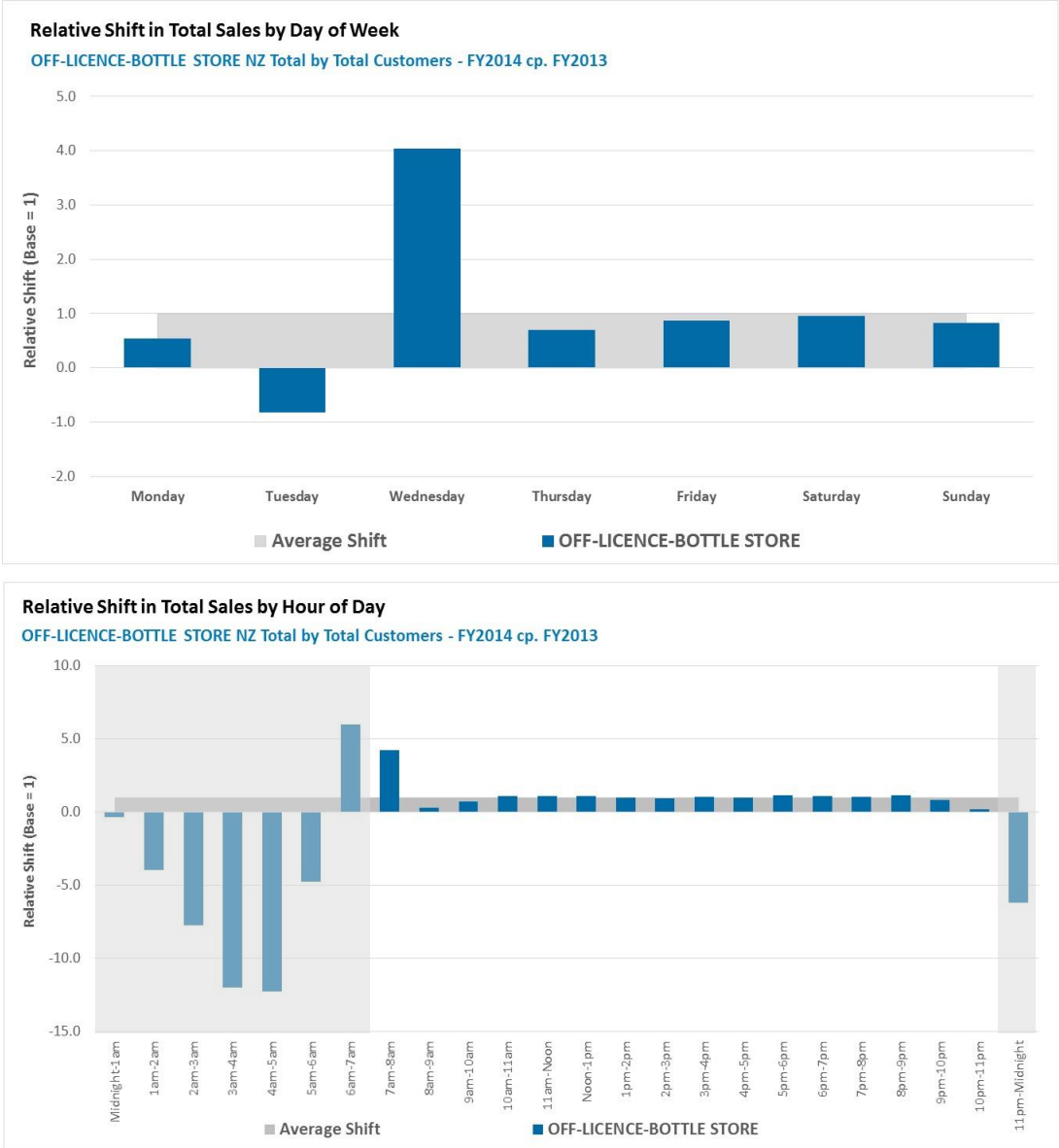
Figure 5.6 shows the relative shifts in the timing of total sales by day of week and across the day for Supermarkets. Again, the shifts by day of week show little overall change (notwithstanding the relative shift towards Wednesdays). The patterns by hour of the day show for Supermarkets (as for bottle stores) a clear actual and relative reduction in total sales in the 10pm-7am period.

Figure 5.6 - Changes in Total Sales 2013-2014 – Supermarkets

Relative Shift in Total Sales by Day of Week

OFF-LICENCE-SUPERMARKET NZ Total by Total Customers - FY2014 cp. FY2013

Relative Shift in Total Sales by Hour of Day

OFF-LICENCE-SUPERMARKET NZ Total by Total Customers - FY2014 cp. FY2013
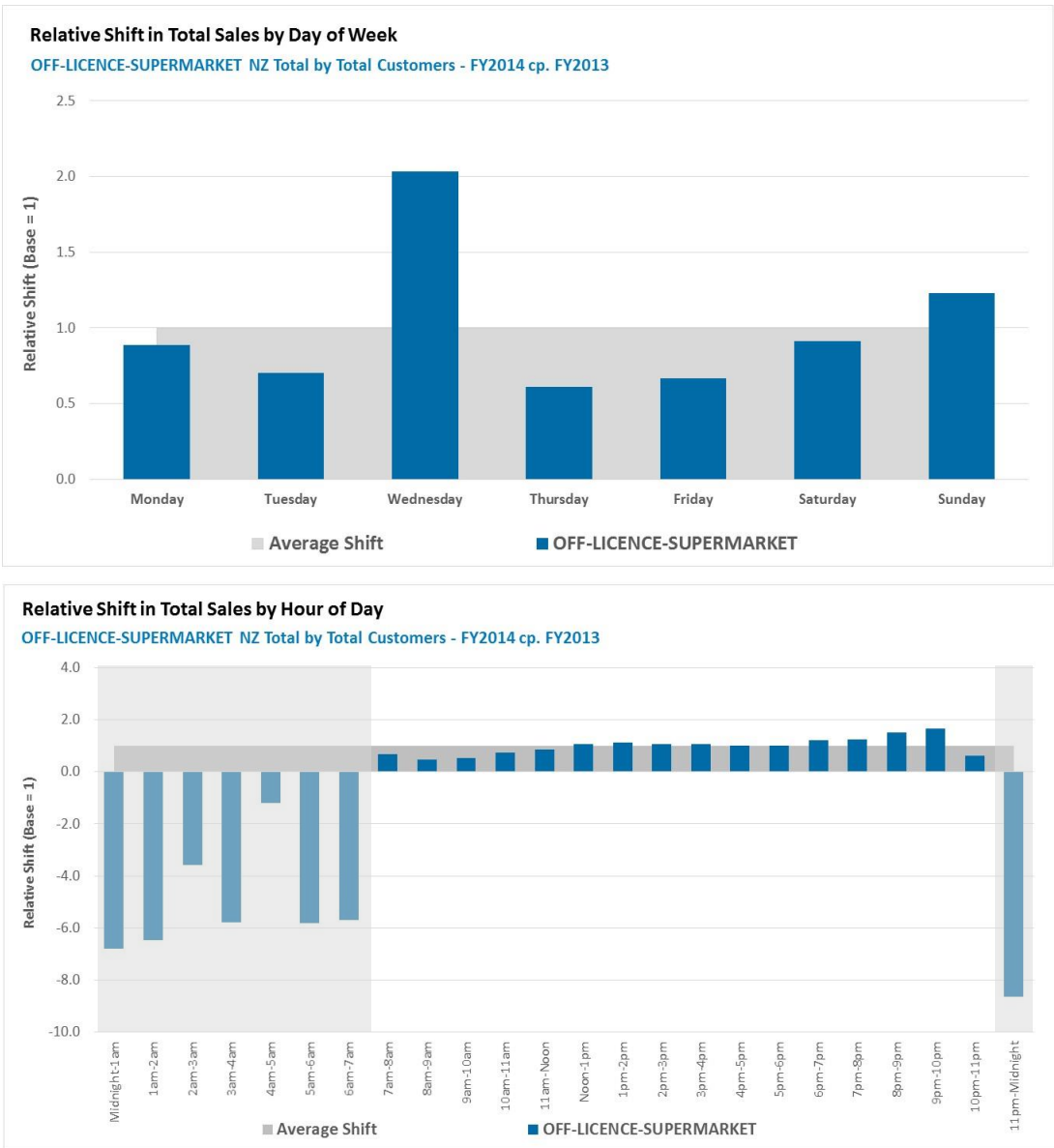
5.5.3   On-licences

This section focuses on the two largest on-licence categories, Restaurants (34% of estimated national on-licence alcohol sales) and Taverns (35% of estimated alcohol sales).

Figure 5.7 shows the relative shifts in the timing of total sales by day of week and across the day for Restaurants. The shifts by day of week show very limited overall change (notwithstanding the relative shift towards Wednesdays). The patterns by hour of the day show a relative reduction in total sales across the 8pm-7am period.

Figure 5.7 - Changes in Total Sales 2013-2014 – Restaurants

Relative Shift in Total Sales by Day of Week
ON-LICENCE-RESTAURANT NZ Total by Total Customers - FY2014 cp. FY2013

Relative Shift in Total Sales by Hour of Day
ON-LICENCE-RESTAURANT NZ Total by Total Customers - FY2014 cp. FY2013
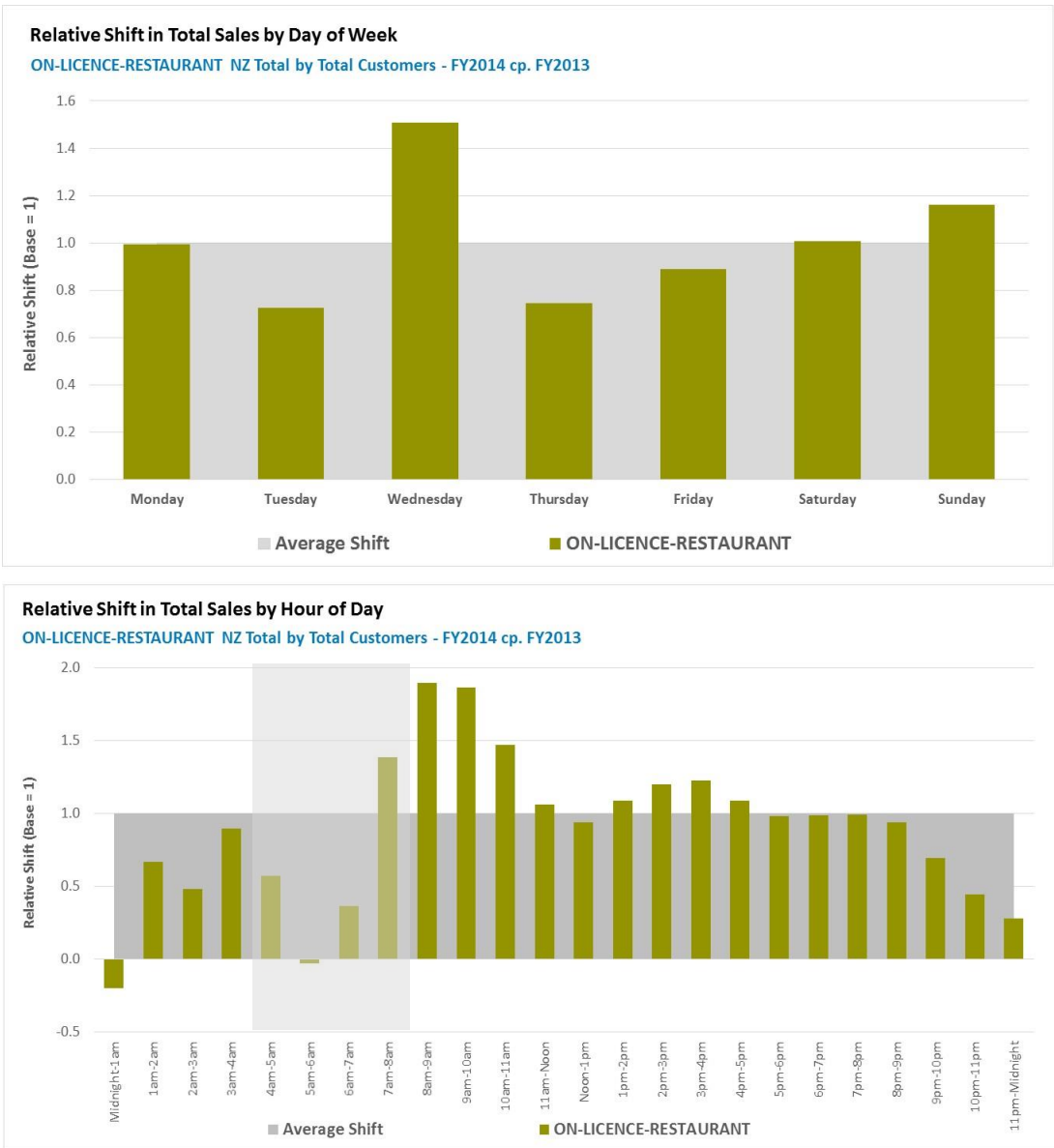
Figure 5.8 shows the relative shifts in the timing of total sales by day of week and across the day for Taverns. As with the major off- and on-licence categories, the shifts by day of week show little overall change (with a relative shift towards Wednesdays). The patterns by hour of the day show for taverns a clear relative reduction in the 11pm-7am period and an actual reduction between 4am and 6am.

Figure 5.8 - Changes in Total Sales 2013-2014 – Taverns

Relative Shift in Total Sales by Day of Week

ON-LICENCE-TAVERN NZ Total by Total Customers - FY2014 cp. FY2013

Relative Shift in Total Sales by Hour of Day

ON-LICENCE-TAVERN NZ Total by Total Customers - FY2014 cp. FY2013
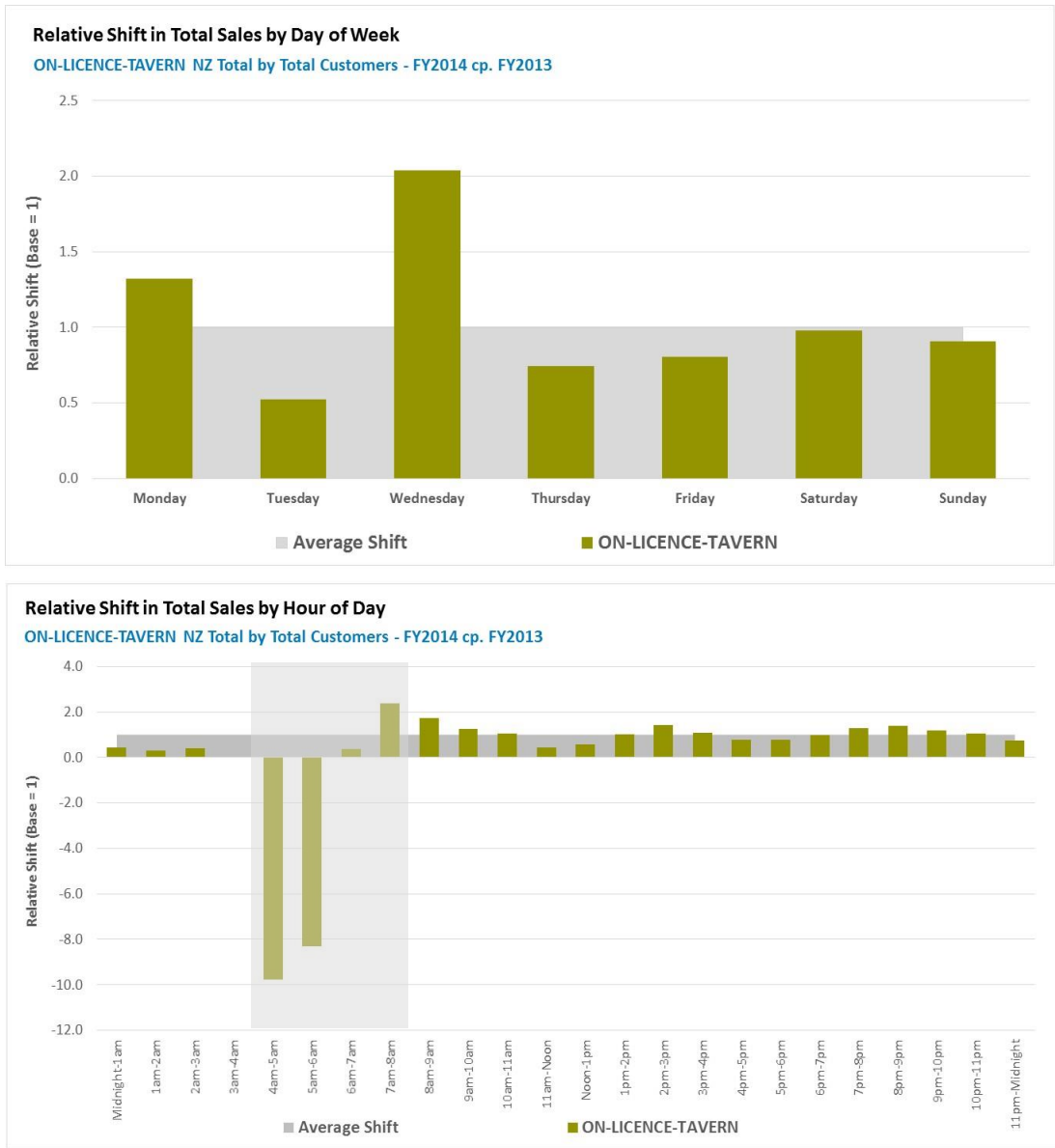
6 Conclusions

The research expands the capabilities and accuracy of analysis and early monitoring available to examine alcohol sale and supply structures in New Zealand and how these are changing over time as the effects of the SSAA unfold. This research meaningfully contributes to the knowledge base and addresses some key knowledge gaps (including at the TA level), but has not been without its challenges.

Not least, the research addresses a number of the challenges associated with linking datasets with various degrees of coverage and different geographic scales; taking data that has no 'spatial' application and linking it with data that allows those variables to be 'put on the ground'; creating a Model that consolidated a vast array of data and analysis; and reporting the value of this new evidence base, while acknowledging its strengths and limitations.

6.1 Research Limitations

The research shows that comprehensive, total industry analysis is possible but reconciliation and balancing is fundamental to the methodology in order to link supply-side datasets to each other and with demand-side datasets. Most of the data used in this research is limited in some way and as better data becomes available (especially for the smaller sectors of supply), it could be included in the Model and the evidence base will become more robust. In the meantime, the research has relied upon a number of estimates and assumptions – many of which have a potentially compounding effect on final outputs. Changes in one step of the methodology flow through to subsequent steps. A number of checks and balances are however included to try and minimise gross errors at key junctures.

The key limitation of the research is the lack of data specifically on alcohol sales patterns as distinct from total sales patterns which include alcohol and other goods and services sold by licensed premises. While the analysis has taken the distribution of total sales occurring within national maximum trading hours to allocate estimated alcohol sales in each type of premises, there is no certainty that alcohol purchasing occurs at the same time across the day and night as all sales. The same applies for the distribution across the week. The level of risk associated with this assumption is not universal across all licence type-category combinations, but is greatest where the estimated share of total sales that is alcohol related is low (i.e. supermarkets and restaurants), and is lower (but not completely absent) where the alcohol share of sales is high (i.e. bottle stores and taverns).

Delivering supply and demand analysis at the TA level was a key objective of the research – the full extent of which has not been practicable to report here. While supply-side data can be estimated at TA levels (subject to data accuracy, a number of modelling assumptions and the application of some national averages of alcohol sales per MEC), demand-side data for each licence type-category combination is limited to higher spatial aggregations if detailed market and temporal segmentation is desired. The reliance on averages at the urban location type level (the approach taken for the purpose of this research) – albeit applied to a supply structure that is specific to each TA - is another limitation. Different aggregations of TAs for the collation of demand-side data (i.e. the geographic framework) may produce different average

patterns – such sensitivity has not been tested and would have increased data costs. These limitations must however be considered in context. It applies only to potential differences between when and how much 30-34 year old males spend on average in on-licence restaurants (for example) in Hastings compared to Napier or Tauranga for instance (being TAs that contribute to the average for Other Regional Cities). The expectation is that the propensity to dine in restaurants, and the times at which this market segment chooses to consume food and beverages would be similar in each of these communities.

Perhaps of greater relevance to the demand-side limitations is the degree to which typical trading hours vary across TAs within each urban location type. To minimise this risk, the spatial framework grouped TAs according to similarities in the scale of urban areas (i.e. resident population). The research has shown that the supply structures (including the number of licensed premises by type) is most variable in the Rest of New Zealand category and that outlets may trade over a longer period in tourist destinations such as Queenstown Lakes District compared to non-tourist districts such as Waikato. The average demand side patterns may therefore imply trade in hours (particularly late at night or early in the morning) that do not apply to some TAs in that group. In future, as more TAs implement LAPs and introduce more restrictive licence hours than the national maximum trading hours, then this limitation would become significant if the approach was held constant. Further revision of the way TAs are grouped for the collation of demand-side data could help minimise errors associated with the application of average demand-side trends.

Importantly, despite the data limitations, there is reasonably solid information on the key dimensions of the demand and supply aspects of alcohol, which is able to be used within a single overall modelling framework. This research has demonstrated those possibilities.

6.2 Summary of Key Findings

There are a number of key findings to be taken from this research (limitations notwithstanding). It provides evidence of clear variations in supply and demand patterns:

- **across licence types and categories** – In 2014 there was an estimated 12,390 liquor licences held by 11,398 premises and employing just under 135,000 employees and working proprietors. Total sales of alcoholic beverages that year (covering a reported 450 million litres) is estimated at $5,747 million.

  o Club licences account for 16% of total licences, 7% of estimated employment in licensed premises, 2% of estimated alcohol sales by value and 1% of estimated alcohol sales by volume of beverages sold.

  o Off-licences account for 28% of total licences, 40% of estimated employment, 66% of estimated alcohol sales by value and 84% of estimated alcohol sales by volume.

  o On-licences account for 56% of total licences, 53% of estimated employment, 32% of estimated alcohol sales by value and 14% of estimated alcohol sales by volume.

  o Supermarkets account for an estimated 20% of national alcohol sales by value, bottle stores an estimated 26%, taverns 11% and restaurants 11%. Combined these four types of premises account for 68% of total value of alcohol sales (2014);

- o Supermarkets account for an estimated 31% of national alcohol sales by total beverage volume, bottle stores an estimated 33%, taverns 6% and restaurants 4%. Combined these four types of premises account for 74% of total volume of alcohol sold (2014);

- **in different types of urban locations across New Zealand** - Combined the Main Cities of New Zealand account for 38% of total licences, Large Regional Cities 13%, Other Regional Cities 9% and the Rest of New Zealand TAs 40%.

  - o The larger the urban area, the greater the share of on-licences and the smaller the share of club licences. For example, in the Main Cities on-licences account for an average share of 64% and club licences 12% compared to 47% and 20% respectively in the Rest of New Zealand. The share of off-licences is similar across all sized cities (24-25%), but is higher in the Rest of New Zealand (33%).

  - o The top five TAs in terms of licence counts (2014) are Auckland (estimated at 3,340), Christchurch City (827), Wellington City (643), Dunedin City (421) and Queenstown Lakes District (317).

  - o While many licence type-category combinations are common to all locations (Taverns, Supermarkets, Restaurants, Bottle Stores, Sports Clubs for example), some are concentrated in certain regions or types of urban areas. On-licence and off-licence Winemakers are found in wine regions, on-licence Casinos are limited to the larger cities/tourist areas, on-licence Taste outlets/operators are concentrated in Auckland, Cultural Clubs are located in just 5 TAs and Country Clubs just 12 TAs.

- **between males and females** – Males spend 27% of all their estimated alcohol spend in licensed premises in Bottle Stores, 16% in Supermarkets, 13% in Taverns and 11% in licensed Restaurants. These top four sources of supply account for 66% of estimated male alcohol spend (and 72% of purchased alcohol volume). In contrast, total females spend 30% of all their estimated alcohol spend in Supermarkets, 19% in Bottle Stores, 12% in licensed Restaurants and 10% in Taverns. These top four sources of supply account for 70% of estimated female alcohol spend (and 76% of purchased alcohol volume).

  - o Average alcohol transaction value across all licensed premises is higher for males ($17 per transaction) compared to females ($12 per transaction).

  - o On average across New Zealand, females spend 2% of their total estimated alcohol purchases (by value) in club licences, compared to 3% of male spending.

  - o Females spend on average 68% of their total estimated alcohol purchases (by value) in off-licences, compared to 64% of male spending.

  - o Females spend on average 30% of their total estimated alcohol purchases (by value) in on- licences, compared to 33% of male spending.

  - o Males spend 40% of their total estimated alcohol purchases (by value) on Fridays and Saturdays, compared to 37% of female spend.

- **across different age groups** - both younger (18-24 year old) and older (65 years and over) age groups account for smaller shares of total alcohol spending than other adult groups, especially those in the 40-64 year old cohorts.

  o Under 40 year olds account for 26% of estimated total alcohol spend in New Zealand (2014) compared to an estimated 48% spent by 40-59 year olds and 26% spent by 60+ year olds. The 18-24 year old age group accounts for an estimated 5% of total alcohol sales – reflecting their relatively low discretionary spend early in their working lives.

  o Estimated alcohol spending by age group is relatively consistent across on-licence and off-licence types, but there is much stronger spending at club licence outlets by the older age groups. This is consistent with the role of Sports, Social and Chartered Clubs in the community, including their popularity with more mature and retired persons.

- **across the time and day of the week** – nationally, 20% of spend in licensed premises occurs on Saturday, followed by 19% of Friday. The lowest share occurs on Monday (10%). The younger the age group, the more alcohol spend is concentrated on Friday and Saturday nights.

  o An estimated 25% of all spending in licensed premises occurs between noon and 3pm, followed by an estimated 29% between 3pm and 6pm and 21% between 6pm and 9pm. Just 2% of all spending in licensed premises in 2014 occurred after 11pm and before 4am the following day.

  o The younger the age group, the more alcohol spend in concentrated late at night and early in the morning. Under 30 year olds account for 55% of all spend in licensed premises between 1am and 4am while those over 50 years account for just 7%.

- **and in combination across these variables**. See for example Figures 6.1 to 6.5 sourced from the ASDM.

Finally, while some changes are able to be observed pre and post the enactment of the SSAA, the research shows - within the limitations of the data - no substantial shifts in demand patterns in licensed premises based solely on a 2014 comparison with 2013 data. There was some shift apparent in the relative roles of each licence type and these varied slightly across the urban location types. Nationally, club licence and off-licence outlets overall saw their role in the total licensed premises market reduce slightly, while on-licence outlets' role increased slightly. However, the main finding is that the observed change was relatively minor at an industry level[51]. The relative increase in share by on-licence outlets was minor, as was the relative decrease in market share by off-licence and club licence outlets. This indicates changes occurred at the margin, without substantive shift in the sale and supply structure across all licensed outlets between 2013 and 2014.

The relative reduction in total sales in the period from 10pm until 7am is clearly evident in the research results. The data also shows a relative increase in sales between 6-10pm (driven by off-licences) and in the hour leading up to 4am (driven by club licences rather than on-licences). However, the scale of the total

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[51] The significance or otherwise of effects arising from the SSAA on individual businesses is outside the scope of this research.

change between 10pm through to 7am is relatively small, since that period accounted for an estimated 3.8% of total sales across all licence types in the sample dataset in 2013, and this declined to 3.6% for 2014. Nonetheless, the reduction in this time period indicates that the introduction of the SSAA hours *may* have had some direct effect on the timing of total sales in licensed premises. Such shifts need to be monitored for more than a single year to indicate their significance (including statistical significance) and permanence.

Estimated Spend on Alcohol ($000) by Licence Type x Hour 2014 : Total Customers - NZ Total

Estimated Spend on Alcohol ($000) in Licensed Outlets x Age Cohort x Hour 2014 : Total Customers - NZ Total
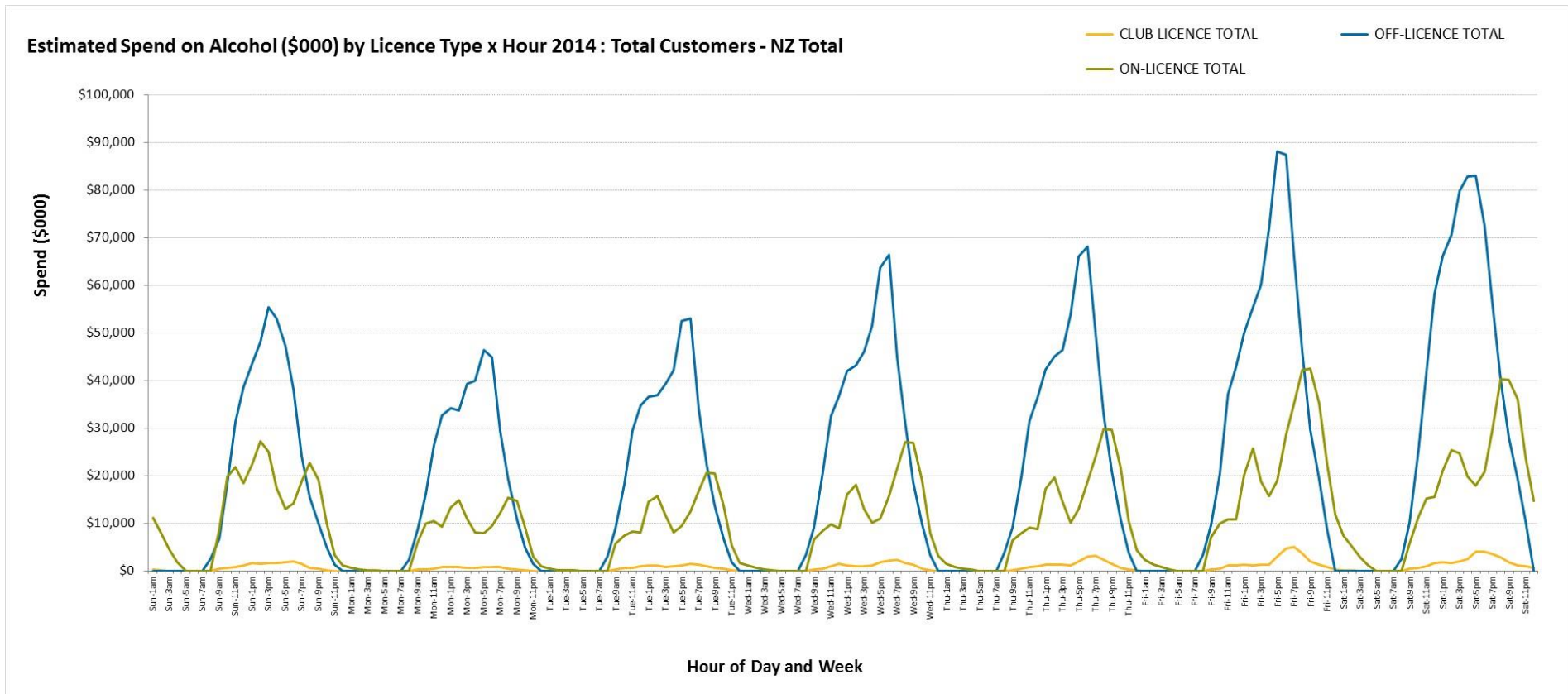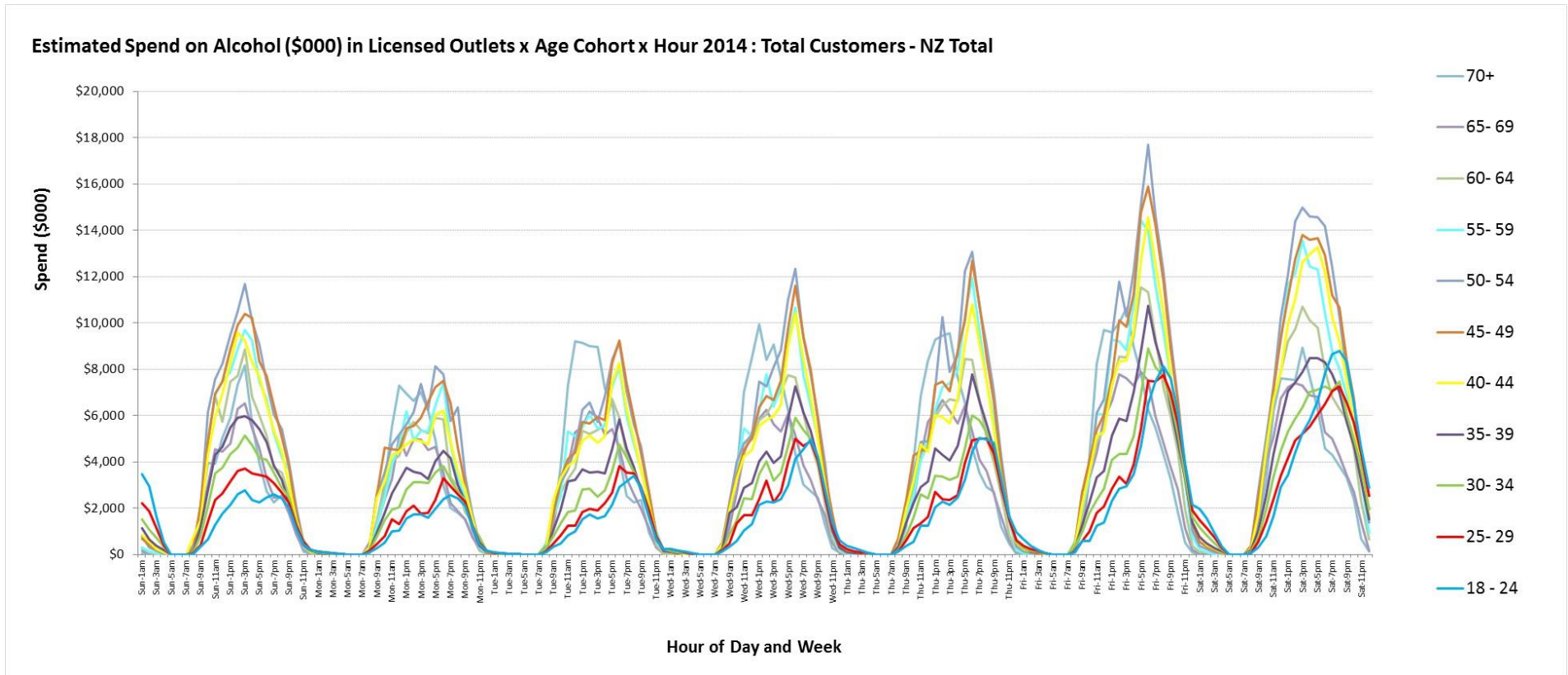
Figure 6.3 – Total New Zealand Estimated Alcohol Spend by Hour and Day – On-licences
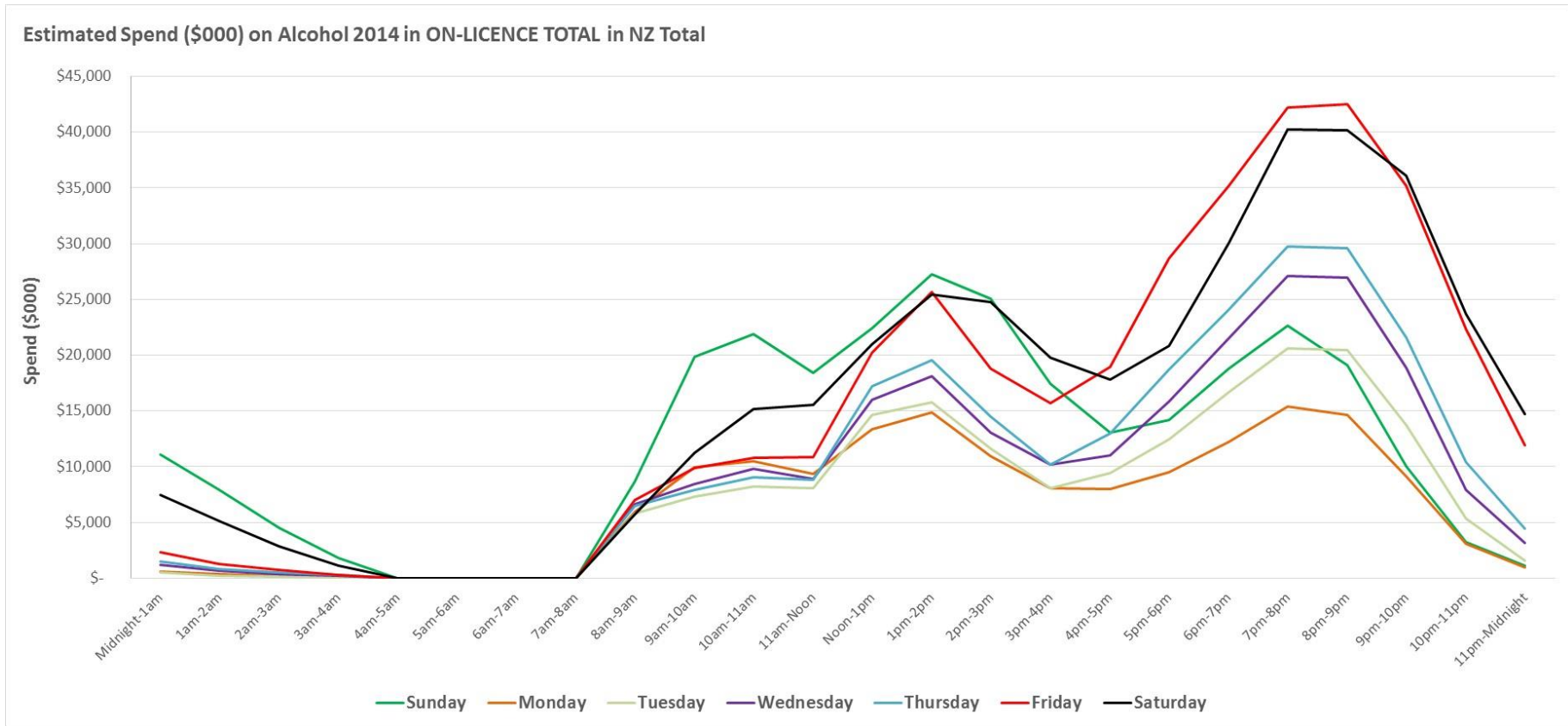
Figure 6.4 – Total New Zealand Estimated Alcohol Spend by Hour and Day – Off-licences


Estimated Spend ($000) on Alcohol 2014 in OFF-LICENCE TOTAL in NZ Total
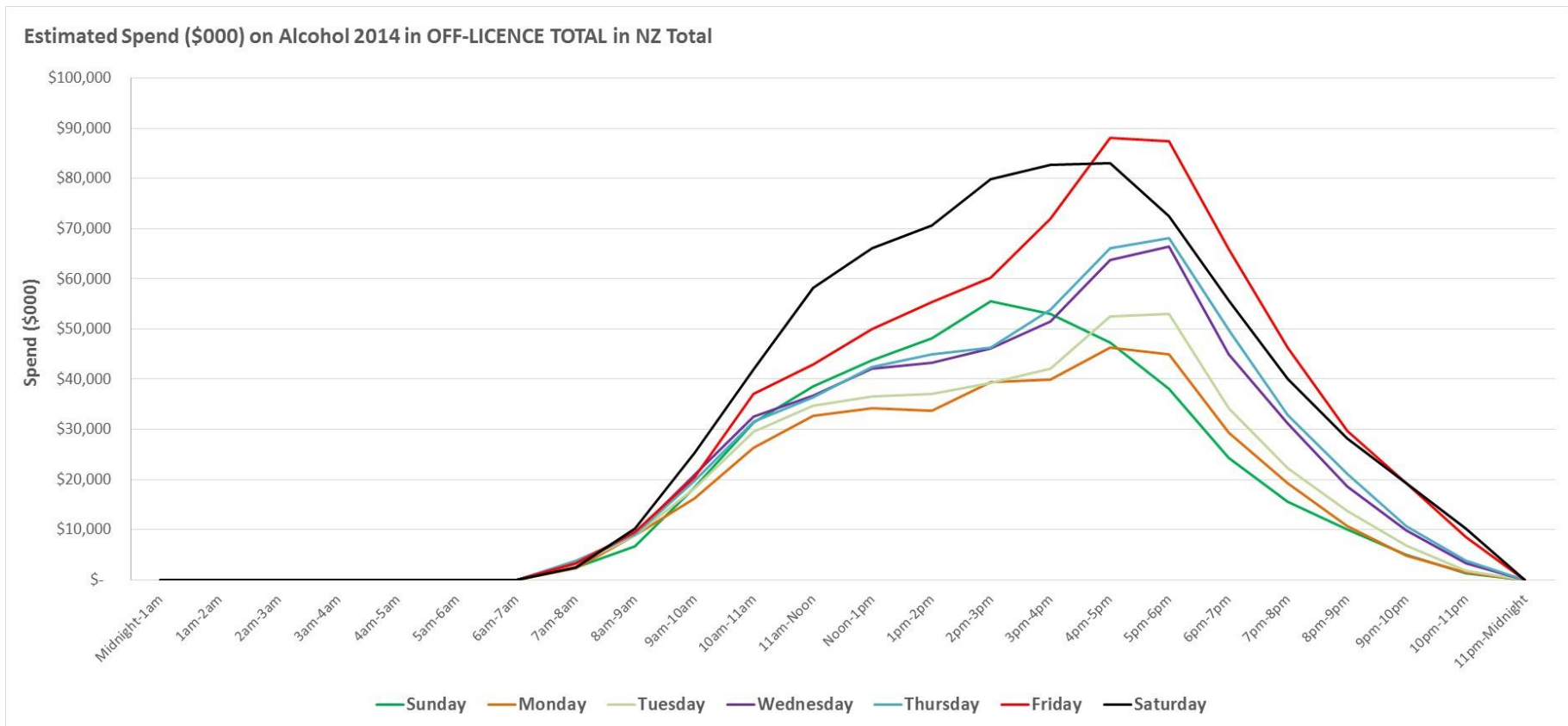
Figure 6.5 - Total New Zealand Estimated Alcohol Spend by Hour and Day – Club Licences

Estimated Spend ($000) on Alcohol 2014 in CLUB LICENCE TOTAL in NZ Total
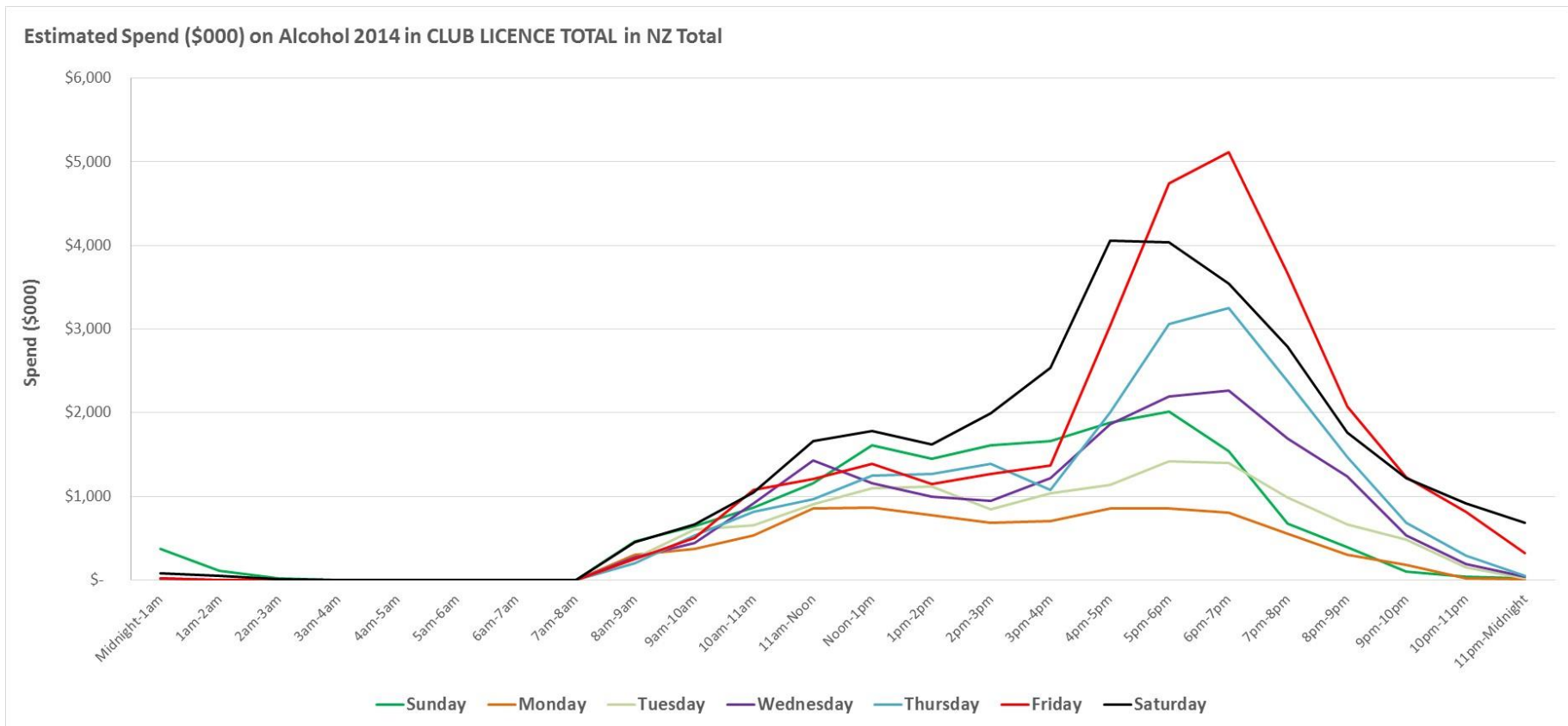
Glossary of Terms

- AES – Annual Enterprise Survey (by SNZ)

- ANZSIC – Australia New Zealand Standard Industrial Classification. 2006 ANZSICs are used for this research (at the most detailed Class level)

- ARLA – Alcohol Regulatory and Licensing Authority

- ASDM – New Zealand Alcohol Supply and Demand Model (2014), developed by M.E. It is the key output of this funded research and informs the Research Report.

- BD - Business Directory

- CAU – Census Area Unit: a statistical area boundary, akin to a suburb in urban locations. Boundaries often fall on road centrelines. CAUs aggregate up to TA boundaries

- Club-licence – A club is a 'body corporate' whose object is something other than gain and may include the participation in, or promotion of, any sport or other recreational activity. Some clubs hold permanent charters. Holders of club licences may sell or supply alcohol only to 'authorised customers' (a member, someone invited by a member or an authorised visitor)

- Cohort – Age Group

- DLA – District Licensing Agency

- DLC – District Licensing Committee

- EC – Employee Count

- Geocode – to physically locate an activity on a map with coordinates of latitude and longitude using street address information

- GIS – Geographic Information Systems

- HES – Household Economic Survey (SNZ)

- LAP – Local Alcohol Policy

- Licence Category – specific licensed activities such as Tavern, Hotel, Bottle Store, Supermarket, Restaurant, Wine Maker, Conveyance, Caterer etc.

- Licence Database – National Liquor Licence Database – copy sourced from the Ministry of Justice

- Licence Type – On-, Off- or Club Licences

- M.E – Market Economics Limited

- Market Segment – Combination of Age Group and Sex

- MEC – Modified Employee Count

- Meshblock – a statistical area boundary, akin to 1 or more street blocks in urban locations. Boundaries often fall on road centrelines. Meshblocks aggregate up to CAU boundaries

- Off-licence – A premises holding an off-licence is one where people can purchase alcohol for consumption away from those premises. The Licensee can also supply alcohol free, as a sample, for consumption on the premises. Off-licences can also be granted to remote sellers, that is, companies that take orders via the internet or phone, and the alcohol is delivered to the buyer

- On-licence – A premises holding an on-licence can sell and supply alcohol to patrons for consumption on those premises. Also includes 'bring your own' endorsed restaurants

- RTD – Ready to Drink alcoholic beverages – pre-mixed spirits.

- RTS – Retail Trade Survey (by SNZ)

- SNZ – Statistics New Zealand

- SSAA – Sale & Supply of Alcohol Act (2012)

- TA – Territorial Authority: a statistical area boundary covering the extent of a district or city. Boundaries often fall on ridgelines to define watersheds. TAs aggregate up to Region boundaries

- Urban Location Type – M.E's definition of four key urban area types – Main Cities, Large Regional Cities, Other Regional Cities, Rest of New Zealand. Referred to in this research as the Location Type Geographies

Appendix A – Location of Licences by Type Auckland

Sample map – Model coverage is nationwide.
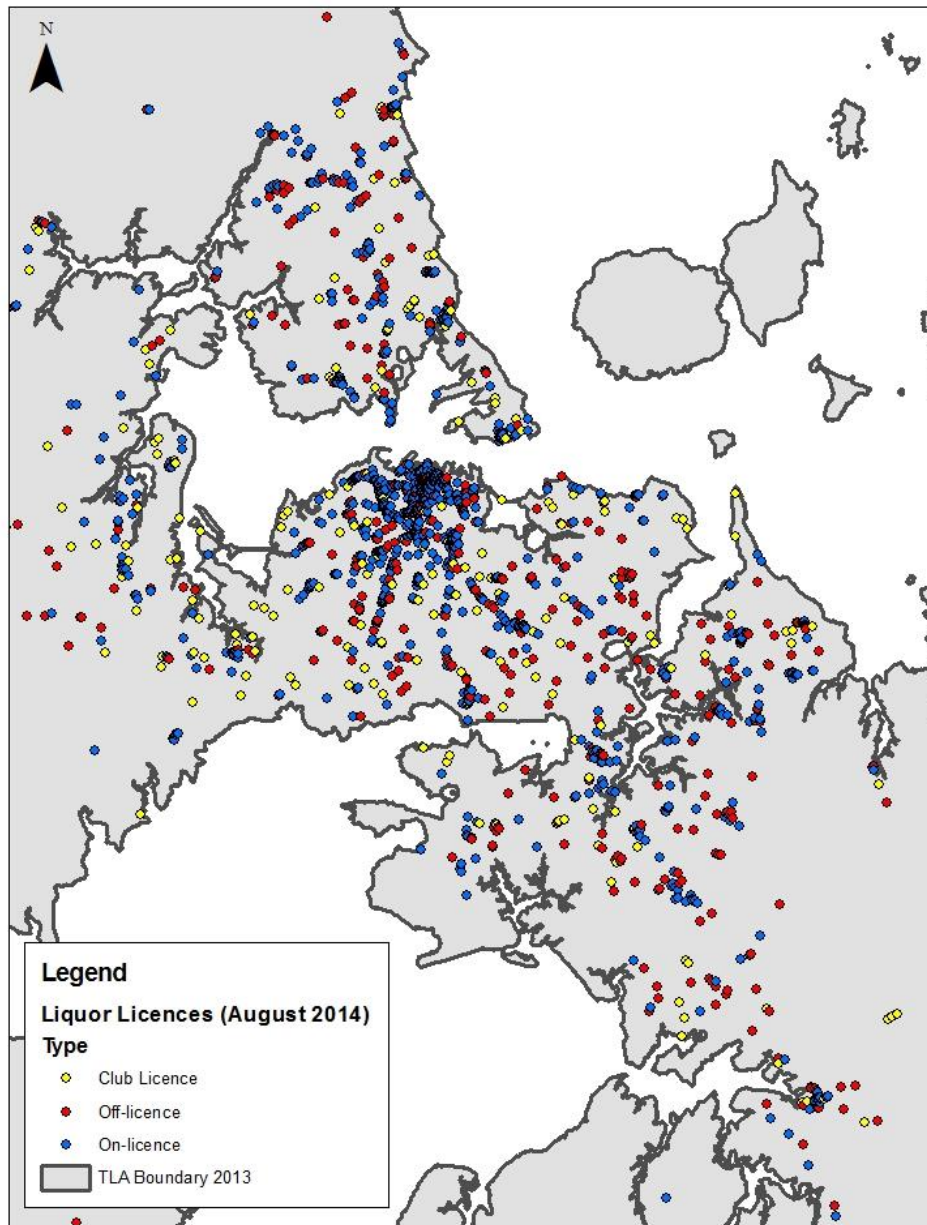
Liquor Licences by Type August 2014

Source: Ministry of Justice
Reproduced by: Market Economics - Spatial
Locations may be approximate in some instances. Based on address details provided in source dataset and processes and assumptions applied by M.E to geocode the dataset. Excludes licences that were not able to be geocoded to a coordinate.

Appendix B – Alcohol % of Sales Data Sources

Table A (below) provides further detail on the source of information used in the research to estimate the alcohol share of total outlet sales for licensed premises, discussed at a high level in section 2.4.2. The data relates to Table 3.3, but is presented here separately for space reasons.

Licence Type	Licence Category	Alcohol Share of Total Sales (%)	Data Source
CLUB LICENCE	Aero Club	3%	M.E estimate
	Chartered Club	30%	**M.E estimate - iterative adjustment to achieve reconciliation with RTS and total alcohol sales volume**
	Combined Sports Club	30%	*Applied Chartered Club as proxy*
	Country Club	30%	*Applied Chartered Club as proxy*
	Cultural Club	30%	*Applied Chartered Club as proxy*
	Music Studio	30%	*Applied Chartered Club as proxy*
	Restaurant	30%	*Applied Chartered Club as proxy*
	Social Club	30%	*Applied Chartered Club as proxy*
	Sports Club	30%	*Applied Chartered Club as proxy*
	Theatre/Cinema	30%	*Applied Chartered Club as proxy*
	TOTAL CLUB LICENCE		
OFF-LICENCE	Auctioneer Endorsed	1%	M.E estimate
	Bottle Store	96%	**SNZ 2010-2014 RTS Deflator Weights (Liquor Stores, RTEQ.SNC), M.E**
	Brewer	95%	M.E estimate
	Caterer Endorsed	96%	*Applied Bottle Store as proxy*
	Chartered Club	96%	*Applied Bottle Store as proxy*
	Complementary to goods sold	15%	M.E estimate
	Complimentary	24%	M.E estimate
	Distillery	92%	M.E estimate
	Function Centre	96%	*Applied Bottle Store as proxy*
	Grocery Store	13%	**Source?**
	Hotel	48%	M.E estimate
	Location	96%	*Applied Bottle Store as proxy*
	Mail Order	58%	M.E estimate
	Restaurant	96%	*Applied Bottle Store as proxy*
	Social Club	96%	*Applied Bottle Store as proxy*
	Sports Club	96%	*Applied Bottle Store as proxy*
	Supermarket	10%	**Communication with Progressive Enterises Ltd**
	Taste	0%	NA
	Tavern	96%	*Applied Bottle Store as proxy*
	Tourist House	96%	*Applied Bottle Store as proxy*
	University/Polytechnic	96%	*Applied Bottle Store as proxy*
	Wine Maker	90%	M.E estimate
	TOTAL OFF-LICENCE		
ON-LICENCE	Adult	31%	M.E estimate
	Airport	1%	M.E estimate
	Bottle Store	96%	*Applied Bottle Store as proxy*
	Brewer	28%	*Applied Restaurant as proxy*
	BYO Endorsed	0%	NA
	Casino	6%	M.E estimate
	Caterer Endorsed	27%	*Applied Hotel as proxy*
	Chartered Club	30%	*Applied Chartered Club as proxy*
	Complimentary	15%	M.E estimate
	Conference Centre	27%	*Applied Hotel as proxy*
	Conveyances	*na*	NA
	Function Centre	27%	*Applied Hotel as proxy*
	Grocery Store	27%	*Applied Hotel as proxy*
	Hospital	28%	*Applied Restaurant as proxy*
	Hotel	27%	**2014 SNZ CA Monitor, SNZ 2010-2014 RTS Deflator Weights (Accommodation, RTEQ.SNU), M.E**
	Nightclub	31%	M.E estimate
	Other	28%	*Applied Restaurant as proxy*
	Restaurant	28%	**M.E estimate - iterative adjustment to achieve reconciliation with RTS and total alcohol sales volume**
	Sports Club	27%	*Applied Hotel as proxy*
	TAB	0%	NA
	Taste	0%	NA
	Tavern	58%	**M.E estimate - iterative adjustment to achieve reconciliation with RTS and total alcohol sales volume**
	Theatre/Cinema	6%	M.E estimate
	Tourist House	27%	*Applied Hotel as proxy*
	University/Polytechnic	38%	M.E estimate
	Wine Maker	23%	M.E estimate
	TOTAL ON-LICENCE		
TOTAL			

Alternative Data Sources – Sensitivity Testing

Care has been taken to draw on reliable data where available and to ensure that the outputs of the national sales structure (Table 3.3) balance in terms of price and volume indicators. Consultation with key industry stakeholders to verify the estimates of the alcohol share of total sales, or provide evidence of alternate national percentages, was not feasible within the scope of this research project, but would be beneficial for any further research on supply-side sales structures. HPA have sourced and supplied independent data from Nielsen on the alcohol share of total sales for supermarkets, grocery stores and liquor stores. This data has been considered as part of the research, and has contributed to some sensitivity testing as discussed below.

Nielsen have collected supermarket sales of all bar-coded goods (i.e. excludes fresh produce) from Pak'n Save, New World and Countdown stores and have separated out the sales value of alcohol products. The time period of the data was 06/03/2016 through to 26/02/2017 – approximately 12 months. The alcohol share of total bar-coded goods sales was 10.3%. By contrast, the research adopts a figure of 9.9% based on total supermarket sales (Table 3.3). This was considered appropriate given that alcohol would represent a slightly lower share than 10.3% when expressed relative to total supermarket sales including fresh produce. No changes have been made.

Nielsen sourced annual grocery store sales from Four Square, Night'n Day and Fix CBD over the period of 03/04/16 to 26/03/17. The data showed that alcohol products accounted for 11.9% of total sales in those stores on average. By contrast, the research adopts a figure of 12.5%. This was also considered to be broadly aligned with the data from Nielsen. No changes made.

Last, Nielsen collected annual liquor store sales from Liquorland, Liquor King, West Auckland Trust, Henry's, Thirsty Liquor and Liquor Centre for the period 27/03/16 to 19/03/17. The data showed that alcohol products accounted for 89.6% of total sales. By contrast, the research adopts a higher estimate of 96.2% sourced from analysis of the Statistics NZ RTS Deflator Weights for Liquor Stores.   According to Nielsen, the largest category of non-alcohol sales in liquor stores is related to tobacco. Other categories are assumed to include mainly mixers and ice.

The Nielsen and Statistics NZ derived figures for the share of total sales that are alcohol-related in bottle stores are materially different to warrant further analysis, particularly given that bottle stores contribute an estimated 25.6% of all alcohol sales in New Zealand and 32.5% of total alcohol sold by volume according to the research findings (Table 3.3).

Both data sources have merit. In the final analysis, M.E opted to retain the Statistics NZ figure as the "base case", including because other estimates of alcohol share are also based on the RTS deflator values. Having said that, the authors considered it prudent to also show an alternative sales structure which adopts the Nielsen estimates, so that both would be available. This avoids the need to select one estimate as being better – as noted, the alcohol sales and consumption area is multi-faceted, and it is preferable to show both and the scale of the difference between the two, rather than select one as the "right" figure.

The Table B below provides an alternative supply structure replacing the bottle store sales share with the Nielsen figure. Due to the methodology adopted whereby the bottle store percentage is used as a proxy for a number of other similar licence type-category combinations (refer Table A), the implication is that a number of other licence categories also contribute less to overall supply (assuming no changes in relative

prices). The key implication is that the average share of total sales that is alcohol across all off-licences decreases from 24% to 23% and the average share for on-licences and club licences both increase by 1% to 30% and 31% respectively. Similarly, the off-licence share of total alcohol sales decreases from 66% to 64% with on-licence and club licence shares accounting for increased shares. Alcohol volume shares show a shift.

Table B - Estimated <u>Alternative</u> National Alcohol Sales Structure by Licence Type and Category, 2014

Licence Type	Licence Category	No of Licences June 2014	Estimated Employment 2014 (MEC)	Estimated Total Outlet Sales ($m)[1]	Alcohol Share of Total Sales (%)[2]	Estimated Alcohol Sales ($m)	Share of Alcohol Sales (%)	Estimated Alcohol Volume (litres, m)	Share of Alcohol Volume (%)
CLUB LICENCE	Aero Club	20	73	$ 4	31%	$ 1.3	0.0%	0.1	0.0%
	Chartered Club	284	3,162	$ 113	31%	$ 35.3	0.6%	1.7	0.4%
	Combined Sports Club	128	303	$ 9	31%	$ 2.9	0.0%	0.1	0.0%
	Country Club	14	175	$ 3	31%	$ 1.1	0.0%	0.1	0.0%
	Cultural Club	11	23	$ 0	31%	$ 0.1	0.0%	0.0	0.0%
	Music Studio	1	-	$ -	31%	$ -	0.0%	-	0.0%
	Restaurant	1	2	$ 0	31%	$ 0.1	0.0%	0.0	0.0%
	Social Club	91	2,856	$ 84	31%	$ 26.2	0.5%	1.3	0.3%
	Sports Club	1,485	3,118	$ 242	31%	$ 75.5	1.3%	3.6	0.8%
	Theatre/Cinema	2	13	$ 0	31%	$ 0.1	0.0%	0.0	0.0%
	TOTAL CLUB LICENCE	**2,037**	**9,726**	**$ 458**	**31%**	**$ 142.6**	**2.5%**	**6.9**	**1.6%**
OFF-LICENCE	Auctioneer Endorsed	12	34	$ 10	1%	$ 0.1	0.0%	0.0	0.0%
	Bottle Store[4]	979	4,548	$ 1,532	90%	$ 1,373.1	23.9%	133.8	30.1%
	Brewer	48	418	$ 85	97%	$ 81.9	1.4%	4.4	1.0%
	Caterer Endorsed	172	3,160	$ 223	90%	$ 200.2	3.5%	5.8	1.3%
	Chartered Club	129	1,630	$ 75	90%	$ 67.5	1.2%	6.6	1.5%
	Complementary to goods sold	6	10	$ 2	15%	$ 0.3	0.0%	0.0	0.0%
	Complimentary	99	908	$ 116	30%	$ 34.3	0.6%	3.2	0.7%
	Distillery	9	15	$ 5	98%	$ 4.8	0.1%	0.2	0.1%
	Function Centre	1	-	$ -	90%	$ -	0.0%	-	0.0%
	Grocery Store	452	5,216	$ 1,191	13%	$ 153.6	2.7%	18.1	4.1%
	Hotel	287	3,294	$ 169	45%	$ 75.7	1.3%	7.4	1.7%
	Location	18	185	$ 47	90%	$ 42.3	0.7%	4.1	0.9%
	Mail Order	172	1,163	$ 173	54%	$ 93.1	1.6%	9.1	2.0%
	Restaurant	19	177	$ 12	90%	$ 10.5	0.2%	1.0	0.2%
	Social Club	5	48	$ 2	90%	$ 1.8	0.0%	0.2	0.0%
	Sports Club	1	15	$ 0	90%	$ 0.4	0.0%	0.0	0.0%
	Supermarket	347	27,276	$ 11,693	10%	$ 1,194.6	20.8%	146.2	32.9%
	Taste	1	3	$ 1	0%	$ -	0.0%	-	0.0%
	Tavern	341	3,279	$ 169	90%	$ 151.4	2.6%	14.7	3.3%
	Tourist House	16	165	$ 10	90%	$ 9.1	0.2%	0.9	0.2%
	University/Polytechnic	1	5	$ 1	90%	$ 0.9	0.0%	0.1	0.0%
	Wine Maker	327	1,694	$ 196	95%	$ 187.3	3.3%	13.5	3.0%
	TOTAL OFF-LICENCE	**3,442**	**53,242**	**$ 15,710**	**23%**	**$ 3,682.8**	**64.1%**	**369.3**	**83.2%**
ON-LICENCE	Adult	38	331	$ 26	32%	$ 8.4	0.1%	0.3	0.1%
	Airport	16	893	$ 433	1%	$ 2.6	0.0%	0.1	0.0%
	Bottle Store	4	25	$ 5	90%	$ 4.2	0.1%	0.1	0.0%
	Brewer	10	111	$ 8	28%	$ 2.2	0.0%	0.1	0.0%
	BYO Endorsed	174	1,126	$ 71	0%	$ -	0.0%	-	0.0%
	Casino	6	1,204	$ 395	6%	$ 23.7	0.4%	0.8	0.2%
	Caterer Endorsed	7	189	$ 10	28%	$ 2.9	0.1%	0.1	0.0%
	Chartered Club	1	-	$ -	31%	$ 0.1	0.0%	0.0	0.0%
	Complimentary	1	9	$ 1	16%	$ 0.1	0.0%	0.0	0.0%
	Conference Centre	8	207	$ 11	28%	$ 3.2	0.1%	0.1	0.0%
	Conveyances	202	na	na	na	na	na	na	na
	Function Centre	194	3,364	$ 166	28%	$ 47.1	0.8%	1.6	0.4%
	Grocery Store	3	106	$ 3	28%	$ 0.9	0.0%	0.0	0.0%
	Hospital	2	407	$ 7	29%	$ 2.0	0.0%	0.1	0.0%
	Hotel	646	9,932	$ 1,344	28%	$ 381.0	6.6%	13.0	2.9%
	Nightclub	35	280	$ 22	32%	$ 7.2	0.1%	0.2	0.0%
	Other	3	13	$ 1	29%	$ 0.3	0.0%	0.0	0.0%
	Restaurant	3,597	33,058	$ 2,223	29%	$ 641.9	11.2%	20.2	4.5%
	Sports Club	98	739	$ 53	28%	$ 14.9	0.3%	0.8	0.2%
	TAB	1	na	na	0%	$ -	0.0%	-	0.0%
	Taste	30	163	$ 25	0%	$ -	0.0%	-	0.0%
	Tavern	1,535	16,042	$ 1,114	61%	$ 683.3	11.9%	26.8	6.0%
	Theatre/Cinema	83	1,353	$ 122	6%	$ 7.3	0.1%	0.2	0.1%
	Tourist House	157	1,532	$ 234	28%	$ 66.4	1.2%	2.3	0.5%
	University/Polytechnic	21	280	$ 21	38%	$ 7.9	0.1%	0.5	0.1%
	Wine Maker	39	370	$ 46	29%	$ 13.3	0.2%	0.4	0.1%
	TOTAL ON-LICENCE	**6,911**	**71,735**	**$ 6,342**	**30%**	**$ 1,921.2**	**33.4%**	**68**	**15.2%**
TOTAL[3]		**12,390**	**134,703**	**$ 22,510**	**26%**	**$ 5,747**	**100.0%**	**444**	**100.0%**

Note 1 - total sales of all goods and services by licensed outlets
Note 3 - the total alcohol beverages accounts for 97.2 % of SNZ Total Beverages for 2014

Note 2 - Refer to Appendix B for data sources
Note 4 - Source Differs from Appendix B (Nielsen)

Appendix C – Licences and Employment by Urban Location

Licence Type-Category Combination	Count of Licences					Sum of Estimated MECs 2014 (duplicated for multi-licences). Excludes Conveyance Licences *					Average MECs per Licence				
	Main Cities	Large Regional Cities	Other Regional Cities	Rest of New Zealand	Total New Zealand	Main Cities	Large Regional Cities	Other Regional Cities	Rest of New Zealand	Total New Zealand	Main Cities	Large Regional Cities	Other Regional Cities	Rest of New Zealand	Total New Zealand
Club Licence - Aero Club	4	3	4	9	20	9	51	1	12	73	2	17	0	1	4
Club Licence - Chartered Club	70	30	33	151	284	1,014	467	438	1,244	3,162	14	16	13	8	11
Club Licence - Combined Sports Club	30	21	13	64	128	62	102	18	122	303	2	5	1	2	2
Club Licence - Country Club	-	-	1	13	14	-	-	-	175	175	-	-	-	13	13
Club Licence - Cultural Club	9	2	-	-	11	17	6	-	-	23	2	3	-	-	2
Club Licence - Music Studio	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-
Club Licence - Restaurant	-	1	-	-	1	-	2	-	-	2	-	2	-	-	2
Club Licence - Social Club	29	16	7	39	91	336	184	2,092	243	2,856	12	12	299	6	31
Club Licence - Sports Club	417	171	162	735	1,485	1,276	368	257	1,217	3,118	3	2	2	2	2
Club Licence - Theatre/Cinema	1	1	-	-	2	6	7	-	-	13	6	7	-	-	6
Sub-Total Club Licence	560	245	221	1,011	2,037	2,719	1,188	2,806	3,013	9,726	5	5	13	3	5
Off-licence - Auctioneer Endorsed	10	2	-	-	12	26	8	-	-	34	3	4	-	-	3
Off-licence - Bottle Store	526	118	71	264	979	2,196	588	408	1,356	4,548	4	5	6	5	5
Off-licence - Brewer	14	6	8	20	48	248	14	25	132	418	18	2	3	7	9
Off-licence - Caterer Endorsed	87	32	14	39	172	1,945	526	231	459	3,160	22	16	16	12	18
Off-licence - Chartered Club	18	14	20	77	129	427	241	281	681	1,630	24	17	14	9	13
Off-licence - Complementary to type of goods sold	3	-	-	3	6	5	-	-	6	10	2	-	-	2	2
Off-licence - Complimentary	46	5	5	43	99	479	82	20	327	908	10	16	4	8	9
Off-licence - Distillery	1	-	1	7	9	-	-	0	14	15	-	-	0	2	2
Off-licence - Function Centre	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-
Off-licence - Grocery Store	120	49	39	244	452	972	542	518	3,184	5,216	8	11	13	13	12
Off-licence - Hotel	17	15	19	236	287	1,238	129	273	1,654	3,294	73	9	14	7	11
Off-licence - Location	1	-	1	16	18	1	-	17	167	185	1	-	17	10	10
Off-licence - Mail Order	65	15	5	87	172	818	98	18	229	1,163	13	7	4	3	7
Off-licence - Restaurant	8	-	-	11	19	84	-	-	93	177	10	-	-	8	9
Off-licence - Social Club	1	1	-	3	5	3	18	-	27	48	3	18	-	9	10
Off-licence - Sports Club	1	-	-	-	1	15	-	-	-	15	15	-	-	-	15
Off-licence - Supermarket	137	53	31	126	347	11,130	4,965	3,348	7,833	27,276	81	94	108	62	79

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Licence Type-Category Combination	Count of Licences					Sum of Estimated MECs 2014 (duplicated for multi-licences). Excludes Conveyance Licences *					Average MECs per Licence				
	Main Cities	Large Regional Cities	Other Regional Cities	Rest of New Zealand	Total New Zealand	Main Cities	Large Regional Cities	Other Regional Cities	Rest of New Zealand	Total New Zealand	Main Cities	Large Regional Cities	Other Regional Cities	Rest of New Zealand	Total New Zealand
Off-licence - Taste	-	-	-	1	1	-	-	-	3	3	-	-	-	3	3
Off-licence - Tavern	82	39	43	177	341	1,015	442	508	1,314	3,279	12	11	12	7	10
Off-licence - Tourist House	1	2	1	12	16	1	53	30	82	165	1	27	30	7	10
Off-licence - University/Polytechnic	-	1	-	-	1	-	5	-	-	5	-	5	-	-	5
Off-licence - Wine Maker	28	27	13	259	327	278	142	48	1,225	1,694	10	5	4	5	5
Sub-Total Off-Licence	1,166	379	271	1,626	3,442	20,879	7,853	5,724	18,786	53,242	18	21	21	12	15
On-licence - Adult	28	6	2	2	38	229	54	12	36	331	8	9	6	18	9
On-licence - Airport	7	3	4	2	16	764	60	58	12	893	109	20	14	6	56
On-licence - Bottle Store	1	-	-	3	4	6	-	-	19	25	6	-	-	6	6
On-licence - Brewer	2	2	-	6	10	25	40	-	46	111	13	20	-	8	11
On-licence - BYO Endorsed	82	21	7	64	174	523	143	58	402	1,126	6	7	8	6	6
On-licence - Casino	2	2	-	2	6	1,015	129	-	60	1,204	508	64	-	30	201
On-licence - Caterer Endorsed	4	1	2	-	7	18	170	-	-	189	5	170	-	-	27
On-licence - Chartered Club	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-
On-licence - Complimentary	1	-	-	-	1	9	-	-	-	9	9	-	-	-	9
On-licence - Conference Centre	3	2	-	3	8	25	176	-	6	207	8	88	-	2	26
On-licence - Conveyances	135	11	11	45	202	excl.	excl.	excl.	excl.	excl.	n/a	n/a	n/a	n/a	n/a
On-licence - Function Centre	73	32	27	62	194	2,035	511	281	538	3,364	28	16	10	9	17
On-licence - Grocery Store	-	-	-	3	3	-	-	-	106	106	-	-	-	35	35
On-licence - Hospital	2	-	-	-	2	407	-	-	-	407	204	-	-	-	204
On-licence - Hotel	113	52	68	413	646	4,079	995	1,457	3,401	9,932	36	19	21	8	15
On-licence - Nightclub	24	4	3	4	35	168	57	25	30	280	7	14	8	8	8
On-licence - Other	1	1	-	1	3	10	-	-	3	13	10	-	-	3	4
On-licence - Restaurant	1,747	460	297	1,093	3,597	15,892	4,419	2,831	9,917	33,058	9	10	10	9	9
On-licence - Sports Club	54	21	7	16	98	421	225	15	78	739	8	11	2	5	8
On-licence - TAB	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-
On-licence - Taste	12	1	1	16	30	80	1	8	74	163	7	1	8	5	5
On-licence - Tavern	663	273	145	454	1,535	7,840	2,973	1,497	3,732	16,042	12	11	10	8	10
On-licence - Theatre/Cinema	40	20	7	16	83	931	279	60	83	1,353	23	14	9	5	16
On-licence - Tourist House	14	10	9	124	157	160	141	194	1,037	1,532	11	14	22	8	10
On-licence - University/Polytechnic	9	6	3	3	21	107	57	22	93	280	12	10	7	31	13
On-licence - Wine Maker	1	6	4	28	39	19	184	13	154	370	19	31	3	6	9
Sub-Total On-Licence	3,018	934	599	2,360	6,911	34,764	10,615	6,530	19,826	71,735	12	11	11	8	10
Total Licences	4,744	1,558	1,091	4,997	12,390	58,362	19,656	15,060	41,626	134,703	12	13	14	8	11

Source: National Liqour Licence Database, Ministry of Justice June 2014 (modified by M.E)   ** Employment includes double counting in multi-licence premises.*

Appendix D – 2014 Licences by TA

TA	Off-licence	On-licence	Club Licence	Total Licences	Share of Total Licences	Count of Unique Licenced Premises
Ashburton District	27	48	29	104	1%	93
Auckland	881	2,077	382	3,340	27%	3,205
Buller District	19	36	10	65	1%	53
Carterton District	13	17	8	38	0%	34
Central Hawke's Bay District	19	27	20	66	1%	58
Central Otago District	104	81	25	210	2%	175
Chatham Islands Territory	3	3	-	6	0%	5
Christchurch City	211	498	118	827	7%	770
Clutha District	19	25	30	74	1%	62
Dunedin City	96	240	85	421	3%	386
Far North District	86	140	52	278	2%	250
Gisborne District	45	56	26	127	1%	110
Gore District	12	12	18	42	0%	34
Grey District	16	38	17	71	1%	60
Hamilton City	78	185	30	293	2%	276
Hastings District	81	98	30	209	2%	183
Hauraki District	15	19	8	42	0%	40
Horowhenua District	22	31	22	75	1%	71
Hurunui District	63	45	8	116	1%	96
Invercargill City	31	58	43	132	1%	115
Kaikoura District	12	31	5	48	0%	43
Kaipara District	25	25	18	68	1%	62
Kapiti Coast District	40	72	29	141	1%	129
Kawerau District	4	5	5	14	0%	13
Lower Hutt City	63	106	45	214	2%	203
Mackenzie District	18	32	5	55	0%	42
Manawatu District	17	26	13	56	0%	49
Marlborough District	97	115	29	241	2%	211
Masterton District	27	32	20	79	1%	71
Matamata-Piako District	19	28	21	68	1%	62
Napier City	42	117	36	195	2%	182
Nelson City	37	100	21	158	1%	141
New Plymouth District	42	110	48	200	2%	188
Opotiki District	10	11	6	27	0%	22
Otorohanga District	7	9	8	24	0%	20
Palmerston North City	37	114	23	174	1%	165
Porirua City	19	23	17	59	0%	59
Queenstown-Lakes District	79	227	11	317	3%	294
Rangitikei District	15	20	15	50	0%	43
Rotorua District	65	151	35	251	2%	224
Ruapehu District	19	38	12	69	1%	60

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TA	Off-licence	On-licence	Club Licence	Total Licences	Share of Total Licences	Count of Unique Licenced Premises
Selwyn District	26	47	19	92	1%	79
South Taranaki District	25	24	27	76	1%	66
South Waikato District	14	21	15	50	0%	47
South Wairarapa District	27	32	8	67	1%	58
Southland District	59	88	55	202	2%	160
Stratford District	7	14	9	30	0%	27
Tararua District	21	24	19	64	1%	54
Tasman District	72	99	19	190	2%	170
Taupo District	27	91	16	134	1%	124
Tauranga City	63	187	31	281	2%	273
Thames-Coromandel District	64	99	32	195	2%	176
Timaru District	41	73	41	155	1%	134
Upper Hutt City	16	37	18	71	1%	70
Waikato District	33	47	46	126	1%	113
Waimakariri District	28	45	15	88	1%	81
Waimate District	9	11	6	26	0%	19
Waipa District	30	54	30	114	1%	108
Wairoa District	11	9	8	28	0%	22
Waitaki District	35	62	29	126	1%	108
Waitomo District	17	21	15	53	0%	43
Wanganui District	25	43	27	95	1%	88
Wellington City	125	456	62	643	5%	618
Western Bay of Plenty District	31	40	23	94	1%	86
Westland District	27	49	2	78	1%	62
Whakatane District	22	31	28	81	1%	79
Whangarei District	52	81	54	187	2%	174
Total New Zealand	**3,442**	**6,911**	**2,037**	**12,390**	**100%**	**11,398**

Source: National Liqour Licence Database, Ministry of Justice June 2014 (modified by M.E)

Appendix E – Top 10 Supply Sources

Rank	Males			Females		
	Licence Typ-Category	Share of Estimated Alcohol Spend %	Share of Estimated Alcohol Volume Purchased %	Licence Typ-Category	Share of Estimated Alcohol Spend %	Share of Estimated Alcohol Volume Purchased %
1	OFF-LICENCE-BOTTLE STORE	27%	35%	OFF-LICENCE-SUPERMARKET	30%	45%
2	OFF-LICENCE-SUPERMARKET	16%	25%	OFF-LICENCE-BOTTLE STORE	19%	23%
3	ON-LICENCE-TAVERN	13%	7%	ON-LICENCE-RESTAURANT	12%	4%
4	ON-LICENCE-RESTAURANT	11%	5%	ON-LICENCE-TAVERN	10%	5%
5	ON-LICENCE-HOTEL	7%	3%	ON-LICENCE-HOTEL	6%	2%
6	OFF-LICENCE-WINE MAKER	4%	3%	OFF-LICENCE-GROCERY STORE	4%	5%
7	OFF-LICENCE-CATERER ENDORSED	3%	1%	OFF-LICENCE-CATERER ENDORSED	4%	1%
8	OFF-LICENCE-TAVERN	3%	4%	OFF-LICENCE-WINE MAKER	3%	2%
9	OFF-LICENCE-GROCERY STORE	2%	3%	OFF-LICENCE-TAVERN	2%	2%
10	OFF-LICENCE-BREWER	2%	1%	OFF-LICENCE-MAIL ORDER	1%	2%
	ALL OTHERS	13%	12%	ALL OTHERS	10%	8%
	TOTAL	100%	100%	TOTAL	100%	100%

Source: M.E - Alcohol Supply and Demand Model (2014).