Additional information for Personal Choices and Community Impacts Inquiry

The following information is supplied by the Foundation for Alcohol Research and Education (FARE) following the Inquiry hearing on 20 November 2015.

1. Newcastle and displacement to Hamilton

There is no evidence that the measures to reduce alcohol-related violence introduced in Newcastle have resulted in any displacement to the nearby town of Hamilton. See the attached article by Kypri et al.

- Kypri, K., Mcelduff, P. and Miller, P. (2014). Restrictions in pub closing times and lockouts in Newcastle, Australia five years on. Drug and Alcohol Review, Vol 33 (3) pp. 323-326.

2. Economic impact of Newcastle late night trading restrictions

A study commissioned by the Australian National Local Government Drug and Alcohol Advisory Committee, the *Australian Night Time Economy: A first analysis: 2009 to 2011* examined Night Time Economies in the Local Government Areas of a range of Australian cities, including Newcastle. This report found that between 2009 and 2011 there was a 9.6 per cent decline in 'drink' sales revenue and a 10.3 per cent increase in 'food' sales revenue. The decline in 'drink' sales revenue, was offset by the increase in 'food' sales revenue, which resulted in a diversification of the night-time economy. This change is also confirmed by anecdotal reports which suggest that the night time economy in Newcastle became more diverse and vibrant after the changes were introduced.

- Bevan, T (2013). The Australian Night Time Economy a First Analysis 2009 to 2011. Canberra: The National Local Government Drug and Alcohol Advisory Committee.

3. Social costs

The question of alcohol's cost and benefits was briefly touched on at the Inquiry hearing on 20 November. There are many different approaches to assessing costs. The attached article by Walker, Douglas. (2007). Problems in Quantifying the Social Costs and Benefits of Gambling, American Journal of Economics and Sociology, Vol. 66, No. 3., is instructive on the different approaches. A more recent discussion paper commissioned by FARE and produced by ACIL Allen Consulting (2014) Counting the Costs of Alcohol: Policy-Relevant Costs to Australia (http://www.acilallen.com.au/cms_files/Countingthecostsofalcoholdiscussionpaper.pdf) is also useful on this topic.

Please see:

- Walker, Douglas. (2007). Problems in Quantifying the Social Costs and Benefits of Gambling, American Journal of Economics and Sociology, Vol. 66, No. 3.
- ACIL Allen Consulting. (2014). Counting the Costs of Alcohol: Policy-Relevant Costs to Australia: http://www.acilallen.com.au/cms_files/Countingthecostsofalcoholdiscussionpaper.pdf

4. Closure of venues within Kings Cross precinct

The Kings Cross Liquor Accord asserts in their submission that 12 licensed premises have closed since the introduction of measures to reduce alcohol-related violence in Sydney. FARE's research finds that at least four of these premises closed prior to the measures which came into effect on 24 February 2014.

In addition, a letter by the 2011 Residents Association on 16 August 2015 also details a number of venues listed in the media as closed as inaccurate. The letter outlines venue changes and closures made prior to the introduction of the measures.

Please see attached:

- Table prepared by FARE of closure of venues within Kings Cross precinct and closure dates.
- Copy of 16 Aug 2015 letter by the 2011 Residents Association on media reporting of venue closures.

5. Keystone Group's submission about the unintended social impacts of the measures to reduce alcohol-related violence in Sydney

The Keystone Group submission (submission number 434) asserts that the "unintended social impacts of the Lockout are substantial and need to be considered" it then lists information substantiating this claim. This list is a copy of that submitted by the Late Night Venue Association of South Australia (submission 422) which refers to the Adelaide 3am lockout rules.

The Late Night Venue Association of South Australia's submission references the statistics from the South Australian *Final Report of the Review of Codes under the Liquor Licensing Act 1997.*

Please see attached:

- Comparison of the list of "unintended social impacts of the lockout" provided by Keystone Group (Sydney) and the Late Night Venue Association of South Australia.

6. Change of licensing arrangements in Kings Cross during 2007-08 resulting in increased numbers of licensed premises

In 2007/2008 the City of Sydney introduced the: *City of Sydney Late Night Trading Premises Development Control Plan 2007.* This Development Control Plan covered areas that included Kings Cross and the Central Business District (CBD). It allowed for longer trading hours and an increase in the number of late night uses including licensed premises. The Development Control Plan commenced 1 January 2008.

The Objectives of the Development Control Plan were (bold emphasis added by FARE):

a) Identify appropriate locations and trading hours for late night trading premises;
b) ensure that late night trading premises will have minimal adverse impacts on the amenity of residential or other sensitive land uses;
c) ensure that a commitment is made by operators of late night trading premises to good management through the implementation of robust plans of management;
d) encourage late night trading premises that contribute to vibrancy and vitality, as appropriate for a Global City;
e) encourage a broad mix of night time uses with broad community appeal that reflect the diverse entertainment and recreational needs of people who work and live in the City of Sydney as well as people who visit the City;
f) encourage a diversity of night-time activity in defined Areas;
g) prevent the proliferation of poorly managed high impact late night premises;
h) ensure that new late night trading premises do not reduce the diversity of retail services in an area;

i) ensure that development applications are accompanied by sufficient information so that proposals for night trading premises can be fully and appropriately assessed;
j) provide the possibility of extensions of trading hours for premises where they have demonstrated good management during trial periods;
k) encourage premises with extended trading hours that are of a type that do not operate exclusively during late night hours and may be patronised both day and night;
l) ensure that appropriate hours are permitted for outdoor trading; and
m) ensure a consistent approach to the assessment of applications for premises seeking night trading hours.

Also in 2007 the NSW Parliament passed the NSW Liquor Act 2007. This included information about the Kings Cross Precinct and the recommendation of ID scanning.

The 2011 Residents Association also asserts that there has been a significant increase in the number of licensed premises between 2007 and 2013, as outlined in their map of the area demonstrating change.

Please see:

- City of Sydney (2011). City of Sydney Late Night Trading Premises Development Control Plan 2007. City of Sydney.
- The NSW Liquor Act 2007 accessed here: http://www.legislation.nsw.gov.au/xref/inforce/?xref=Type%3Dact%20AND%20Year%3D2007%20AND%20no%3D90&nohits=y
- 2011 Residents Association (2013). Kings Cross then and Now – comparing 2007 and 2013.

7. Displacement to Newtown

There is no data available at present to support that any displacement of people or assaults have occurred in Newtown following the introduction of the Sydney measures.

Please see attached:

- Patricia Menéndez. P., Weatherburn, D., Kypri, K. and Jacqueline Fitzgerald, J. (2015). Lockouts and last drinks: impacts of the January 2014 liquor licence reforms on assaults in NSW, Australia. Crime and Justice Bulletin, Number 183. NSW Bureau of Crime Statistics and Research.

Drug and Alcohol REVIEW

APSAD

Drug and Alcohol Review (2014)
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BRIEF REPORT

Restrictions in pub closing times and lockouts in Newcastle, Australia five years on

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Abstract

Introduction and Aims. *In 2008 pub closing times were restricted from 5am to 3:30am in the central business district (CBD) of Newcastle, Australia. A previous study showed a one-third reduction in assaults in the 18 months following the restriction. We assessed whether the assault rate remained lower over the following 3.5 years and whether the introduction of a 'lockout' in nearby Hamilton was associated with a reduction in assaults there.* ***Design and Methods.*** *We used a pre-post design with comparison against two post-change periods. The setting was Greater Newcastle (population 530 000) and subjects were persons apprehended for assault in the CBD and nearby Hamilton, an area with late trading pubs where a lockout and other strategies were implemented in 2010. Cases were police-recorded assault apprehensions occurring from 10pm to 6am in one pre-change period: January 2001 to March 2008, and two post-change periods: (i) April 2008 to September 2009 and (ii) October 2009 to March 2013. Negative binomial regression with terms for secular trend and seasonal effects was used to estimate Post1: Pre and Post2: Pre Incidence Rate Ratios and confidence intervals.* ***Results.*** *In the CBD recorded assaults fell from 99/quarter before the restriction to 68/quarter in the first post-change period [incidence rate ratio (IRR) 0.67, 95% confidence interval (CI) 0.55–0.82] and 71/quarter (IRR: 0.68, 95% CI: 0.55-0.85) in the later post-change period. In the same periods in Hamilton, assault rates were 23, 24, and 22 per quarter respectively.* ***Discussion and Conclusions.*** *The restriction in closing time was associated with a sustained lower assault rate in the Newcastle CBD. We find no evidence that lockouts and other outlet management strategies were effective in Hamilton.* [Kypri K, McElduff P, Miller P. Restrictions in pub closing times and lockouts in Newcastle Australia 5 years on. *Drug Alcohol Rev* 2014]

Key words: alcohol, assault, pub, licensed premise, trading hour.

Introduction

In March 2008, the liquor licensing authority of New South Wales, Australia, imposed a restriction on 14 pubs in the central business district (CBD) of Newcastle requiring them to close by 3am and to disallow patrons from entering venues after 1am (a 'lockout'). After a legal challenge, this was relaxed to 3.30am and 1.30am, respectively from July 2008 [1]. Licensees were also required to adopt management plans, were subject to compliance audits, had to have a dedicated *Responsible Service of Alcohol* officer from 11pm until closing, could not serve shots after 10pm, had to cease selling alcohol 30 min before closing, could not permit drink stockpiling, had to adopt shared radio procedures and all staff had to be notified of the conditions.

We published a study showing that this intervention reduced assaults in the CBD by 34% [95% confidence interval (CI) 20% to 45%] in the 1.5 years to 30 September 2009. Taking account of the trends in the neighbouring area of Hamilton, which was not subject to the restriction, the intervention effect was estimated to be

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37% (95% CI 19% to 53%). We found no displacement in assault incidence from the CBD to Hamilton or to earlier in the evening [1].

The findings were significant in the context of the international literature. In its 2008 systematic review of studies in high-income countries, the US Task Force on Community Preventive Services found that extensions in hours of service by ≥2 h increased the incidence of alcohol-related harm [2]. They concluded that the literature on extensions of <2 h was too limited to reach a conclusion about the effects. Notably, they were unable to find studies of restrictions in hours of service. Accordingly, the Newcastle findings are important because they reveal effects of a relatively small change (of 1.5 h) and of a restriction in trading, which better generalises to the situation faced by decision makers in the current climate of liberal trading hours in many jurisdictions.

A major feature of the public health approach to reducing adverse effects of the late night alcohol trade, which appears unique to Australia and New Zealand, is the use of *lockouts* or *one-way doors*, in which patrons are permitted to remain in premises and to purchase and consume alcohol after a specified hour but not to enter other premises. The aim of lockouts is to reduce the number of people at any one time (principally upon closing) in the public spaces between licensed premises where much of the violence and other antisocial behaviour occurs.

There have been three Australian studies of lockouts recently reported in the scientific literature [3–5]. Palk *et al*. studied the effects of a 3am lockout with 5am closing in the Gold Coast area of Queensland [3]. They examined proportions of various offence types, including assaults, four weeks before versus five weeks after a lockout was introduced in April 2004, finding a lower proportion of offending that was alcohol related (4.6% vs. 3.4%) in the post-change period [3]. Inferences are limited by likely information bias and lack of control for seasonal and service delivery effects [6].

Miller and colleagues evaluated a 3am lockout that came into effect from 2004 in Ballarat (population 95 000), Victoria. Comparing emergency department attendance rates before and after with those in Geelong (population 205 000) 88 km away, they found no long-term impact [4].

Mazerolle *et al*. studied a 2005 lockout in Fortitude Valley, an inner-city entertainment area of Brisbane (population 2.1 million) and a 2006 lockout at Airlie Beach (population 8000), North Queensland [5]. They found a 50% decrease in assaults inside licensed premises in both areas but no association with assaults outside venues, which constituted >80% of cases. A test for association with all assaults (inside and outside) was not presented. Such an association seems unlikely to be present given the relatively small contribution to the total number of assaults inside licensed premises. The pre–post design cannot rule out the influence of economic or other external factors.

From 27 August 2010, the government required pubs in Hamilton (the control site in our Newcastle study [1]) to lock their doors to new patrons after 1am on Saturdays and Sundays, permitting the service of alcohol to existing patrons until 30 min before closing time, which remained unaltered and could be as late as 5am [7]. In the years since the Newcastle restrictions, there has been extensive political and public debate about late night violence and on-licence trading conditions in New South Wales and elsewhere in Australia. There have been assertions from the alcohol industry, politicians and bureaucrats to the effect that the reductions in assault in Newcastle were short lived. The primary aim of this paper was to determine whether the changes seen in the 1.5 years following the restriction were sustained in the following 3.5 years. The secondary aim was to determine whether the lockout imposed on Hamilton pubs from August 2010 was associated with a reduction in the incidence of assault.

Methods

We used the same case definitions as previously [1], namely:

> Non-domestic violence incidents that were reported to or were detected by police, . . . include[ing] common assault, actual or grievous bodily harm, assault of police or shooting with intent other than to murder, as defined under the *NSW Crimes Act* 1900, and irrespective of whether there was a subsequent charge or conviction. Cases were limited to those occurring between 10pm and 6am within either the CBD postcode areas or the Hamilton postcode area. Such incidents could include any number of people who were recorded as either a *person of interest* (i.e. a possible perpetrator) or victim. It should be noted that the analysis of the effect of the restriction in closing times was based on the count of incidents, not of individuals. We used police apprehensions rather than arrests or convictions to minimise the risk of biasing effect estimates because of interaction with service delivery variables [6], e.g. aspects of the person of interest or victim that increase or decrease the likelihood of arrest or conviction, such as gender, ethnicity and socioeconomic status.

Assaults occurring in the CBD in the 7 years before the change were compared with those in two post-change periods: months 1–18 (*Post 1*; the period used in the previous evaluation [1]) and months 19–60 (*Post 2*)

following the previous evaluation end-point. The primary comparison of interest is the estimate for 'Post 2: Pre' versus that for 'Post 1: Pre' in the CBD, that is, whether the relative difference seen previously was still present over the following 3.5 years ending March 2013. Equivalent rates are presented for Hamilton over the same period but in contrast to the previous evaluation, we do not compare change in the CBD against change in Hamilton because of the introduction of some intervention elements (of unknown effectiveness) in the latter, making it a less useful control site. Instead, the primary focus is on whether the change previously observed in the CBD has persisted.

Results

Figure 1 shows quarterly assault counts for the study period in the two locations, with the introduction of the intervention marked. Table 1 presents average quarterly assault counts before the intervention, in months 1–18 and months 19–60 after the intervention came into effect in each location as well as incidence rate ratios comparing each of the post-intervention periods with the pre-intervention period. The numbers of assaults in the first post-change period reported here differ slightly from those reported in our previous analysis because of updates to the police dataset since our earlier study. In the CBD, assaults fell from 99 per quarter before the restriction to 71 per quarter in months 19–60 after the restriction was implemented (incidence rate ratio 0.68, 95% CI 0.55 to 0.85). The difference is similar to that observed in months 1–18 post-change (incidence rate ratio 0.67, 95% CI 0.55 to 0.82). In the same periods in Hamilton, assault counts were 23, 24 and 22 per quarter, respectively, suggesting no effect of the lockout and other outlet management strategies put in place there.

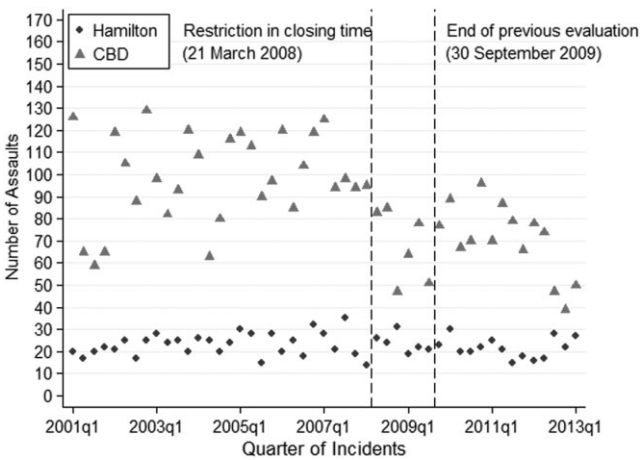

Figure 1. *Assaults per quarter, January 2001-March 2013, in central business district (CBD, intervention area) and Hamilton (control area).*

Discussion

The lower incidence of assault in months 1–18 following the restrictions that came into effect in March 2008 persisted in months 19–60, that is, for at least five years so far. Limitations of measurement, possible confounding by service delivery variables, and geographic and temporal displacement have previously been discussed at length and largely discounted as competing explanations for the observed changes [1,8]. Newly relevant limitations include the possible contribution of factors other than closing times in months 19–60 after the restriction was implemented.

The analysis we present is not controlled by comparison with a site unaffected by intervention as in our previous evaluation [1] so there is less protection against economic and other large-scale drivers of drinking and socialising behaviour. The estimates for

Table 1. *Assaults per quarter before and after the change in closing time*

	Mean number of assaults per quarter			Post-to-pre Incidence rate ratio[b] (95% CI)	
	Pre[a]	Post 1[a]	Post 2[a]	Post 1/Pre	Post 2/Pre
CBD (Intervention area)	99	68	71	0.67 (0.55 to 0.82)	0.68 (0.55 to 0.85)
Hamilton (Control area)	23	24	22	0.97 (0.73 to 1.28)	0.86 (0.61 to 1.20)

[a]Pre: January 2001 to March 2008; Post 1: April 2008 to September 2009; Post 2: October 2009 to March 2013. [b]Incidence rate ratios are adjusted to take into account the variation by month of the year (seasonal effect) and time since January 2001 (secular trend), and therefore they are not necessarily the same as those estimated by division of crude numbers within the table. CBD, central business district; CI, confidence interval.

Hamilton do show, however, that there was a fairly stable assault trends in a nearby late-night entertainment precinct, which works against such explanations for the changes observed. We did not consider it appropriate to formally compare the 'Post2: Pre' incidence rate ratios, by testing an interaction term, as in our previous study, because of the intervention in Hamilton from 2010. To pre-empt concern about selective reporting, we did produce this estimate and there was a significant interaction effect ($P = 0.001$), showing a greater reduction in assaults in Newcastle.

The imposition of a lockout and other outlet management elements in Hamilton, without a mandate of earlier closing, allows tentative conclusions to be drawn about the contribution of lockouts to the changes observed in the Newcastle CBD. Our findings show that there was little or no change in assaults after the imposition of restrictions in Hamilton, suggesting that the active ingredient in the Newcastle CBD intervention was probably the restriction of trading hours from 5am to 3/3.30am.

The three previous Australian studies [3–5] along with the analysis reported here do not support the effectiveness of lockouts, and there remains a need for further evaluation of these commonly used interventions. This may require cooperation with a regulator to ensure that the study design permits control for competing explanations and potentially also prospectively collected exposure (e.g. counts of foot traffic) and outcome data (e.g. observations of conduct within and outside premises) rather than relying solely on police data [9].

The Newcastle intervention was not a simple change in trading hours. The effect of other outlet management restrictions (e.g. having a Responsible Service of Alcohol officer present) remains unknown but the international literature [10], the studies in other Australian cities [3–5] and the lack of change in Hamilton since 2010 suggest that these strategies, including lockouts, are unlikely to have contributed much, if at all, to the reductions in assault observed in Newcastle since pubs were required to close at 3.30am in 2008.

The findings are comparable with those of a recent study of changes in closing times in Norway in the 2000s [11], arguably the most comprehensive in the literature because of how many localities could be studied within a single country and decade. In eight cities where hours were extended, there was an average 20% increase in assaults per additional hour of trading. Conversely, in 15 cities where hours were restricted, there was an average 20% decrease in assaults per hour of restriction. The short-term effect in Newcastle (22% per hour restricted) and the effect estimated for the following 3.5 years (21% per hour restricted) are remarkably similar to the Norwegian experience. Such large effects are rare in population health interventions. There would be value in costing these assaults in terms of the emergency response, medical care, disability, foregone income and lost productivity, and to assess the public's willingness to continue bearing the cost of late-night trading.

Acknowledgements

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The Australian Night Time Economy and the NTE Economic Performance of Key LGAs 2009 to 2013

A Report commissioned by the

National Local Government Drug and Alcohol Committee

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economic research & business intelligence

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National Local Government Drug and Alcohol Committee

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The Night Time Economy – A Wider Context

Throughout history towns and cities have had an 'economy' that operates in the evening and at night.

In ancient Greece (and probably before) people traded objects and services outside the 'working day'.

In Asia, night markets selling domestic goods, medicines and food have existed for thousands of years.

In the late 2000s in China, in its Tier 1 Cities,[1] the night-time economy is reported as having become "commercially successful, culturally vibrant, and conspicuously present all over the country[2]"

The transactional nature of the evening and night grows in its importance as the dynamics of population growth; migration; increasing prosperity influence the character of global cities and centres.

A western inheritance seems to indicate a more difficult relationship with the 'night', even instinctively for some, something to be feared, avoided and regulated.

Debate is invariably about the control and regulation of night time outlets and behaviour and rarely about the long standing economic and social contribution of the NTE to our societies.

This focus on crime and anti-social behaviour obscures a wider context of NTE study and reflection.

Therefore it is welcome that the National Local Government Drug and Alcohol Committee (NLGDAAC) have commissioned this second study on the Night Time Economy in Australia.

Whilst it is valid to study the 'costs' of the NTE, very little work is dedicated to placing them into the broader context of its economic significance and the strategic possibilities for improvement that flow from measuring, understanding and fostering the NTE within the spectrum of leisure and the wider economy.

Whilst there are dangers in the NTE it offers opportunity to build understanding as cultures mix more extensively through travel, migration and as they are stimulated by the internet.

It brings benefits to general wellbeing and mental health from enjoying its services; the freedoms associated with release from the work of 'daytime'. It reminds us that economics itself is no more than a wide ranging series of responses to capture the impact of the behaviour of individual people.

The regeneration of post-industrial cities[3], the attraction and retention of students, high skilled workers, high growth companies, tourism and cultural and global events are rarely, if ever, addressed in studies that seek to clarify and resolve specific problems rather than addressing the more challenging questions of what sort of an NTE might be of greater benefit to communities in the future.

The NTE provides relaxation and jobs and tax revenues and a wide context for personal and collective opportunity to 'interact' as well as to 'work' and to inhabit a specific spatial geography.

In our large global cities one of the most critical expenditure drivers is Tourism. Remove the tourist from the equation in cities attracting global visitors and large NTE economy centres begin to gasp for breath.

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[1] Tier 1 Cities in China: *Beijing, Chongqing, Shanghai, Tianjin*, *Changchun (Jilin), Chengdu (Sichuan), Guangzhou (Guangdong), Hangzhou (Zhejiang), Harbin (Heilongjiang), Jinan (Shandong) Nanjing, (Jiangsu), Shenyang (Liaoning), Wuhan (Hubei), Xi'an (Shaanxi)*,*Dalian, Qingdao, Shenzhen, and Xiamen.*

[2] Chew, M. (2009) "Research on Chinese Nightlife Cultures and Night-time Economies" *Chinese Sociology and Anthropology*, vol. 42, no. 2, Winter 2009–10, pp. 3–21.

[3] Economics – The User's Guide – Ha-Joon Chang 2014 – pp259-262

Tourism Australia forecasts total domestic and international tourism spend of $102.6 billion for 2013/14[4].

As we will see in this research **the Australian NTE in 2013** is measured at **$102 billion**.

Tourism is widely accepted as a key economic dynamic whilst the NTE which is as large – is not.

There is a need to ensure that the Night Time Economy is fully factored into all the planning and development activity which seeks to optimise the use of future spaces for society.

[4] Tourism Forecasts – Autumn 2014 – Tourism Australia

1. Report Introduction

The National Local Government Drug and Alcohol Committee (NLGDAAC) encourages ways of sharing best practise that may help improve the quality and safety of the Night Time Economy.

In this study it sponsors understanding of the economic impact of the NTE and we ask questions such as

How big is it? In what ways is it changing? What is its economic role in urban centres?

This work follows an initial report on the Australian Night Time Economy[5] for the time period 2009 to 2011. This new analysis captures that period and reports through to the end of June 2013.

The NTE is a wide ranging number of services that meet the leisure interests and the wellbeing of individuals, family groups and friends seeking to use its leisure attractions.

There is considerable debate about the relationship of the NTE to alcohol and substance abuse; the need to regulate types of outlet and the capacity to optimise safe and attractive centres.

It is factual that aspects of addictive substance dependence play themselves out in the territory of the Night Time Economy and require public services in ways which lead to public debate and in costs to help make places safer. At least the same attention is required to optimise NTE benefits.

The economic benefits of the Night Time Economy rarely do form part of this debate. In this study NLGDAAC seeks to examine this economic context. The very few studies which have examined its economics point in unison to the fact that the Night Time Economy delivers high levels of employment and revenue to the community and that taxes generated in its activities far exceed any efforts to assess directly attributable costs.

Given all our concerns about public health and safety it is important to state that it cannot be the intent of NTE outlets to provide a stage for socially destructive behaviour and outcomes.

Other studies demonstrate both direct and indirect benefits of the Night Time Economy and clarify how community needs are funded by the proceeds of NTE taxation[6] as they feed into public revenues.

In this work we look anew at both the picture of change in the Australian NTE economy and in greater detail at the performance of the NTE in 15 of the NLGDAAC member authorities.

An associated study of the three key New Zealand centres of Auckland, Christchurch and Wellington is treated as a separate report over the same time frames.

1.1 Participating Local Authorities

Adelaide City Council (SA)
Brisbane City Council (QLD)
Byron Shire Council** (NSW)
Newcastle City Council (NSW)
Parramatta City Council (NSW)
City of Darwin (NT)
City of Melbourne (VIC)
City of Sydney (NSW)
Frankston City Council** (VIC)
Gold Coast City Council** (QLD)
City of Greater Dandenong (VIC)
Maroondah City Council (VIC)
City of Port Philip (VIC)
City of Hobart (TAS)
City of Perth (WA)

[55] Measuring the Australian Night Time Economy – A First Analysis 2009 to 2011 – T Bevan, M Lester

[6] A Cost Benefit Analysis of the Sydney Night Time Economy 2010 – T. Bevan, M Lester, A Turnham

** Denotes three new participant LGAs since the first study

One of the main characteristics of the NTE is that it aggregates in varying degree of concentration depending upon the underlying economic drivers of human and physical geography. Normally speaking the greater the level of concentration the greater both the importance of the NTE to the local economy and the greater the challenges that present in the management of responding services.

The local geographic basis underlying this study needs to be carefully understood if stakeholders wish to make the most effective use of the information in addressing strategic improvement.

For example the scale of the Brisbane LGA in the study presents challenges of governance that cannot easily be compared to say Sydney or Melbourne LGAs. This is because both Sydney and Melbourne jurisdictions are more precisely collocated with the main concentrations of NTE activity. Locations, such as Hobart, Adelaide and Perth are similar in this respect.

On the other hand Gold Coast City presents as a similarly distributed NTE economy to Brisbane.

Two subjects arise immediately for consideration

- Since there is merit in comparison for strategic policy it is important to align places where that comparison may be most helpful and patterns of activity most clearly seen.

- Given that the data used for analysis is supplied by the ABS it follows that improving the utility of the information depends upon the willingness of the ABS to share data at as detailed a level as is possible. Brisbane – for example –could be brought into sharper focus if study followed the geographic pattern of NTE clustering within local grouping of its areas or post codes[7].

Examination and agreement on the provision of activity and geography level data will require further thought and dialogue with the ABS which has expressed concerns about inappropriate disclosure.

1.2 Primary Subjects of Focus

This report concentrates on the following

- Describing the National NTE picture and how it has changed in the last five years
- Examining the trends in sub segments of the NTE (Drink, Entertainment and Food)
- Drawing out key national messages
- Emphasising those clear local messages which stand out from the analysis

Whatever the subject we all need to know the answer to questions such as

- How large? What are its constituent parts? How are those parts changing?
- In what way do the parts represent or qualify the subjects to be addressed?
- Where do we see the likelihood that shared experience might be an advantage?
- What are the specific causes of problem and how might all parties help in solution development?
- What is changing for the better?

[7] The ABS warn against precise reliance on post codes but in this subject they facilitate NTE 'node' identification

1.3 Data Quality

All the data used in this analysis is supplied by the ABS to a pre agreed template which draws out the performance of the Core NTE based upon the model which we call the Night Mix Index or NMI. The NMI uses commonly accepted public activity descriptions (Standard Industrial Classifications) for performance comparison across local, national and international geographies[8].

In this second study the ABS changed the local detail level of available information compared to the earlier study. This reduces ability to understand performance and change across locations.

Where they can be applied the figures are comparable across the five years of the study period.

In Section 9: Appendix A we illustrate the inconsistency resulting from the change in disclosure levels over different time periods and identify how this reduces the information that is available to local government for its statutory role of managing local change.

Also we comment on what types of data would greatly increase the value of the analysis.

This is particularly important at local government level when higher tiers of Government seek more effective action in the management of violence and the provision of personal security.

The report highlights a number of questions which relate to NTE economic performance and to NTE sector responsiveness to deliver change in this key aspect of the leisure economy.

It touches on the key tensions in this subject and makes a plea for a multifaceted approach to governance. It sums up everyone's concerns about the impact of anti-social behaviour.

The report shows that the Night Time Economy brings considerable benefit to the Australian economy.

1.4 Key Challenges in Measuring Night Time Economies

Measuring the NTE at a national level presents few problems because the appropriate detail in the data set is adequate and can be shared with little qualification.

The national level data helps to clarify the relative and changing significance of the NTE compared to the wider national economic context.

As one moves to smaller local geographies issues of measurement become more acute.

The size and spread of NTE activities remind us that we need Business in the agenda of change and that the NTE should be encouraged to grow since it brings disproportionately positive benefits to communities including tax driven revenues that already fund solutions to social concerns.

1.5 The Defined NTE Activities

A common international definition of NTE activities is used here.

This is based on the Standard Industrial Classifications of most developed countries.

Appendix B in Section 9 provides a full list of the ANZSIC activities that we group as follows

- Drink Led
- Entertainment led

[8] Comparison can be made between places like New York, Melbourne and London on the same basis.

- Food Led

These sub segments allow us to see change across the key services provided, in what is understood to be the post 6 p.m. to pre 6 a.m. sector of the Leisure Industry.

The sub sectors are not mutually exclusive in the sense, for example, that although we identify gambling as an independent specialised activity under Entertainment it also contains revenue that is not cross identified to the Drinks Led sub segment[9].

1.6 Economic Impact of the NTE

Studies in the USA, UK and Australia clarify that NTE activities deliver anything between 10 and 20 times Benefits to Costs ratios[10]. This includes costs associated with local government services and regulation, hospital and ambulance services, policing and transport.

This provides no reason for ignoring challenges to health and safety or to costs that might be reduced or behaviour that may be changed but it is supportive of policies to stimulate wider community use of NTE spaces and for NTE economic development to be clearly part of local planning and economic development responsibilities. Healthy NTE growth increases opportunity and enhances the tax base.

There is no standardised basis for Cost Benefit ratio calculations which in most cases do not factor in all direct or indirect benefits that result from enterprise. GST is one such benefit since NTE activities are the final point of collection of GST when consumers purchase NTE services.

The community nuisance[11] impacts of late night activity are also rarely recorded in such calculations although they should feed into a comprehensive view of economic cost.

1.6.1 Exactly when do NTE businesses earn revenue?

There is almost no economic data on the subject of the hourly incidence of NTE revenue earning. Even though we base our figures for economic performance on an appropriate group of activities this still does not fully identify when the businesses in those activities are actually open for business.

Recent research by the reporting consultants in the UK[12] suggests that 45% of NTE revenue may be received between the hours of 6 p.m. and midnight whilst 20% is collected from midnight to 6 a.m. and a further 25% from midday to 6 p.m.

The remaining 10% indicates that some 'NTE' businesses transact from 6 a.m. to midday.

However this data was gathered by survey within a specific and unusually concentrated NTE geography[13] and we cannot say that this precise pattern would be repeated in other locations.

The pattern does clarify that NTE businesses form part of a 24 hour economy.

[9] Gambling in Australia – ABS Year Book - 2000

[10] Greater London Authority Study 2012 – Ratios of cost to benefit

[11] Noise after certain hours is a key part of this cost impact

[12] Opening Times of businesses in the West End of London

[13] Westminster and West End

1.6.2 Night Time Shift Work and NTE

Night time work is not synonymous with NTE although NTE businesses play a key part in this employment. Shift[14] and Night work in a variety of different services and manufacturing operations plays an important role in the economy after dark. In the UK total night time employment is estimated at least six times as large as what we refer to as the NTE[15].

An ABS commentary in a supplementary Labour Force Service survey suggested that in November 2009 1.4 million Australians worked in shift patterns. This would suggest that in Australia combined NTE and Night work numbers represent employment at least 1.5 times as large as the NTE alone. Compared to the UK this seems a low figure overall and infers more shift work in the UK.

This larger number of working people in the night time hours may have an important role in developing a safer NTE. We know that there is a relationship between crime activity levels and diminishing concentrations of people out and about in night time hours.

We do not know how current NTE businesses interlink with the people who work through these hours. But as the streets begin to empty they can help offset the night time depopulation that contributes to any sense of an increasingly anti-social environment.

1.6.3 Linkages to Anti-Social Behaviour

It is clear that businesses providing alcohol as part of their services must have regard for the impact of excessive consumption amongst their clientele.

This is usually addressed by regulation.

In some parts of the world concerns have led to new legislation that includes early closure powers and the rights of councils to impose specific taxes on outlets[16] that operate after midnight. The problem with such solutions is that they can be divisive as they may induce a wide sense of penalty without stimulating any positive engagement with business.

Achieving change through collaborative approaches is more fundamental than marginal taxation.

In the UK businesses can be exempted from this form of tax or levy if they are part of a qualifying Business Improvement District (BID) and for other reasons.

Clearly any outlet that is not operating to agreed standards should face the full force of the law.

1.6.4 Specific NTEs differ in scale and impact

Much of the bad press that hinders the development of NTE economies stems from incidents in highly concentrated urban areas. We see these clusters of economic activity in central places such as LGA Melbourne and Sydney but they can occur in any urban location.

The clustering links to high levels of employment overlain with high volumes of tourists seeking to purchase the services that are available. Also it is quite normal for centres of education to be co-located. So we may

[14] ABS 6105.0 - Australian Labour Market Statistics, Oct 2010

[15] UK Labour Force Survey – October 2013

[16] Late Night Levy – UK Licensing Laws

have tourists (whether domestic or international), employees of firms and students all increasing the activity density.

In such concentrated areas there may also be local residents either unsympathetic with the worst excesses of anti-social behaviour or with little sympathy for the cultural interests of this night time population. These differences of interest need reconciliation through local community organisations.

The business, the planner, the economic developer, the community worker and public services such as police and health should pass the test that they work as a team in a best practise agenda.

Whilst the same guiding principles should be applied to smaller centres, scale increases the challenge. Response can be reactive and departmental with no overarching strategy or governance team when progress would only be optimised by an inclusive approach.

NTEs can spring up in primarily residential areas where they need to be contained. A reputation for Anti-social Behaviour is clearly not in the best interests of economic growth and whilst this study is not tasked with identifying and commenting on how these negative dynamics impact on the economy, on individuals and property it is important to note that risk and incertitude will inhibit market growth.

NTEs should serve wide stakeholder interests because this tends to be beneficial to all parties.

Regular festivals celebrating cities after dark, such as the 'Nuit Blanche[17]', emphasise both cultural and community wide ownership and the pleasures of city spaces.

1.7 NTE Study Methodology

Our approach to this study grew out of work for Sydney LGA in 2010. The methodology applied to that work was based upon a translation of UK SIC definition of the NTE into Australian ANZSICs. This was straightforward and without difficulty for analysis purposes.

In this study the Australian Bureau of Statistics (ABS) data base has been commissioned in accordance with our NTE NMI classification to support the following objectives.

- Identification of the size and continuing change of the Australian NTE
- The economic contribution of individual States
- Measurement of the NTE dynamics of a number of key LGA areas[18]
- Relevant comparison in perf ormance of these places and current trends
- Identification of the proportionate roles of food, entertainment and drinks led businesses
- All findings are expressed in terms of comparative change across time

1.8 Research Challenges

1.8.1 Business Activity Identification

The ABS data facilitates helpful economic measurement but lack of data transparency is an issue. We have not found the same problem accessing similar local data level in the UK, USA or New Zealand.

[17] Recently piloted and repeated in Melbourne

[18] Canberra was not included in these figures but there is a proxy in the State level ACT figures

In order to optimise the availability of useful data we recommend engagement with the ABS to clarify what could be permissible to disclose for research purposes.

Within the bounds of the law Cities need as much information as is available to help in the development of NTE strategic policies.

An example comparing differing levels of shared information is given at Section 8. Appendix A

This identifies the additional detail that ABS did share in the previous study.

Authorities such as Sydney LGA can address some information gaps by way of property and occupancy census[19] which run every five years[20]. This provides activity flagged and detailed levels of local business employment that can be cross referenced to ABS data.

This 'census' is produced once every five years and only within the City of Sydney.

N.B. Zero employment conducted outside commissioned business premises[21] can represent up to 40% of total firm base numbers and is a very important component of developing economic activity.

Amongst these micro enterprises will be some of the larger employing firms of the future[22] and policy needs to constantly devise ways of connecting with them.

The purpose of engaging with 'micro' firm dynamics stems from the magnitude of the impact that they have on future economic growth. As long ago as 1979, David Birch at MIT first verified that ALL net new employment growth originates in very small firms.[23] Birch called these firms 'Gazelles'.

He saw the primary purpose of economic development to be the encouragement and provision of environmental habitats which would attract such firms and he completely rejected the previous 'scattergun' approach to economic development. Birch was the '**Father of the SME'**.

Public sector data has difficulty identifying these firms. Many are below GST threshold.

The possibility of using private sector data in Australia is limited. Potential suppliers are unfamiliar with the context and do not systematically retain year on year transactions in their data bases.

A 21st century précis of Birch's seminal work concludes as follows

'In sum, an indirect approach to studying small business as the major generator of jobs is advised, in which the proposed next step is to analyse data on individual firms alongside the characteristics of the places where firms decide to locate'.

Birch had the benefit of the use of the US Dun and Bradstreet Data which is not available here.

[19] FES – Floor Space and Employment Survey

[20] Melbourne LGA has a similar study which updates knowledge by business activity

[21] Wide ranging research shows that '0' employee activities are not fully reflected in public data bases

[22] Microsoft began in a garage

[23] The Job Generation Process – 1979 – David Birch Massachusetts Institute of Technology

1.8.2 Geographic Compatibility

Our client brief includes the requirement to compare the Night Time Economies of a group of Australian LGAs which are important to the NTE agenda. This is possible up to a point.

For instance, we are able to see the relative importance of a night time economy to a larger City economy, or a Statistical Division and to understand how this differs from one place to another.

We are able to understand how local NTEs are broadly changing over time compared to wider overall local economic performance and to measure the extent to which such change differs from or follows overall performance of State or Federal economy.

We can see the extent to which the importance of the economic role of the NTE differs from place to place. Such importance can be as a large percentage of the overall economy (Byron Shire) or as simply a large economic activity in its own right as in Sydney.

All such information helps in the development of NTE strategy. Stakeholders and policy makers are more likely to listen to a debate about change if they sense the underlying reliability and relevance of the referenced economic data. These same stakeholders need to factor the NTE into future spatial plans.

Comparison can help set out the case for proposals or for new strategic intentions.

However the more detailed information that is held by the ABS is important to the measurement of City Centre dynamics and to the understanding of local economic change.

LGAs may need to be grouped in bases of comparison that make sense of common characteristics.

LGA Brisbane is well on the way to being a Metropolitan geography in its own right whilst LGA Melbourne and Sydney are not and differences in scale limit the purpose in statistical comparison.

Being based on CBDs the LGAs of Perth, Melbourne, Adelaide and perhaps Sydney[24] may be considered as similar in proportionality and role for the purposes of comparison.

Other key LGA centres such as Hobart, Brisbane and Darwin represent proportionately much larger parts of their overall geographic hinterlands.

Comparing geographies with NTE economic compatibility is important. For example the limits of relevant comparison between LGA Melbourne and LGA Sydney are not fully explored. We need to add or remove building blocks of geography to advance a clearer understanding of economic compatibility.

1.9 What is measured by the Night Mix Index?

We use standard criteria to help clarify

- NTE economic role in a specified local geography
- NTE Establishment levels
- NTE Employment levels
- NTE Revenues by activity type
- Time based economic change in performance of categories or types of activity

[24] Sydney has relatively high levels of daily population movements

- The dominance or weakness of activity types
- *Gaps in anticipated firm structure*
- *Estimates of the relative size of the firm stock*
- The value of the NTE compared to the local economy of which it is a part
- The trend over time of specific sub segment performance – in this case from 2009 to 2013
- The significance of the NTE as a local component of an economic geography

It is possible to measure these aspects of change which improve understanding of how an NTE us performing relative to the wider economy

- *The proportion of small business levels in firm stock (an indicator of relative market structure)*
- *The rate of new firm creation (an indicator of the relative activity dynamics of change)*
- *The rate of growth of different firm types (an indicator of market structure dynamics)*
- *The closure rates of firms (an indicator of relative aging or viability of a market or sector)*

Italicised aspects of measurement above are not yet part of the Night Mix Index.

2. Executive Summary

This report measures the economic performance of the Australian Night Time Economy (NTE) and NTEs in 15 key urban LGAs in Australia including locations within all the state capitals except ACT.
The LGAs are

- Adelaide City Council (SA)
- Brisbane City Council (QLD)
- Byron Shire Council (NSW)
- City of Greater Dandenong (VIC)
- Newcastle City Council (NSW)
- Parramatta City Council (NSW)
- City of Port Philip (VIC)
- City of Darwin (NT)
- Gold Coast City Council (QLD)
- City of Hobart (TAS)
- Maroondah City Council (VIC)
- City of Melbourne (VIC)
- City of Perth (WA)
- City of Sydney (NSW)
- Frankston City Council (VIC)

The study focusses on the changing NTE economic performance over the time period 2009 to 2013 and to give study continuity across the full five year period we incorporate the data used in the first study[25] which covered the period 2009 to 2011.

The measurement of the NTE is based upon a collection of activities established by TBR in 2009 which forms the basis of its Night Mix Index[26] (NMI). The NMI has been widely used in studies of local and national economies in connection with straightforward measurement; strategy and visioning development[27] and in the assessment of the costs and benefits of the NTE.

This report was commissioned by NLGDAAC to update findings on the size and direction of travel of the Australian Night Time Economy and how that differs in key Australian places.

2.1 Change in the Australian NTE

The Australian Night Time Economy is a sub economy with annual sales revenue similar to the Australian Tourism market including all domestic, international and business tourism.

2.1.1 Australian NTE Sales Revenue Change

In 2013 the Australian NTE is conservatively estimated to have sales revenues of $102 billion and its Core activities employed nearly 1 million people.

The Australian NTE increased its overall sales revenue (excluding GST) from $90 billion in 2009 to $102 billion in 2013 – an increase of 13.4%

Total Australian economy sales revenues increased by 12.6% to just under $3000 billion.

The value of all Core NTE Food led business increased from 53% to 56.5%

In 2013 30.8% of all sales revenue was generated in New South Wales and 24.2% in Victoria.

Tasmania at 1.8%, ACT at 1.6% and Northern Territory at 1% had the smallest percentage NTE revenues by individual state.

[25] The Australian NTE – 2009 – 2011 T Bevan, A License, M Lester

[26] See Appendix B 10.1 in this report

[27] The future of the Stratford East London economy after the Olympics 2012 – T Bevan, P Davies and A Turnham

Given that inflation was measured at a compound 10% over this time frame[28] there is a small amount of real growth in overall sales revenue performance. In the locations in this study only Brisbane, Melbourne, Newcastle, Port Philip and Sydney exceed 10% revenue growth.

We can add Byron Shire to these places since over three years change it also exceeded inflation.

2.1.2 Australian NTE Employment Change

In the financial year 2013 the Australian Core NTE employed 983,970 employees.

This is nearly one million people and is 8.5% of all Australian employment.

Employment in the NTE has increased by c58,000 people or 6.3%.

The Non-Core NTE or supply chain of the Core NTE employed a further 17.23 % of the Australian workforce or another 1,678,835 people.

Over 25% of the Australian workforce is connected directly or indirect with the NTE through its Core activities or through its supply chain

The overall Australian economy saw an employment increase of 3.4% in the same time frame that the NTE economy increased employment by 6.3%.

Therefore the rate of increase in NTE employment was nearly twice that of the overall economy.

2.1.3 Australian NTE Firm Summary

In 2013 95,839 firms are categorised as Core NTE.

They represent 4.45% of all Australian firms and have increased by 6.9% since 2009.

The rate of increase of all Australian firms in the same period was 5.1%

Most of the firm increase in the overall economy and in the NTE had occurred by 2011 which suggests an overall slowing of the economy during 2012/2013.

2.2 Change in the LGA Geographies

The LGAs in this study represent 22.5% of the entire Australian sales revenues from NTE in 2013. Of this $22.4 billion figure Sydney LGA represents 14.6% and Melbourne LGA 11.5%.

Brisbane at 26.7% and Gold Coast at 13.3% form part of this total for participating LGAs but as explained elsewhere they should not be compared with Melbourne and Sydney. They would be more sensibly compared at the Metropolitan level than with the two main NTE centres.

Because the 2009 base did not include Frankston, Gold Coast and Byron Bay we cannot calculate overall change. The three new locations do not affect the impact of the two largest City centre LGAs.

In the LGA administrations in this study the average increase in employment was 8% compared with the broader national figure of 6.3%.

Sydney is the lead growth location with NTE increasing by $437 million[29]

[28] Reserve Bank of Australia

[29] NB This ignores change in the jurisdiction of Brisbane LGA which is a completely different economic geography

This is a 15.4% increase in revenue

This growth is led by both Food and Drink and when looking at the changes in firm numbers we see large expansions in its food and its drinks firms.

Growth in Drinks firm numbers in Sydney is particularly dramatic with an increase of 131 outlets or 31.5%.

The Drinks sector growth is due mainly to the successful small bars programme of the LGA which, as part of Sydney 2030, is designed to deliver a smaller and better regulated model[30] with wider appeal across age ranges and to professionals working in the City Centre.

This is clear in the relatively small size of employment in the new outlets which average 6 people compared to the wider average of 12 employees in all Sydney drinks led establishments.

In other LGA centres Perth is the only other location to show growth of drinks outlets.

Perth also shows a 14% and $80 million sales growth in Food led revenues.

There are increases in Drinks outlet sales above 25% over these five years in Darwin, Maroondah and Sydney. Other places show decline or up to the 11% increase in Melbourne.

The smaller centres are recording lower overall NTE revenue increase.

Greater Dandenong, Maroondah, Parramatta Frankston are primary examples of slow change.

Newcastle vies with Port Phillip in terms of its increase in NTE economic performance with revenue increases of $120 million and $150 million respectively

Adelaide with NTE revenue increase of 7.1 % overall is the lowest of the Capital City LGAs.

Amongst the new entrants to NTE measurement only Byron Shire shows overall increase in economic performance over 2011 to 2013 with large increases in drink and food revenues.

When looking at the Core NTE share of total local economic activity in any location we find that Byron is again the highest figure at 7.0% of all LGA sales revenues. Sydney and Melbourne at 3.5% and 3.8% respectively, reflect the much larger and diversified natures of their economies.

In 2013 Sydney has the single largest Core NTE at $3.280 billion[31]. Melbourne is 2nd at $2.579 billion.

However as we explain elsewhere in the report, strict league tabling is misleading. The footprint of the Core NTE of Melbourne extends into Yarra City and Port Phillip. Port Phillip is prominent in its own right in these LGA figures.

Food led businesses comprise the largest part of the NTE economy. In this sub sector Melbourne has shown the largest change with $382 million in additional sales since 2009.

[30] Maximum 60 customers

[31] We exclude Brisbane because of its geographic span

With a 2013 turnover in excess of $1.5 billion it completely out performs the national picture for change in Food led businesses where the national average change was 53% to 56.5%.

The Melbourne Food sub sector grew from 51% to 60% of all Core NTE Sales

2.3 Comparative LGA Performance Dashboards

This report underlines the need for more detailed research on the performance of the activities of NTEs over time.

In studying 15 different locations it is easy to lose sight of the standards set and the achievements of individual places and therefore analysis of the opportunity to improve and strengthen the contribution of each NTE needs to dig deeper.

As example we highlight below a comparative feature from each place which illustrates the need for closer performance dashboard study at a local level to build greater economic understanding.

Each of these points are drawn from this study analysis and each in turn asks further implicit or explicit questions which relate to local performance.

- Adelaide – Continuous year on year growth in its NTE sales revenues from 2009 to 2013.
- Brisbane – The largest percentage increase in sales revenue and yet its NTE structure is hidden.
- Byron Shire – A small focussed location with the highest % NTE employment in the study.
- Darwin - In the middle of overall growth %s. Its figures show need for performance explanation.
- Frankston – Flat performance – losing sales and revenue over the three years studied.
- Gold Coast – As enigmatic as Brisbane - the analysis needs to be at a more detailed level.
- Greater Dandenong – Very low drinks sales and very large percentage increase in food revenues.
- Hobart – Standout % improvement in Entertainment Revenues and all achieved 2012 to 2013.
- Maroondah – One of the lowest overall % levels of NTE revenue. Opportunity or CBD Impact?
- Melbourne – clearly the food service capital of Australia.
- Newcastle – Fourth strongest overall growth and led by food businesses.
- Parramatta - Decline in drink and entertainment compensated by food growth.
- Perth – Strong growth in food and drink from 2012 to 2013[32].
- Port Philip – Growth in all sectors and 31%+ in food.
- Sydney – Growth in all sectors and a completely different pattern to Melbourne

Full details of LGA performance by Drink led, Entertainment led and Food led businesses are in Section 5.

[32] More recent Entertainment growth not captured by the ABS figures

3. The Australian Night Time Economy

The NTE has linked economic relationships across a wide range of industries and services. Before studying the research results we note the activities that are included in our methodology in Tables 1 Core Activities and 2 Non-Core Activities below.

Table 1 Core NTE Activity Descriptions

NTE Core	ANZSIC	Activity
Drink	4123	Liquor Retailing
	4520	Pubs, Taverns and Bars
Entertainment	4530	Clubs (Hospitality)
	9001	Performing Arts Operation
	9002	Artists, Musicians, Writers and Performers
	9003	Performing Arts Venue Operation
	9111	Health, Fitness Centre & Gymnasia
	9112	Sports and Fitness Professionals
	9113	Grounds and Facilities Operations
	9114	Sports and Recreation Administration
	9121	Horse and Dog Racing
	9129	Other Horse and Dog Racing Activities
	9131	Amusement Parks and Centres
	9139	Amusement and other Recreational
	9201	Casino Operation
	9202	Lottery Operation
	9209	Other Gambling Activities
	9534	Brothel Keeping and Prostitution
Food	4511	Cafes and Restaurants
	4512	Takeaway Food Services

We combine the concept of the Core NTE with that of the Non-Core NTE which brings together all those sectors of the economy that interact through service provision to the Core NTE

Much of the Non-Core economic activity is not NTE itself but some part of its service provision and therefore revenues are NTE dependent. Of note in Table 2 below is Hospitality (Hotels and other overnight accommodation) which we do not count in Core NTE activities.

Although some hotels provide drinks and food services their primary function is overnight accommodation which is not a direct NTE activity component.

People choose to go home or to a hotel after they complete an evening entertainment.

Similarly with the exception of liquor retailing we include all retailing in Non-Core NTE since again retail outlets are not primarily sought for leisure activities and most are closed throughout much of the primary NTE time period from 6 p.m. to 6 a.m.

Table 2 Non-Core NTE Sectors

Non-Core NTE Sectors
Care
Cultural
Design
Education
Food
Hospitality
Infrastructure
Promotion
Research
Retail
Sports Education
Transport

All the broad sectors detailed above provide ANZSIC[33] origin Non-Core NTE data.

The two economic sub sets of Core and Non-Core NTE are added to the wider local economy or the Non NTE economy so that common rules of measurement and common sources of data are applied that facilitate clarity across the entire local economy.

It is well documented that the leisure industries produce lower per capita economic performance than some of the more productive sectors such as finance, communications and mining.

Nevertheless this is a key part of the economy. It is that part which contributes most to the ability of Australians to take pleasure in their leisure time. Similarly in Cities seeking to enhance reputation and revenue base the NTE is integral to enjoyment and to understanding the character and history of places which depend for income upon domestic, international and business tourism.

The questions restated here were posed in our 2011 report as being of strategic importance

- What is the relative size of the NTE economy to the rest of the Australian Federal economy?
- Is it growing or declining and in what particular ways?

To these we begin to ask

- **How do its policy challenges matter to Australia?**
- **How can policy be advanced to give the economic activities practical context?**
- **How are the negative social impacts of behaviour best addressed in strategy?**

3.1 The Economic Significance of the Australian NTE - 2009 to 2013

Using the NTE activity descriptions we analyse the performance of Australian firms over the annual time frames from 2009 to 2013. This is followed by an analysis of employment and then revenue before drawing out conclusions.

[33] Standard Industrial Classification

In considering NTE economic dynamics we recommend focus on Core NTE figures[34].

Non-Core figures represent the supply chain of firms that provide direct services to NTE outlets. Supply NTE describes businesses that supply products for resale in Core NTE outlets.

3.2 All Firms compared to all NTE Firms – Australia

In Table 3 below we see that the total Australian firm base is estimated at 2,154,651 firms in 2013. Of this number 357,973 or 16.6 % are NTE connected in some way (Core or Non-Core).

The overall firm base has increased by 5.1 % since 2009 and Core NT Economy firms by 6.9%.

Table 3 : All Australian Firms 2009-13

Sector	2009	2011	2012	2013	Change 2009-2013	% Change 2009-2013
Core NTE	89,670	94,516	94,961	**95,839**	6,169	**6.9%**
Non-Core NTE	239,534	241,327	237,238	234,602	-4,932	-2.1%
Supply NTE	25,376	27,064	27,250	27,531	2,155	8.5%
Total NTE	354,580	362,907	359,449	357,973	3,393	1.0%
Non-NTE	**1,695,759**	**1,769,524**	**1,781,886**	**1,796,678**	100,919	6.0%
Total	**2,050,121**	**2,132,556**	**2,141,335**	**2,154,651**	**104,530**	**5.1%**
Core NTE %	4.4%	4.4%	4.43%	4.45%		
Total NTE %	17.30%	17.02%	16.79%	16.61%		

Source: ABS 2009/ 2013 TBR Ref: W1/S1

Table 3 reports modest increase for the overall Australian firm base across the 2009 to 2013 time frame. This is largely due to the flattening in firm level increase since 2011. At 4% change the two years to 2011 showed most of the increase (80% of that increase).

There is no particular reason why a broad national firm base would keep growing unless population is increasing at a high rate or structural or technical dynamics stimulate expansion[35].Whilst there is not complete agreement amongst economists about the direction of change. None of these factors is at work in 2012/2013. The figures suggest a slowing national economy.

Looking to current time the National Accounts[36] show that March 2014 Quarterly overall growth was led by hotels, cafes and restaurants with alcoholic beverage consumption close behind. Representing consumption these would not be ideal sectors to lead economic expansion.

When we examine the NTE components of the changes in the Australian firm base we see a resilient picture. Core NTE posts 6.9% growth in firms compared to the 5.1% in all Australian firms. However we should note that as with overall firm change the growth in NTE firms is primarily based upon increase from 2009 and 2010. The curve flattens from 2011.

The Non-Core firm basis contains at the same time the supply chain of the NTE and those service entities without primary commercial connection such as police and hospital services.

[34] Clients do group Core and Non-Core NT Economy together. We do not recommend this.

[35] 3101.0 - Australian Demographic Statistics, Dec 2013 Estimated growth rate for 2013 – 1.7%

[36] 5206.0 - Australian National Accounts: National Income, Expenditure and Product, n 2014

The numbers of Non-Core organisations has decreased slightly by some 4932 entities and in 2013 comprised 12% of the entire Australia firm base (2009 – 12.9%).

The firm figures clarify the embedded role of NTE related firms play in the Australian economy.[37]

The Non-Core and Supply numbers represent businesses with some economic interdependency with the Core NT activities. Together their economic activities span 16.6% of all Australian firms.

3.3 All Employment compared to NTE employment - Australia

In July 2014 seasonally adjusted Australian employment is estimated at 11,576,000 million[38].

This varies slightly from the 2013 figure in the table below and indicates how growth in employment has slowed since 2011 in the overall economy.

In spite of this the NTE has continued to provide additional employment with a slight increase in 2013 over 2012. There has been an increase of 6.3% in NTE employment compared to 2009.

In 2013 nearly 1 million people were directly employed in NTE related work.

Table 4: Australian NTE employment as a proportion of all employment

Sector	2009	2011	2012	2013	Change 2009-2013	% Change 2009-2013
Core NTE	925,923	989,264	972,725	983,970	58,047	**6.3%**
Non-Core NTE	1,583,127	1,611,364	1,661,856	1,678,835	95,708	6.0%
Supply NTE	291,542	302,588	329,500	314,301	22,759	7.8%
Total NTE	2,800,592	2,903,216	2,964,082	2,977,107	176,515	6.3%
Non-NTE	8,385,988	8,649,741	8,554,280	8,593,623	207,635	2.5%
Total	**11,186,580**	**11,552,956**	**11,518,362**	**11,570,730**	**384,150**	**3.4%**
Core NTE %	8.28%	8.56%	8.44%	8.50%		
Total NTE %	25.04%	25.13%	25.73%	25.73%		

Source: ABS 2009/2013, TBR Ref: W1/S1

3.4 All Sales Revenue compared to NTE Sales Revenue – Australia

From 2009 to 2013[39] all Sector Australian sales revenue increased by 12.6% to $2,986 billion.

Core NTE revenue has moved from $85 billion to $102 billion in the same time frame and all NTE connected sales revenue stands at $605 billion which is 20.3 % of the total revenues recorded by Australian companies in the 2013 financial year.

The primary difference in this table is the % sales revenue attributable to Supply NTE. Whereas in firms and employment terms the Supply NTE posts figures that are roughly one third of the numbers for Core NTE, in revenue terms it is larger than the Core NTE.

[37] ABS 2011 NTE derived statistics by TBR

[38] 6202.0 - Labour Force, Australia, Jul 2014

[39] This is always years to end June.

These high revenues are due to firms that serve both national and export markets. They are only intrinsic parts of local NTEs in that they locate headquarters or plants or subsidiaries in specific geographies. We rule them out of calculation of Core NTE in serving local markets and places since they are not direct suppliers of services to leisure market users.

The relative rate of revenue increase of the Core NTE is 13.4% compared to 12.6% for all Australian economic activities over the five year time period.

A primary observation here is that in a period when the Australian economy has slowed the NTE part of that economy has slightly outperformed the overall picture.

Table 5: Australian NTE Revenue as a proportion of all revenue ($ million)

Sector	2009	2011	2012	2013	Change 2009-2013	% Change 2009-2013
Core NTE	$90,170.7	$97,213.8	$100,157.1	$102,215.1	$12,044.4	**13.4%**
Non-Core NTE	$328,399.3	$340,201.9	$374,352.0	$375,634.8	$47,235.5	14.4%
Supply NTE	$111,473.4	$115,646.8	$129,996.4	$128,038.4	$16,565.0	14.9%
Total NTE	$530,043.3	$553,062.5	$604,505.5	$605,888.2	$75,844.9	14.3%
Non-NTE	$2,122,593.4	$2,211,386.1	$2,305,729.8	$2,380,252.1	$257,658.7	12.1%
Total	**$2,652,636.8**	**$2,764,448.6**	**$2,910,235.3**	**$2,986,140.4**	**$333,503.6**	**12.6%**
Core NTE %	3.40%	3.52%	3.44%	3.42%		
Total NTE %	19.98%	20.01%	20.77%	20.29%		

Source: ABS 2009/2013, TBR Ref: W1/S1

Core NTE Revenue - increased from $90 billion in 2009 to $102 billion in 2013.

3.5 How the Australian NTE is changing

Table 6 below shows how the $102 billion Night Time Economy breaks down across more detailed Core NTE activities and compares revenue change within these activities from 2009.

In the broad interest generated around the NTE it has become a key point of reference to understand how the NTE is changing between food led and drinks or entertainment led activities.

Of particular note in Table 6 is that Food led business at nearly $58 billion of all sales in 2013 represent c57% of sales across the Core NTE activities and that Café and Restaurant outlet sales have grown by more than any other activity in $ terms.

Overall food sales were 53% in 2009. It has always been the predominant activity and has increased its share of total sales revenue by 4% over the five year period.

It is simplistic to consider categories as mutually exclusive.

Food is sold in drinks outlets and drink is an important component of food revenues.

We can see from Table 6 below that at the all Australia level artists, musicians, writers and performers provide the 3rd largest number of businesses and the 7th largest level of employment. Creative firms tend to be smaller businesses. They merit particular focus for public policy in encouraging the types of activity

that set a positive tone for the NTE which also helps it to attract the widest possible demographic participation.

If we looked behind the creative statistics at more detailed patterns of employment we are likely to see that the people in the creative community cross over a number of related occupations.

One business may often not sustain earning level needs.

Our detailed study of the footprint of the UK Creative Industries helps us understand that the smallest operations involve one people enterprises[40] that may have a number of different jobs.

We drew attention to this 0 (zero) level employment cohort in our cost benefit study of the City of Sydney NTE and know that in recent times Sydney has developed programmes which support creative businesses[41] as have a number of other places. We cite the examples of Frankston, Melbourne and Perth and note that Adelaide is pursuing a similar strategy of development.

Percentages in green in the right hand column indicate activities growing faster than inflation.

Table 6: Economic Comparison NTE Activities – Australia – 2009 -2013

NTE Sub-Sector	NTE Activity Description	Firms 2013	Employment 2013	Turnover 2009	Turnover 2013	% +/- 2009
Drink	Liquor Retailing	2,274	20,244	$5,055.0	$5,333.4	106%
	Pubs, Taverns and Bars	6,022	111,286	$9,911.4	$10,689.1	108%
Entertainment	Clubs (Hospitality)	2,937	64,879	$5,138.8	$5,926.9	115%
	Performing Arts Operation	1,315	9,188	$1,063.4	$1,183.6	111%
	Artists, Musicians, Writers , Performers	12,685	25,131	$3,903.4	$3,370.6	86%
	Performing Arts Venue Operation	358	5,226	$771.1	$685.2	89%
	Health and Fitness Centres, Gymnasia	2,866	33,656	$4,827.8	$4,939.4	102%
	Sports and Physical Recreation Clubs	1,884	6,849	$1,183.1	$897.8	76%
	Sports and Physical Recreation Venues	1,612	33,010	$3,564.0	$3,685.0	103%
	Sports and Physical Recreation Services	293	6,941	$248.8	$857.2	345%
	Horse and Dog Racing Operations	41	2,415	$166.3	$227.2	137%
	Other Horse and Dog Racing Activities	2,049	8,930	$1,668.3	$1,176.3	71%
	Amusement Parks & Centres Operation	854	13,442	$1,594.9	$1,596.4	100%
	Recreational Activities	1,098	8,054	$1,159.9	$951.2	82%
	Casino Operation[42]	19	6,286	$185.5	$875.5	472%
	Lottery Operation	303	2,260	$390.0	$260.6	67%
	Other Gambling Activities	1,130	9,833	$1,270.7	$1,373.1	108%
	Brothel Keeping and Prostitution	300	1,956	$151.2	$218.8	145%
Food	Cafes and Restaurants	33,956	368,703	$29,488.2	$35,230.2	119%
	Takeaway Food Services	23,843	245,681	$18,428.7	$22,611.2	123%
Grand Total		**95,839**	**983,970**	**$90,170.7**	**$102,088.8**	**113%**

Source: ABS 2012/2013, TBR Ref: W1/S1.1

[40] UK Creative Industries – studies foe DCMS and the UK Creative and Cultural Skills Council

[41] See City Spaces - Sydney LGA Website – Creative Spaces

[42] We estimate this figure should be at least $2.5 billion higher in 2014 without market expansion since 1998

Drawing on creative talent is a critical source of potential strength for places which seek to move NTE spaces into both safer and more enjoyable contexts. The figures above (right column percentages) indicate decline in those activities.

Nearly 28% of NTE revenue in 2013 came from the entertainment categorised businesses. It should not be assumed that all this revenue earning activity takes place between the traditional 6 p.m. to 6 a.m. hours of the Night Time Economy. Many businesses depend upon trade that comes from opening hours across a 24 hour time line.

There is very little reliable research background on NTE trading hours. In a recent UK study we have sought to engage with both licensing authorities and businesses to understand actual hours of business rather than those allowed by license. A preliminary study[43] suggested that 45% of what we term Core NTE activity is transacted between the hours of 6 p.m. and midnight with a further 20% between midnight and 6 a.m. The remaining 35% is divided across the 6 a.m. to 6 p.m. hours.

The greatest challenge for policy makers is how they approach the engagement of people and businesses after midnight. It is clear that this is the time frame when there is most reported anti-social activity[44] and although some business types continue to operate the range of activities also narrows down considerably.

In many places there are difficulties with transport provision to move people away from centres of leisure activity but questions do need to be asked both about the role of personal responsibility and in the context of this study about the ability of policy makers to bring about collective change which provides support for businesses.

In London the Mayor has just announced 24 hour tube services on Fridays and Saturdays.

3.5.1 Highlighted points in Table 6 above – Activity level changes –all Australia

- Liquor retailing has increased by 6%
- Pub revenues by 8% - both well below inflation rates
- Highest % growth in the Entertainment led sector has been in Casinos but at $875 million the sales figures for casinos look understated
- Performing Arts operations have grown to $1.183 billion. The precise capture of activities under this heading merits investigation.
- Health and Fitness appears as the largest Entertainment activity group at $4.939 billion
- The food sub sector change from $47.9 billion to $57.8 billion or 20.6% overall increase and it is the dominating set of activities at 57%.

Food Revenue in the NTE grew by $10 billion over 2009-2013

Melbourne led this growth pattern

[43] NTE Trading Hours Survey – London – UK - TBR

[44] Hour by Hour recorded crime statistics

4. The NTE in Australian States

This report is primarily a study of the size and contribution of the NTE to the Australian economy as viewed through the lenses of the National economy and some of its key LGAs.

This brief connecting Section 4 links the overall national economy with the local geographies that represent the more detailed part of the study. We have deliberately shortened the analysis at this level of geography in order to keep focus on the national and local LGA performance. The tables below show us

- The role of the States in the overall Australian economy and in the overall NTE market
- The different proportion of activity which the NTE represents in each State

Table 7: Distribution of NTE firms by State in 2013

State / Firm Number %s	Core NTE	All NTE	All Firms Australia
Australian Capital Territory	1.6%	1.3%	1.2%
New South Wales	35.7%	34.7%	33.2%
Northern Territory	0.7%	0.7%	0.7%
Queensland	18.3%	18.6%	20.0%
South Australia	6.4%	6.4%	6.9%
Tasmania	2.1%	2.0%	1.8%
Victoria	28.4%	26.3%	25.7%
Western Australia	9.2%	10.0%	10.4%
Total	100.0%	100.0%	100.0%

Source: ABS 2013, TBR Ref: W1/S2

Table 7 above identifies the relative importance of States to each other based upon the distribution of NTE firms in Australia. The broad pattern follows population distribution.

The proportion of Core NTE firms is slightly less than all Australian firm percentages in Queensland, South Australia and Western Australia and the same in Northern Territories. The proportion of NTE firms is greater than the percentage of all firms in the economy in ACT, NSW, Tasmania and Victoria. The State with the highest overall % of NTE firms is New South Wales which is primarily the result of population dynamics. Victoria has the highest concentration of NTE firms compared to its all state percentage of all firms. (28.4% compared to 25.7%)

Table 8: NTE employment by State as a % of all Australia employment

Employment %	Core NTE	All NTE	All Firms
Australian Capital Territory	2.8%	2.3%	1.9%
New South Wales	30.8%	31.0%	31.3%
Northern Territory	1.5%	1.3%	1.1%
Queensland	21.2%	20.1%	20.0%
South Australia	7.0%	6.8%	7.2%
Tasmania	2.3%	2.0%	2.0%
Victoria	23.3%	24.8%	24.9%
Western Australia	11.1%	11.7%	11.6%
Total	100.0%	100.0%	100.0%

Source: ABS 2013, TBR Ref: W1/S2

The major NTE State employers are New South Wales, Queensland and Victoria which is unsurprising given the overall distribution of population and economic activity. Similar patterns of distribution are shown across firm numbers, employment and sales revenue but we see a slight rebalancing of the importance of NTE at State level when we look at Table 9 below, the sales revenue table.

In all cases except South Australia and Victoria the proportion of revenue from NTE activities is slightly higher than the % revenue on all firm activities. Therefore it is disproportionately important to total revenue in these six State economies.

This is particularly so in Queensland.

Table 9 : NTE Sales Revenue as a proportion of all revenue by State

State	Turnover %	Core NTE	All NTE	All Firms
Australian Capital Territory		2.7%	2.0%	1.6%
New South Wales		30.8%	28.3%	29.5%
Northern Territory		1.5%	1.0%	1.0%
Queensland		21.2%	17.8%	19.0%
South Australia		6.8%	7.0%	6.9%
Tasmania		2.3%	2.1%	1.8%
Victoria		23.6%	23.6%	24.2%
Western Australia		11.2%	10.2%	10.8%
Total		**100.0%**	**100.0%**	**100.0%**

Source: ABS 2013, TBR Ref: W1/S2

In Table 10 below we take a different look at these numbers in order to better understand the importance of the NTE within each State economy. We use Employment as a proxy for this.

From this table we understand that the NTE is relatively most important to each State economy in ACT followed by Northern Territory at 12.4% and 11.2% respectively of all employment.

There will be different explanations for this bearing in mind the geography and economic functionality of two states which in most respects could not be more different. But basic levels of drink and food related services are likely to result in a widely spread infrastructure across Northern Territory in support of relatively large numbers of commercial and private vehicle journeys including people not actually living in the State but who want to access or cross it.

The usual sector spread structure of developed regional economies will be absent from a geography as specialised in its range of sector organisation type as ACT.

The most important fact to take from Table 10 is that 8.5% of all employment is based around core NTE activities and that in the case of all States except South Australia this has increased over the 5 year time frame. The South Australia % does seem to be a continuing trend since it is seen across 2012 and 2013.

The current structural changes in the South Australian economy make it most important that businesses that may provide future employment opportunity are supported.

The Victoria figure is the lowest of all percentages which suggests a more diversified economy.

In balancing the proportionality of employment impact by State we should note that Sydney SD at c$19 billion and Melbourne at c$16.5 billion account for almost 36% of NTE sales in 2013.

Table 10: Core and Non-Core NTE Employment as % of all State Employment

	Core NTE			All NTE		
State	**2009**	**2012**	**2013**	**2009**	**2012**	**2013**
Australian Capital Territory	11.9%	12.6%	12.4%	30.6%	31.1%	30.3%
New South Wales	8.2%	8.4%	8.3%	24.9%	25.0%	25.5%
Northern Territory	9.5%	10.3%	11.2%	29.2%	27.3%	29.1%
Queensland	8.1%	8.4%	9.0%	24.3%	24.5%	25.9%
South Australia	8.5%	8.3%	8.3%	24.9%	24.6%	25.1%
Tasmania	9.0%	9.1%	9.4%	27.2%	26.7%	25.5%
Victoria	7.7%	8.1%	7.9%	25.0%	25.1%	25.6%
Western Australia	7.6%	8.0%	8.1%	25.1%	25.6%	25.9%
Australia	**8.1%**	**8.4%**	**8.5%**	**25.0%**	**25.7%**	**25.7%**

Source: ABS 2013, TBR Ref: W1/S2a

5. Local Area NTE Statistics 2009 -2013

5.1 Introduction

The primary focus of this section is the changing economic performance of the NTE economy in key Australian local areas. Not all major centres are covered but LGAs within State Capitals with the exception of ACT all feature together with other collocated places to the central hubs within each State.

In particular the Melbourne CBD and four associated LGAs in the Greater Melbourne Metropolitan area are included as is Parramatta which shares a hinterland with the hub of Sydney CBD.

In examining the performance of the LGAs we should note that messages in the data require more detailed investigation at each local level to fully understand the nature of the performance.

The first step in required additional detail is activity breakdowns as per Table 6: Economic Comparison NTE Activities – Australia – 2009 -2013 above on the National Economy.

Therefore we have chosen not to examine performance of individual LGAs on a place by place basis as there is not sufficient detail from ABS to provide a complete local picture.

Primary differences are commented upon in looking at the LGA centres side by side through comparative tables of firms, employment and sales revenue over the five year period such as Table 14 NTE Firm Change in the LGAs 2009-2013.

In this section we see

- The relative and relevant impact of drink led businesses and how that is changing
- Similarly how the food and entertainment led sub sectors are changing
- The relative and changing importance of the NTE within each local economy
- The size of Core NTE links to non-Core service providers and therefore the overall extent of the impact of the sub sector including its supply chain on the local economy
- How particular NTE economies differ to prompt thoughts about how this should lead to differences in approach

Perceptions of NTE economies are quite different within the stakeholder group and partners. These differences reflect different concerns be they community, business or stakeholder service providers. For performance to be optimised these perspectives must be joined to the same agenda as the NTE is an economy depending on the inputs of all stakeholders.

This needs strong collective leadership and structures.

Governance structures that encourage concerted stakeholder wide team response deliver successful NTE development.

Linked to governance is a process that promotes improved information sharing.

Many of the problems that challenge NTE development at the local level stem from a lack of shared information and the structures and investments which facilitate improved data sharing to help more objective decisions to bring about improvement in processes.

Poor data access and sharing can be overcome. As a specific public health related example the debate about the disclosure of information that can be collected at ED departments is undermined by uninformed arguments on the rights of individuals to anonymity. In reality successful processes to improve police

knowledge of location and clustering of crimes against the person do not challenge anonymity[45]. Addressing such subjects are central to optimising the NTE economy since success is based upon the collective attitude and actions of people to improve overall benefit from the use of spaces.

To supplement the data which defines the size and changing nature of the NTE in this study a separate questionnaire has been prepared with questions about the research and the needs of local NTE development. This is available on line and has been flagged to NLGDAAC members.

5.2 The LGA Geographies

The geographies in this study are the LGAs of

- Adelaide City Council (SA)
- Brisbane City Council (QLD)
- Byron Shire Council* (NSW)
- City of Greater Dandenong (VIC)
- Newcastle City Council (NSW)
- Parramatta City Council (NSW)
- City of Port Philip (VIC)
- City of Darwin (NT)
- Frankston City Council* (VIC)
- Gold Coast City Council* (QLD)
- City of Hobart (TAS)
- Maroondah City Council (VIC)
- City of Melbourne (VIC)
- City of Perth (WA)
- City of Sydney (NSW)

In all cases economic data is presented by firm numbers, employees and sales revenue and in the Core NTE sub segments of

- Drink,
- Entertainment,
- Food.

The sub segments are important. They provide the first step to the identity and changing proportionality of the impact of NTE businesses that deliver economic benefit to these areas.

When studying the figures below we need to especially note the quite different changes throughout the five years under review. For example a location may show increase driven by very recent change or it may come from the first year of the period. It is important to study the year by year change and to relate this to local experience.

5.3 The NTE LGA City Administrations

Many of the 15 Australian LGAs that are measured in this study are more identifiable for their differences than for their similarities. Gold Coast City is a unique administrative geography with well over 500,000 people and many urban centres, including Surfers Paradise.

[45] The Cardiff Model - Professor Jonathan Shepherd - Cardiff University Hospital

The Brisbane LGA covers close to 70% of the entire Metropolitan Area of Brisbane with an even larger population than the Gold Coast.

By comparison the CBD hubs of Melbourne, Sydney, Perth and Adelaide are small physical geographies with relatively small resident populations but characterised by large movements of people for work or for leisure. They are powerful NTE economic entities in their own right.

Locations such as Parramatta in New South Wales and Greater Dandenong in Victoria represent independent urban concentrations with quite different 'raison d'etre' for their existence. They underline the fact that there is not simply one type of NTE.

All these places have NTE economies of one size, shape or another that are brought into a common template by the standard NTE activities which we interrogate in our analysis.

Each place has experience to share with the others. This is part of NLGDAAC purpose.

The trend in NTE activity is important but it is most important when seen in the context of its own individual local history and future needs. The LGA analysis provides opportunity for each place to reflect upon change and how it might change in the future to meet local objectives.

5.4 Constraints

Care should be taken in any consideration of differences in employment between the years 2009 to 2012 and 2013 since ABS has changed its classification of firms in a specific employment cohort to focus on average employment, rather than whole year numbers of employees in a firm.

This may impact on reported employment in Core NTE sectors, with companies being re-classified from the 20+ cohort to the 1-19 cohort. Bars and restaurants for example might have 50+ employees during a year, but actually have an average employment of less than 20.

The Core NTE is best studied at a local geography level for policy development purposes.

Sydney LGA is a compact economic geography with reasonably clear boundaries and high demands from all key elements of its communities whilst considerable parts of the Core Melbourne NTE are outside its CBD geography stretching into suburbs such as Carlton and Fitzroy.

Large urban centres invariably contain more than one NTE and continuing the example St. Kilda would be considered a completely different location for detailed study as one part of Port Phillip.

Places such as Hobart and Darwin act as smaller hubs for larger hinterlands in which habitation is sparse whilst locations such as Greater Dandenong and Parramatta are independent hub centres which nevertheless also interact as spokes leading in and out of a larger metropolis.

5.5 Proportionality

5.5.1 Population defines the NTE

Australia has a distinctive economic map driven by its urban population concentrations. The population concentrations drive the geography of economic development and the mechanisms of government facilitate this at Local, State and Federal levels. The map of major NTE concentrations follows these patterns. The large centres of population provide levels of settlement and work which explain the higher levels of demand for NTE services.

The routines of daily employment, the pleasures taken from living within communities or the pattern of arrival and departure of business people and ordinary tourists deliver the context of the spending patterns

and capacity which stands behind this sector. Table 11 below illustrates the populations of the wider metropolitan hinterlands of LGAs in the study.

Thus Sydney with an estimated 4.3 million people[46] provides the metropolitan context for this study of an LGA with c184,000 inhabitants. This is the CBD of Sydney and therefore the place where the highest proportion of metropolitan Sydney-siders head for work thus adding to the resident population during the working week. This daily commercial migration is augmented by many more tourists from Australia and abroad.

Each of these LGA locations has its own story. The places are very different. Recognising these differences is a key aspect of beginning to approach the particular challenge of supporting appropriate local NTE economic growth. In Table 11 the population figures begin to bring NTE and LGA geography into more related scale. To cite four extreme examples

- LGA Gold Coast contains 100% of the population of the larger metropolitan area
- LGA Brisbane contains nearly 70%
- LGA Sydney contains only 4.3%
- LGA Melbourne contains 2.3%

Approaching economic change through smaller core locations such as those highlighted in blue makes sense. Above that line we see population representations of increasingly larger hinterlands which influence but are not the prism for measuring, understanding or facilitating change.

Table 11: City Population Data[47]

LGA	Est. Population
Sydney	4,373,433
Melbourne	4,181,021
Brisbane	2,143,121
Perth	1,901,582
Adelaide	1,263,888
Gold Coast	605,134
Newcastle	425,895
Hobart	206,560
Parramatta	166,858
Greater Dandenong	139,729
Frankston	126,458
Darwin	119,597
Maroondah	107,144
Port Phillip	91,373
Byron	29,208

Based on: ID Estimates of Cities and LGA data

[46] 2011 Census

[47] ID – The population experts – June 2013 estimates and LGA reported populations

Australia conducts a Census of population every 5 years and in the case of many of the figures above we include updated estimates by the States which follow common rules of analysis. In some cases we have used updates but all figures stand within 2011 Census estimates.

5.5.2 NTE Concentration and Identification

Table 12 below illustrates the relative concentrations or impacts of all NTE businesses in relation to all other business activities in each of the LGA economies in this study. The important figures in this table are the concentrations in the right hand column.

A concentration of 1.00 simply means that the NTEs in that location show average distribution if the location had the same distribution as the all Australia average.

Less than 1.00 flags an under concentration of NTEs on that basis and anything over 1 begins to identify the clustering of NTE activity. The figures in relation to each of the LGAs tell a widely ranging story.

Table 12 LGA NTE Firm Concentration in 2013

% of all NTEs	LGA	Core NTE	Total NTE	All other Firms	%	Total Firms	Core NTE Concentration
0.8%	Adelaide	755	2,080	12,857	0.69%	14,937	**1.14**
5.3%	Brisbane	5,124	19,853	93,332	5.25%	113,185	**1.02**
0.4%	Darwin	338	1,101	5,816	0.32%	6,917	**1.10**
0.5%	Hobart	481	1,501	5,116	0.31%	6,617	**1.63**
2.5%	Melbourne	2,366	6,376	28,909	1.64%	35,285	**1.51**
0.5%	Greater Dandenong	516	1,971	10,283	0.57%	12,254	**0.95**
0.3%	Maroondah	331	1,434	8,264	0.45%	9,698	**0.77**
1.2%	Port Phillip	1,147	4,032	13,538	0.82%	17,570	**1.47**
0.8%	Perth	778	2,729	14,670	0.81%	17,399	**1.01**
5.3%	Sydney	4479	13,332	28,549	1.94%	41,881	**2.71**
0.8%	Newcastle	773	2,599	10,946	0.63%	13,545	**1.28**
1.1%	Parramatta	1,039	3,964	18,788	1.06%	22,752	**1.03**
0.3%	Byron	327	1,144	4,618	0.27%	5,762	**1.23**
0.4%	Frankston	361	1,375	8,055	0.44%	9,430	**0.87**
2.9%	Gold Coast	2,795	9,641	47,916	2.67%	57,557	**1.08**
76.9%	*Rest of Australia*	*73,683*	*284,841*	*1,485,021*	82.14%	*1,769,862*	
100.0%	**Australia**	**95,839**	**357,973**	**1,796,678**	**100.00%**	**2,154,651**	

Source: ABS 2013, TBR Ref: W1/S2

The three LGAs highlighted in red have genuine below average concentrations. They appear to be weak NTE centres or perhaps capable of expansion but in each case they sit within Greater Melbourne and local analysis may show that the central Melbourne LGA may address some of the NTE service needs that result in low concentrations in the collocated LGA geographies.

It is interesting that all three places are in the Melbourne Metropolitan area. It is likely that central Melbourne LGA addresses the needs of people who commute to seek leisure services.

Similarly although the Melbourne LGA concentration is high at 1.51 it would be reasonable to wonder why it is not higher. The most likely reason is that the Melbourne NTE is spread across wider inner city geographies stretching north into Fitzroy and Carlton and as we can see - since Port Philip is in this study – south into Port Philip which also has an above average concentration.

The highest concentration shown in Table 12 is that of Sydney and this is because there is a genuinely high concentration of Sydney NTE businesses within the CBD.

The fact that Sydney has this high concentration is relevant to concerns about the optimisation of safety. It underlines the need for policy development such as Open Sydney 2030.

Parramatta stands in a similar relation to Sydney but has a slightly above average NTE concentration. Whether these figures indicate opportunity or reflect a pattern that should not be disturbed can only be understood by local analysis and experience of needs.

Our recent research in the London West End shows how very high concentrations of NTE business correlate with high levels of crime and related anti-social behaviour.

The figures for Brisbane and Gold Coast are interesting because they are so close to the average at 1.02 and 1.08 respectively. The primary reason for this is all about geographic scale.

The two LGAs are in fact large and broad cross sections of total Metropolitan economies and therefore their own NTE concentrations are hidden. It is 100% certain that if we measured the concentration for say, Surfers Paradise we would find a very much higher figure than 1.08.

Table 13 Column 1 flags the percentage of the actual LGA Core NTE firm numbers in Column 3 that comprise part of the total metropolitan or Statistical Division geographies.

Table 13: NTE LGA Firm Percentages in Statistical Divisions 2013

%SD	Firms in LGA	Core NTE	Non-Core NTE	Supply NTE	Total NTE	All Other Activities	Total
70.3%	Brisbane	5,124	13,524	1,205	19,853	93,332	113,185
76.3%	Darwin	338	718	45	1,101	5,816	6,917
11.8%	Melbourne	2,366	3,517	493	6,376	28,909	35,285
2.6%	Greater Dandenong	516	1,256	199	1,971	10,283	12,254
1.6%	Maroondah	331	1,000	103	1,434	8,264	9,698
5.7%	Port Phillip	1,147	2,362	523	4,032	13,538	17,570
1.8%	Frankston	361	914	94	1,375	8,055	9,430
23.2%	Sydney	4,479	7,961	321	13,332	28,549	41,881

Source: ABS 2013, TBR Ref: W1/S4a

Brisbane has 70.3% of its NTE firms in its LGA. Darwin at 76.3% is a similar high percentage.

We see again part of the story as between Melbourne and Sydney since Melbourne has only 11.8% of all its NTE businesses in the CBD LGA whilst Sydney has 23.2%. It is less concentrated.

Equally LGA Melbourne has c6.5 times as many Core NTE firms as Frankston.

5.6 Measured Change in the LGAs in the Study - 2009 to 2013

The Tables that follow represent the lowest detail of economic activity analysis in this study. This is different from the 2011 Report where the analysis at local LGA level went down to 4 and 3 digit ANZSICs.

Issues surrounding the willingness of the ABS to disclose more detailed figures within local geographies explain this change. Addressing the challenges of future analysis and a future data template are addressed in the Section 8 Appendix A at the end of the Report.

In these Tables we set out firm change, employment change and sales revenue change performance for each of the LGA geographies that were in the original study but across the restated time frame of 2009 to 2013.

Changes are shown for Drinks led, Entertainment led and Food led businesses over the five years.

Discussion of key highlights follows each table for Firms, Employment and Sales Revenue.

As mentioned earlier we have no 2009 statistics on the three new geographies and therefore we are introducing them from subsequent sub section 5.10 in separate commentary and discuss change across the 2011 to 2013 period for those places in exactly the same way.

To assist the eye in busy tables we have used colour coding to identify some of the key messages.

Thus:

Orange bars indicate absolute decline from 2009 to 2013 in any category

Green colour bars indicate growth of at least 10% from 2009 to 2013 in any category

Yellow is used as a standard to indicate where the overall increase of an NTE Is greater than 10% (the reference inflation level for the period when looking at the Sales Revenue Table) e.g. Brisbane shows an 11.1% increase in firm numbers.

Light Blue indicates the overall NTE share of all economic activity in the specified Geography – e.g. Adelaide NTE represents 5.1% of all the firms in its geography and Melbourne is 6.7%

The sub categories are made up of the ANZSIC Codes listed at Section 9 Appendix B and consistent with our previous report across these categories.

5.7 NTE Firm Changes in the LGAs – 2009 - 2013

The commentary below Table 14 picks out key differences or changes over the five year period.

Table 14 NTE Firm Change in the LGAs 2009-2013

LGA	NTE Sub-Sector	2009	2011	2012	2013	Firm Change	% Change	% of all Firms in 2013
Adelaide	Drink	118	109	112	110	-8	-6.8%	0.7%
	Entertainment	122	118	121	112	-10	-8.2%	0.7%
	Food	505	511	560	533	28	5.5%	3.6%
	Total	**745**	**738**	**793**	**755**	**10**	**1.3%**	**5.1%**
Brisbane	Drink	262	280	271	268	6	2.3%	0.2%
	Entertainment	1,597	1,703	1,676	1,562	-35	-2.2%	1.4%
	Food	2,780	3,214	3,307	3,294	514	18.5%	2.9%
	Total	**4,612**	**5,167**	**5,254**	**5,124**	**512**	**11.1%**	**4.5%**
Darwin	Drink	21	23	23	19	-2	-9.5%	0.3%
	Entertainment	123	126	118	105	-18	-14.6%	1.5%
	Food	197	214	220	214	17	8.6%	3.1%
	Total	**341**	**363**	**361**	**338**	**-3**	**-0.9%**	**4.9%**
Greater Dandenong	Drink	31	35	25	27	-4	-12.9%	0.2%
	Entertainment	99	90	96	87	-12	-12.1%	0.7%
	Food	350	391	406	402	52	14.9%	3.3%
	Total	**480**	**516**	**527**	**516**	**36**	**7.5%**	**4.2%**
Hobart	Drink	71	70	69	64	-7	-9.9%	1.0%
	Entertainment	118	117	114	120	2	1.7%	1.8%
	Food	264	278	295	297	33	12.5%	4.5%
	Total	**453**	**465**	**478**	**481**	**28**	**6.2%**	**7.3%**
Maroondah	Drink	24	26	21	18	-6	-25.0%	0.2%
	Entertainment	111	120	115	101	-10	-9.0%	1.0%
	Food	197	216	221	212	15	7.6%	2.2%
	Total	**332**	**362**	**357**	**331**	**-1**	**-0.3%**	**3.4%**
Melbourne	Drink	256	254	258	240	-16	-6.3%	0.7%
	Entertainment	456	495	501	468	12	2.6%	1.3%
	Food	1,325	1,639	1,686	1,658	333	25.1%	4.7%
	Total	**2,037**	**2,388**	**2,445**	**2,366**	**329**	**16.2%**	**6.7%**
Newcastle	Drink	111	101	98	102	-9	-8.1%	0.8%
	Entertainment	278	276	276	259	-19	-6.8%	1.9%
	Food	400	412	428	412	12	3.0%	3.0%
	Total	**789**	**789**	**802**	**773**	**-16**	**-2.0%**	**5.7%**
Parramatta	Drink	45	46	46	41	-4	-8.9%	0.2%
	Entertainment	240	250	234	220	-20	-8.3%	1.0%
	Food	646	761	804	778	132	20.4%	3.4%
	Total	**931**	**1,057**	**1,084**	**1,039**	**108**	**11.6%**	**4.6%**
Perth	Drink	91	98	109	116	25	27.5%	0.7%
	Entertainment	128	130	125	128	0	0.0%	0.7%
	Food	457	502	516	534	77	16.8%	3.1%
	Total	**676**	**730**	**750**	**778**	**102**	**15.1%**	**4.5%**
Port Phillip	Drink	112	115	109	114	2	1.8%	0.6%
	Entertainment	466	483	469	453	-13	-2.8%	2.6%
	Food	506	577	591	580	74	14.6%	3.3%
	Total	**1,084**	**1,175**	**1,169**	**1,147**	**63**	**5.8%**	**6.5%**
Sydney	Drink	416	441	562	547	131	31.5%	1.3%
	Entertainment	835	874	838	783	-52	-6.2%	1.9%
	Food	2,729	3,066	3,290	3,148	419	15.3%	7.5%
	Total	**3,981**	**4,381**	**4,690**	**4,479**	**498**	**12.5%**	**10.7%**

Source: Source: ABS 2013, TBR Ref: W1/

5.7.1 Firm Numbers increasing

Looking at percentage growth in business numbers over the five year period shows the following pattern. The largest increases in firm numbers are recorded in

- Melbourne 16.2% - 329 firms
- Perth 15.1% - 102 firms
- Sydney 12.5% - 498 firms
- Parramatta 11.6% - 108 firms
- Brisbane 11.1% - 512 firms (but having lost 130 in 2013)

5.7.2 Year on Year Firm Growth

If we study changes in firm numbers over the five year period we see that in many cases growth peaked in 2011. Only in Perth and Hobart do we see year on year firm increases[48].

5.7.3 Firm Numbers declining

The places showing decline in overall firm numbers are

- Darwin – 3 firms in the four years but 23 in the last year meaning that the peak was even higher.
- Maroondah has one firm less over the entire period but lost 26 firms from 2012 to 2013
- Newcastle lost 29 firms in 2013 but 16 overall from 2009.

As we will see in other tables the pattern of change in Darwin is not all negative. There appears to be increase in the size of its continuing firms which feeds into sales revenue.

Most locations lost firms in 2013 which suggests a pause in the economy.

Recent 2014 ABS figures suggest the economy has grown in 2014 led by these outlets. The change is so small in terms of overall statistics that it may also result from the adjustments made by the ABS in 2013 in its data procedures.

The big picture in 2013 shows some firm losses across most locations.

5.7.4 Change towards Food

A key aspect of change is the extent to which within the total change in firms numbers there has been movement between Drink led, Entertainment led and Food led businesses.

In the firm data the biggest change has been that all LGAs show an increase in food firm numbers over the five years whether the total numbers of NTE firms have increased or declined.

At the top of the list is Brisbane with an increase of 514 firms but again we should discount this in terms of relative significance since the LGA covers such a large part of the economic geography.

But it does account for virtually all the firm increases in the Brisbane NTE which is a net 512 firms

[48] In so far as that is possible since 2010 is not analysed

Following Brisbane the picture is as follows **with food firm change** in brackets. Sydney 498 total firm increase (419);Melbourne 329 total firm increase (333); Parramatta 108 total firm increase (132); Perth 102 total firm increase (77); Port Phillip 63 total firm increase (74); Greater Dandenong 36 total firm increase (52); Hobart 28 total firm increase (33); Adelaide 10 total firm increase (28); Darwin -3 total firm decline (17); Maroondah -1 total firm loss (15); Newcastle -16 total firm decline (12 increases in food) In the case of Darwin, Maroondah and Newcastle where there has been some overall firm decline the food firm increases have made up the deficits.

A further aspect of this change illustrated by the firm analysis is that most places show little change in Entertainment firms but tend to show reductions. This is one aspect of the analysis where the lack of greater ABS ANZSIC detail makes explanation impossible because we cannot see if this is due to a general trend e.g. a movement to on line gambling or a more complex series of different local trends in individual activities. Where the figure in brackets (Food firm increases) exceeds the total firms figure there has been decline in the other two sectors of drink and entertainment.

Perth and Sydney show firm growth overall with no loss in any sectors but it is important that LGA members look at their local figures. Perth for example shows no significant change in its Entertainment firm numbers over the five years. There is a slight 'high' in 2011 as with many of the individual figures.

5.8 Employment Change in the LGAs - 2009-2013

In Table 15 below we show changes over the five years in NTE employment.

The 12 original LGA NTEs in this part of the analysis accounted for 182,790 employees or 18.5% of all the Core NTE employment in the Australian economy in 2013. They show an 8% increase in employment since 2009 compares with the overall NTE % increase of 6.3% and the overall increase in employment in the economy of 3.4% on the same basis.

Thus the NTE urban centres are driving a slightly higher rate of increase in employment.

This will not be true for all locations but it indicates how the NTE can help economic growth.

5.8.1 Increases in Employment

Brisbane at 14% shows the largest percentage increase in employment and therefore the largest numerical increase 0f 7,524 people in NTE work. Sydney adds an additional 2,002 employees and Melbourne 1,897 employees.

As we noted earlier in the report Melbourne change in the NTE reflects economic change in smaller part of its central NTE geography than Sydney and the employment growth on a percentage basis is considerably higher. Some parts of Port Philip are an aspect of this Inner city NTE in Melbourne and Port Phillip posts an increase in employment of 1,122 people.

Newcastle, Parramatta and Darwin are also places which show employment increase. In the case of Newcastle all the increase comes in Food businesses. Most of the increase is accounted by an increase in the average size of Newcastle food firms from 11.5 to 13.5 employees and not by firm increases.

The most important aspect of employment change is that Melbourne Food employment shows an increase of nearly 3 times as many additional people as any other LGA NTE. With Port Phillip and Greater Dandenong figuring highly as well it helps to confirm the food capital reputation of Melbourne.

Port Phillip, Sydney and Hobart show entertainment led employment increases.

Table 15 NTE Employment Change in the LGAs 2009 – 2013

LGA	NTE Sub-Sector	2009	2011	2012	2013	Imp Change	% Change	% of all Local Emp. In 2013
Adelaide	Drink	2,337	2,223	1,899	2,125	-212	-9.1%	2.6%
	Entertainment	1,598	1,733	2,040	1,709	111	7.0%	2.1%
	Food	6,444	6,189	6,422	6,528	84	1.3%	8.0%
	Total	**10,378**	**10,145**	**10,361**	**10,361**	**-17**	**-0.2%**	**12.7%**
Brisbane	Drink	4,580	4,478	4,474	4,890	309	6.8%	0.8%
	Entertainment	14,296	12,286	16,961	16,594	2,298	16.1%	2.7%
	Food	32,347	35,437	36,865	37,097	4,750	14.7%	6.1%
	Total	**51,057**	**52,015**	**58,299**	**58,581**	**7,524**	**14.7%**	**9.7%**
Darwin	Drink	315	320	512	518	203	64.5%	1.2%
	Entertainment	1,906	1,829	1,754	1,623	-283	-14.9%	3.7%
	Food	2,329	2,341	2,604	2,620	291	12.5%	5.9%
	Total	**4,550**	**4,490**	**4,870**	**4,761**	**211**	**4.6%**	**10.8%**
Greater Dandenong	Drink	254	290	207	238	-16	-6.3%	0.3%
	Entertainment	1,928	1,570	1,587	1,396	-531	-27.6%	1.6%
	Food	1,637	2,032	2,491	2,276	639	39.0%	2.6%
	Total	**3,819**	**3,892**	**4,285**	**3,910**	**92**	**2.4%**	**4.5%**
Hobart	Drink	1,215	996	1,021	1,076	-140	-11.5%	2.4%
	Entertainment	1,286	1,368	1,269	1,562	276	21.5%	3.5%
	Food	3,396	3,083	3,168	3,245	-151	-4.4%	7.3%
	Total	**5,897**	**5,447**	**5,457**	**5,883**	**-14**	**-0.2%**	**13.2%**
Maroondah	Drink	215	260	238	269	54	25.1%	0.5%
	Entertainment	1,137	892	899	854	-283	-24.9%	1.7%
	Food	1,276	1,366	1,465	1,421	145	11.4%	2.9%
	Total	**2,628**	**2,518**	**2,603**	**2,544**	**-84**	**-3.2%**	**5.1%**
Melbourne	Drink	3,654	3,303	3,160	3,469	-185	-5.1%	1.3%
	Entertainment	6,430	5,303	5,472	5,589	-842	-13.1%	2.1%
	Food	13,858	15,641	15,999	16,781	2,923	21.1%	6.4%
	Total	**23,942**	**24,247**	**24,630**	**25,839**	**1,897**	**7.9%**	**9.8%**
Newcastle	Drink	1,739	1,542	1,764	1,950	210	12.1%	2.1%
	Entertainment	3,831	3,419	3,761	3,453	-378	-9.9%	3.8%
	Food	4,489	4,801	4,873	5,563	1,074	23.9%	6.1%
	Total	**10,059**	**9,761**	**10,398**	**10,965**	**907**	**9.0%**	**12.0%**
Parramatta	Drink	550	700	678	709	159	28.8%	0.8%
	Entertainment	2,353	2,242	2,254	1,961	-392	-16.7%	2.1%
	Food	4,743	5,159	5,885	5,240	497	10.5%	5.6%
	Total	**7,646**	**8,101**	**8,817**	**7,910**	**264**	**3.5%**	**8.4%**
Perth	Drink	1,774	1,588	1,756	2,010	236	13.3%	2.1%
	Entertainment	2,148	1,807	1,490	1,403	-745	-34.7%	1.5%
	Food	6,506	6,244	6,364	6,796	290	4.5%	7.2%
	Total	**10,428**	**9,640**	**9,609**	**10,208**	**-219**	**-2.1%**	**10.9%**
Port Phillip	Drink	1,607	1,562	1,539	1,572	-34	-2.1%	1.6%
	Entertainment	3,441	3,539	3,692	3,559	119	3.5%	3.7%
	Food	5,309	5,463	6,069	6,347	1,038	19.6%	6.6%
	Total	**10,356**	**10,565**	**11,300**	**11,478**	**1,122**	**10.8%**	**11.9%**
Sydney	Drink	4,311	3,967	4,804	5,179	868	20.1%	1.3%
	Entertainment	6,736	6,573	6,786	6,913	177	2.6%	1.8%
	Food	17,299	16,651	18,337	18,256	957	5.5%	4.7%
	Total	**28,346**	**27,191**	**29,927**	**30,348**	**2,002**	**7.1%**	**7.8%**

5.8.5 Commentary on LGA Darwin Employment Statistics – 2009-2013

Darwin merits particular comment here. Its numbers of firms have slightly declined over the five years (although static in the last two years) but in 2012 it posted an increase in the numbers of employees in the drinks sector[49] – rising from 320 in 2011 to 512 employees. This is sustained in 2013.

This implies that the average size of a drinks business increased from 14 to 22 people per establishment. The increase per establishment is sustained in the revenue figures.

The Pubs and Clubs Australia website gives an insight into the lively range of venues on offer in the city and a Central Darwin Car Parking Generation and Utilization Study has suggested large changes in the distribution of parking charges which seems to reflect growth in these businesses.

Further comment is difficult without the ANZSIC level data that is not available to this report.

Another set of unusual local statistics which may be hidden in the Table is the change that is recorded at Greater Dandenong LGA where although there is no material change in the overall employment numbers there us a significant switch between entertainment and food outlet reported employment.

Whilst this might result from a reclassification it suggests that a number of outlets in the LGA see themselves as Food based rather than Entertainment based. This change is not visible in the firm numbers which are relatively similar throughout the period.

5.9 Sales Revenue Change in the LGAs - 2009-2013

The percentage of combined total NTE sales revenue derived from the 12 LGA centres for 2013 is 18.3% (Over $18 billion). It represents a 13.5 % increase across the 12 locations since 2009, which is slightly more than the 13% average for the total Australian NTE market.

In so far as the percentage is closer to the country average for sales than for employment the message may be that there is more price competition in the city LGAs.

In this section we look more closely through Table 16 below at LGA by LGA sales revenue performance.

5.9.1 Increases in Sales Revenue

The standout increase in sales revenue comes from the Brisbane statistics. Here we should not be so qualified about the nature of the economic background.

At 21.3 % and over $1 billion in sales revenue we flag the need to look more closely at the reasons for this change since we would expect NTE revenue in such a widely efined local economy to be much nearer to the average increase of 13% across the country.

Sydney 15.4%; Port Phillip 14.5%; Melbourne 12.2% and Newcastle at 11.9% show the highest levels of revenue increase across the 5 years in core centre NTEs but all places with two exceptions show some revenue increase.

Hobart at 8.4% and Darwin and Adelaide at 7.1% post the next highest increases in revenue

[49] http://www.pubsandclubs.com.au/venues/darwin-and-surrounds/

It will be interesting to see how the new Adelaide spatial development programme contributes to stimulating the NTE economy in the way that changes in Sydney show in these figures.

Table 16 NTE Sales Revenue Change in the LGAs 2009-2013

LGA	NTE Sub-Sector	2009	2011	2012	2013	Sales Change	% Change	% share of Economy in 2013
Adelaide	Drink	$214.4	$209.1	$172.6	$196.3	-$18.0	-8.4%	0.9%
	Entertainment	$191.5	$203.3	$251.4	$216.4	$24.9	13.0%	1.0%
	Food	$543.1	$537.9	$583.5	$603.2	$60.2	11.1%	2.8%
	Total	**$949.0**	**$950.3**	**$1,007.5**	**$1,016.0**	**$67.1**	**7.1%**	**4.8%**
Brisbane	Drink	$417.4	$423.2	$406.5	$451.9	$34.5	8.3%	0.3%
	Entertainment	$1,834.1	$1,525.5	$2,091.0	$2,101.4	$267.3	14.6%	1.3%
	Food	$2,726.4	$3,080.1	$3,349.2	$3,428.3	$701.9	25.7%	2.2%
	Total	**$4,932.4**	**$4,978.7**	**$5,846.7**	**$5,981.6**	**$1,049.1**	**21.3%**	**3.8%**
Darwin	Drink	$37.9	$39.1	$46.5	$47.8	$10.0	26.4%	0.4%
	Entertainment	$228.5	$214.4	$216.2	$205.6	-$22.9	-10.0%	1.8%
	Food	$196.3	$203.5	$236.6	$242.1	$45.8	23.4%	2.1%
	Total	**$462.6**	**$457.0**	**$499.3**	**$495.5**	**$32.9**	**7.1%**	**4.3%**
Greater Dandenong	Drink	$21.4	$25.2	$18.8	$22.0	$0.6	2.8%	0.1%
	Entertainment	$231.1	$184.1	$195.6	$176.8	-$54.2	-23.5%	0.8%
	Food	$138.0	$176.6	$226.3	$210.4	$72.4	52.4%	0.9%
	Total	**$416.0**	**$412.0**	**$440.8**	**$409.2**	**-$6.8**	**-1.6%**	**1.8%**
Hobart	Drink	$110.6	$96.7	$92.7	$99.4	-$11.2	-10.1%	0.9%
	Entertainment	$154.1	$160.4	$156.5	$197.8	$43.7	28.4%	1.7%
	Food	$286.2	$268.0	$287.8	$299.9	$13.7	4.8%	2.6%
	Total	**$550.9**	**$525.2**	**$537.0**	**$597.1**	**$46.2**	**8.4%**	**5.1%**
Maroondah	Drink	$18.2	$22.6	$21.6	$24.9	$6.7	37.2%	0.2%
	Entertainment	$136.3	$104.6	$110.9	$108.1	-$28.2	-20.7%	0.8%
	Food	$107.5	$118.7	$133.1	$131.3	$23.8	22.1%	1.0%
	Total	**$273.6**	**$259.5**	**$265.6**	**$264.3**	**-$9.3**	**-3.4%**	**2.1%**
Melbourne	Drink	$360.2	$344.9	$287.1	$320.6	-$39.6	-11.0%	0.5%
	Entertainment	$770.7	$621.9	$674.6	$707.7	-$63.0	-8.2%	1.0%
	Food	$1,168.0	$1,359.5	$1,453.5	$1,550.8	$382.8	32.8%	2.3%
	Total	**$2,299.0**	**$2,326.3**	**$2,415.2**	**$2,579.1**	**$280.2**	**12.2%**	**3.8%**
Newcastle	Drink	$173.3	$160.1	$160.3	$180.2	$6.9	4.0%	0.8%
	Entertainment	$459.2	$400.9	$463.7	$437.2	-$21.9	-4.8%	1.8%
	Food	$378.3	$417.3	$442.7	$514.1	$135.8	35.9%	2.2%
	Total	**$1,010.8**	**$978.2**	**$1,066.7**	**$1,131.5**	**$120.7**	**11.9%**	**4.8%**
Parramatta	Drink	$75.4	$86.9	$61.6	$65.5	-$9.9	-13.1%	0.3%
	Entertainment	$282.0	$262.9	$277.9	$248.4	-$33.7	-11.9%	1.0%
	Food	$399.7	$448.4	$534.6	$484.3	$84.5	21.1%	2.0%
	Total	**$757.2**	**$798.2**	**$874.2**	**$798.2**	**$41.0**	**5.4%**	**3.3%**
Perth	Drink	$170.4	$158.4	$159.5	$185.7	$15.4	9.0%	0.5%
	Entertainment	$257.5	$211.9	$183.6	$177.7	-$79.8	-31.0%	0.5%
	Food	$548.3	$542.7	$578.1	$628.0	$79.7	14.5%	1.8%
	Total	**$976.2**	**$913.1**	**$921.3**	**$991.4**	**$15.2**	**1.6%**	**2.8%**
Port Phillip	Drink	$135.4	$135.8	$139.8	$145.3	$9.9	7.3%	0.6%
	Entertainment	$412.4	$415.1	$455.2	$450.7	$38.3	9.3%	1.8%
	Food	$447.4	$474.8	$551.3	$586.5	$139.1	31.1%	2.3%
	Total	**$1,032.4**	**$1,064.2**	**$1,146.4**	**$1,182.6**	**$150.2**	**14.5%**	**4.7%**
Sydney	Drink	$445.1	$422.4	$534.7	$586.3	$141.2	31.7%	0.6%
	Entertainment	$939.7	$886.1	$961.7	$1,006.4	$66.7	7.1%	1.1%
	Food	$1,458.1	$1,447.3	$1,665.9	$1,687.1	$229.0	15.7%	1.8%
	Total	**$2,842.8**	**$2,755.8**	**$3,162.4**	**$3,279.8**	**$437.0**	**15.4%**	**3.5%**

Source: ABS 2013, TBR Ref: W1/S8

5.9.2 Year on Year Sales Growth

Adelaide; Brisbane; Melbourne and Port Phillip all show year on year sales growth. In the case of Adelaide the annual changes are small but produce a $67 million increase in revenue by 2013.

5.9.3 Decline in Sales Revenue

Greater Dandenong and Maroondah are the two locations which show overall Core NTE revenue decline in comparing 2009 with 2013.

This may reflect that non CBD based NTE centres are unlikely to show the growth in NTE as a sector that we find in the primary CBD concentrations. The CBD clientele will include people from these places.

5.9.4 Changes between food and other sub sectors

There are some relatively large percentage increases in NTE food revenue.

In addition to Brisbane (25.7%) there is substantial % food growth in Greater Dandenong[50] 52%; Melbourne 32.8%; Newcastle 35.9%; Port Phillip 31.1%; Maroondah 22.1%

Of strategic note in the context of local geographies is the switch in the figures in places such as Adelaide from Drink to both Food and Entertainment.

In the Hobart figures we see a similar pronounced movement from Drink to Entertainment.

Sydney shows a large increase in Drinks outlet led sales alongside its large overall increases in Food revenue. The numbers indicate that the additional sales in Sydney primarily stem from its small bars programme which is in turn a positive part of its strategy to change the nature of the offering in bars and to introduce smaller outlets which help address regulative challenges.

5.9.5 Additional Commentary on LGA Sales Revenue Levels 2009-2013

In addition to Brisbane at 21.3% there are four standout locations for total sales revenue increase across this five year period. With actual sales levels these are

- Sydney 15.4% - $3.280 billion total sales
- Newcastle 11.9% - $1.131 billion total sales
- Melbourne 12.2% - $2.579 billion total sales
- Port Phillip 14.9% - $1.182 billion total sales

Perhaps based upon its long established reputation for food it is Melbourne which has increased its sales revenues in food by the most both in percentage and in absolute terms.

In 2013 60% of all Melbourne NTE activities are in the Food Category. Up from 50% in 2009

In second place comes Sydney but surprisingly its percentage of Food sales has not changed at 51%. In absolute terms its food sales did increase by $ 229 million.

The reason that this does not show through in the % statistics is because its Drinks led sub sector sales increased by $141 million or 37% over the 2009 figures.

[50] The Dandenong figures may result from reclassification of outlet types

It seems reasonably clear that this increase is led by initiatives such as the Sydney small bars programme. We see an increase of 131 drinks outlets in total in Sydney since 2009.

Sydney has the largest measured city centre NTE and has grown more than any other in this period. It has been far sighted enough to recognise that tackling issues around alcohol require more than regulation and it has engaged with a programme of change in drinks activities and encouraged the growth of different forms of street delivered food outlets.

The results of this are an important finding for the drinks industry as is the performance of the Sydney NTE. Here is proof positive in sales revenue growth that there is merit in offering a more socialised approach to the drinks part of the leisure industry.

Further study would be necessary but we consider it likely that this approach will have helped the other aspects of the NTE as witnessed in the increases in food segment sales.

5.10 The new LGAs in this Study

Since we were unable to access 2009 data for the three new LGAs on this study it seems sensible to group them together in terms of consistently reporting change.

We have followed exactly the same methodology and common source of figures for 2011 and 2013 and therefore the other 12 locations may be compared with these places for those years and we do so in the commentary that follows the statistical table for each new location.

Features which we highlight are

- High levels of growth in Byron Shire compared to all places in the study. At 24.1% its Food growth is higher than any other LGA except for Brisbane and Melbourne.
- Overall decline in Frankston at 4.1% and its flat NTE performance in all aspects.
- Similarly poor performance across Gold Coast especially when compared to Brisbane.

5.11 Gold Coast City Council LGA

The Gold Coast is a large widely distributed economic geography. Distributed in the sense that it contains a number of large settlements without any one settlement that particularly dominates the area and it might be best perceived as the Gold Coast Region.

It is the second largest LGA in Australia after City of Brisbane LGA.

Table 17 reports Gold Coast performance in the same format as the original 12 NTE LGAs.

The Gold Coast began to grow significantly in the early 20th century. It is a major tourist destination. It will host the 2018 Commonwealth Games.

A first look at the statistics below clarifies that its economic size in NTE terms is similar to places such as CBD Melbourne and Sydney in its numbers of NTE employees.

However in terms of NTE statistical analysis it should be considered to be more like a Brisbane with which it is co-located on a North Eastern boundary.

The statistics in this study do not indicate a growing NTE market but they do suggest that for such a large geography there is major dependence on NTE business for employment.

For example 10.9% of all Gold Coast employment in 2013 is in Core NTE activity categories.

NTE Employment levels at 28,784 are slightly down in 2013 in the core NTE but this is similar to the Brisbane LGA in that all the employment growth in the Brisbane LGA came in 2009 to 2011.

Employment levels make it one of the largest NTE LGAs in the country but this is due to its geographic span. The NTEs of CBD Melbourne and Sydney are similar in employment size but concentrated core geographies and they show significant NTE growth whereas Gold Coast City LGA does not.

Overall the figures also contrast sharply with the growth in Brisbane on a like for like basis.

The distribution of employment is very similar to Brisbane which we do not compare with other LGAs simply because it is such a large area. Its NTE trading is an aggregation of a number of centres.

Table 17 Gold Coast NTE 2011 - 2013

LGA	NTE Sub-Sector	2009	2011	2012	2013	Firm Change	% Change	% of all Firms
Firms								2013
Gold Coast	Drink	-	150	142	146	-4	-2.6%	0.3%
	Entertainment	-	1,031	987	921	-110	-10.7%	1.6%
	Food	-	1,730	1,757	1,728	-2	-0.1%	3.0%
	Total	**-**	**2,911**	**2,886**	**2,795**	**-116**	**-4.0%**	**4.9%**
Employment								
LGA	**Sub-Sector**	**2009**	**2011**	**2012**	**2013**	**Change**	**% Change**	**2013 share of economy**
Gold Coast	Drink	-	2,080	2,045	2,129	49	2.3%	0.8%
	Entertainment	-	10,095	10,158	9,533	-562	-5.6%	3.6%
	Food	-	17,069	16,974	17,122	53	0.3%	6.5%
	Total	**-**	**29,244**	**29,177**	**28,784**	**-461**	**-1.6%**	**10.9%**
Sales Revenue $'000,000								
LGA	**Sub-Sector**	**2009**	**2011**	**2012**	**2013**	**Change**	**% Change**	**2013 share of economy**
Gold Coast	Drink	-	$180.8	$185.8	$196.7	$15.9	8.8%	0.3%
	Entertainment	-	$1,183.8	$1,252.3	$1,207.2	$23.4	2.0%	1.8%
	Food	-	$1,483.7	$1,542.2	$1,582.3	$98.7	6.7%	2.3%
	Total	**-**	**$2,848.2**	**$2,980.3**	**$2,986.3**	**$138.0**	**4.8%**	**4.4%**

Source: ABS 2013, TBR Ref: W1/S8

10.9% of all Gold Coast City employment is in core NTE business activities which is a high concentration compared to say Sydney at 7.8% in 2013. This indicates the deep sector importance of NTE activities throughout the area.

Sales revenue figures indicate a similar cycle of trading activity to all NTEs. But whereas Brisbane revenues have increased by 21% Gold Coast have increased by only 4.8%.

The activities in these sectors pay relatively modestly compared to some sectors but they provide many career openings for people seeking to find work with creative enterprise interests.

The sales revenue % of all Core NTE for Gold Coast and the flat sales trajectory does not indicate that it is a growing and dynamic part of the GCC economy. We can only believe that is because the level of analysis is geographically far too high. There will be parts of the Gold Coast where the NTE is driving its economy particularly since NTE employment is such a high percentage of its overall employment.

The strategic message is simple. Smaller centre data is essential to comprehend where the Gold Coast is growing its NTE and where it is not an important feature of the economy.

5.12 Byron Shire Council LGA

Byron Shire is a local government area in the Northern Rivers region. It is completely different in scale to the Gold Coast City LGA with a population similar in size to Surfers Paradise. It is a significant NTE employer.

Table 18 Byron Shire NTE 2011- 2013

The table below looks at firm, employment and sales revenue change in Byron Shire.

LGA	NTE Sub-Sector	2009	2011	2012	2013	Firm Change	% Change	% of all Firms
Firms								2013
Byron	Drink	-	19	16	17	-2	-10.2%	0.3%
	Entertainment	-	130	128	124	-6	-5.0%	2.1%
	Food	-	176	177	187	11	6.0%	3.2%
	Total	**-**	**325**	**321**	**327**	**2**	**0.7%**	**5.7%**
Employment								
LGA	**Sub-Sector**	**2009**	**2011**	**2012**	**2013**	**Change**	**% Change**	**% of all Employment 2013**
Byron	Drink	-	324	299	394	70	21.5%	1.8%
	Entertainment	-	1,369	1,274	1,113	-256	-18.7%	5.2%
	Food	-	1,983	1,975	2,316	332	16.8%	10.7%
	Total	**-**	**3,676**	**3,548**	**3,822**	**146**	**4.0%**	**17.7%**
Sales Revenue $'000,000								
LGA	**Sub-Sector**	**2009**	**2011**	**2012**	**2013**	**Change**	**% Change**	**% of all Sales Revenue 2013**
Byron	Drink	-	$28.2	$27.2	$36.4	$8.2	29.1%	0.6%
	Entertainment	-	$160.5	$157.0	$140.9	-$19.6	-12.2%	2.5%
	Food	-	$172.4	$179.4	$214.0	$41.6	24.1%	3.8%
	Total	**-**	**$361.0**	**$363.7**	**$391.3**	**$30.3**	**8.4%**	**7.0%**

Source: ABS 2013, TBR Ref: W1/S8

As one of the smaller LGAs in this study Byron Shire NTE statistics could be related more straightforwardly to a local economy on the scale of Maroondah or Greater Dandenong but it is immediately obvious that its economy is very different to either.

The NTE is fundamental to Byron Shire overall economic performance.

The sales revenue figures indicate that 7% of its total economy is in Core NTE activities in 2013. This is proportionately higher than any of the original 12 LGAs in the study including Melbourne and Sydney and suggests that the overall economy of the LGA is far more dependent on NTE than any other single place in the study.

Hobart has the highest level of Core NTE revenue dependency in the 12 LGAs at 5.1% of all revenue.

Byron Shire shows growth over the 3 years in both drinks and food led business revenue at well over 20%. This is matched by similar growth levels in its NTE employment figures and over 17% of all Byron Shire employment is in these Core NTE categories.

This is higher than any of the larger NTE centres. Hobart is nearest with 13.2 % of employment in Core NTE businesses in 2013. These levels of employment and sales are sustained by relatively low levels of firm numbers which suggests that Byron Shire has some quite large individual firms in the sector.

The example of Byron Shire would be interesting to compare with other tourist serving locations such as some of the unexplored centres in the Gold Coast.

5.13 Frankston City Council LGA

Frankston geography is within the Melbourne Metropolitan area. It is one of the 30 LGAs which make up the Metropolitan geography of Melbourne. At 131 square kilometers Frankston is four times the size of Melbourne CBD (City of Melbourne LGA) and six times the size of Port Phillip and yet it is still a very small geography when compared to somewhere like Gold Coast City LGA.

As a centre of NTE economic activity it is 12% the size of CBD Melbourne by total sales revenue in 2013.

The NTE statistics indicate very little positive change in the NTE over 2011 to 2013. The source of overall decline in Sales revenue is changes in entertainment businesses which are down 6 firms on 2011 but down 11 on 2012.

If we look at the figures simply on the basis of 2012/13 change the decline in sales revenue is 9%.

This compares with Greater Dandenong at minus 7.2% in total NTE revenue from 2012 and 2013.

The two LGAs sit adjacent to one another on the East side of Port Phillip Bay and there will be some common factors here which would require deeper investigation.

Greater Dandenong presents with different characteristics because it has growth in its food sub sector whilst drink and entertainment have declined.

Although the recent trends are negative Frankston has a $316 million Core NTE economy in 2013 which is $62 million more than Maroondah and not that much smaller than Byron.

If it is to grow it requires a strategy which takes account of the competitive services offered on the Mornington Peninsular and in the CBD. Statistically it appears to be impacted by some of the same NTE dynamics as Greater Dandenong.

Table 19 Frankston NTE 2011 - 2013

LGA	NTE Sub-Sector	2009	2011	2012	2013	Firm Change	% Change	% of all Firms
Firms								2013
Frankston	Drink	-	22	17	16	-6	-26.9%	0.2%
	Entertainment	-	128	133	122	-6	-5.0%	1.3%
	Food	-	211	222	224	13	6.0%	2.4%
	Total	**-**	**361**	**372**	**361**	**0**	**0.1%**	**3.8%**
Employment								
LGA	**Sub-Sector**	**2009**	**2011**	**2012**	**2013**	**Change**	**% Change**	**2013**
Frankston	Drink	-	260	219	249	-12	-4.5%	0.6%
	Entertainment	-	1,390	1,360	1,124	-267	-19.2%	2.7%
	Food	-	1,671	1,724	1,640	-31	-1.8%	4.0%
	Total	**-**	**3,322**	**3,303**	**3,013**	**-309**	**-9.3%**	**7.3%**
Sales Revenue $'000,000								
LGA	**Sub-Sector**	**2009**	**2011**	**2012**	**2013**	**Change**	**% Change**	**2013**
Frankston	Drink	-	$22.6	$19.9	$23.0	$0.3	1.5%	0.2%
	Entertainment	-	$163.0	$167.6	$142.3	-$20.7	-12.7%	1.3%
	Food	-	$145.2	$156.7	$151.6	$6.4	4.4%	1.4%
	Total	**-**	**$330.9**	**$344.2**	**$316.9**	**-$14.0**	-4.2%	**3.0%**

Source: ABS 2013, TBR Ref: W1/S8

5.14 NTE Local Economic significance

We complete this picture of the LGAs with commentary on their relative overall size and change so that we can see the relativity of these places as NTE centres in each local economy.

In looking at the 15 LGAs we have the knowledge that their NTEs are either

- A significant economic part of highly clustered city centre services (Melbourne, Adelaide, Perth, Sydney) or
- City Centres serving smaller overall local population and visitor needs (Darwin and Hobart) in which NTE plays an important role or
- Hinterland spokes of large city hubs which have interdependence in NTE services or
- Large Administrative geographies that escape precise NTE description such as Gold Coast and Brisbane

There are primary differences in the hinterland places.

- Areas of Port Phillip for example are part of the commercial jigsaw of central Melbourne NTE as is Yarra City which is not covered in this study.
- Dandenong and Frankston on the other hand are, like Parramatta, distinct places with quite distinct economic identities but with inter relationships with the main centres

As is the case throughout the study we use sales revenue as a measure of economic impact and on that basis we have the following league table of places by NTE sales revenue in 2013.

Table 20 Key LGA Sales Revenue Change 2011-2013

	2013	Revenue Change
$'000,000		on 2011
	Sales	%
LGA	Revenue	
Brisbane	5982	20
Sydney	3279	19
Gold Coast	2986	5
Melbourne	2579	11
Port Phillip	1182	11
Newcastle	1131	16
Adelaide	1016	7
Perth	991	8.5
Parramatta	798	10
Hobart	597	14
Darwin	495	8.5
Greater Dandenong	409	-7
Byron Shire	391	8.5
Frankston	316	-4
Maroondah	264	2

In Table 20 above we see as expected that Brisbane registers the highest sales revenue in 2013 and the highest percentage change in overall sales at 20%.

Note that this comparison is different to earlier ones in the study since we are comparing across 3 years and not five years due to lack of data for 2009 for the new locations.

We have commented before that the NTE economies of Gold Coast and Brisbane cannot be compared with the other places in any substantive way but below Sydney the Gold Coast LGA does record total sales of $2.9 billion placing it above Melbourne LGA in this comparison. Its rate of sales increase is one of the lowest recorded in the table.

The size of the Port Phillip LGA NTE above that of Newcastle, Adelaide and Perth may be surprising. Its growth rate is higher than the others except Newcastle. Here again though size of LGA geography probably skews the picture as both Adelaide and Perth are small LGA administrations based upon their CBDs.

The growth rate of Hobart in this period should be noted at 14%.

Given that we are looking at a three year period any figure of c8% or above represents clear growth above reported inflation levels.

There may be structural problems in the poorer performing LGAs but equally not all places will either grow their NTE economies or consider it particularly desirable to do so.

5.14.1 The importance of LGAs to their Local Economies

Table 21 below highlights the percentage of sales accounted by Core NTE activity in each LGA economy in 2013. It can be seen that the highest % is Byron Shire at 7%.

Table 21 NTE Core - % Revenue of All LGA Revenue

Place 2013 LGA		% Local Economy	% Core NTE Employment
Byron Shire		7.0	17.7
Hobart		5.1	13.2
Adelaide		4.8	12.7
Newcastle		4.8	12.0
Port Phillip		4.7	11.9
Gold Coast		4.4	10.9
Darwin		4.3	10.8
Brisbane		3.8	9.7
Melbourne		3.8	9.8
Sydney		3.5	7.8
Parramatta		3.3	8.4
Frankston		3.0	7.3
Perth		2.8	10.9
Maroondah		2.1	5.1
Greater Dandenong		1.8	4.5

As a proportion of total sales some percentages may seem small but the loss of 1% in revenue by any economy is damaging. In every case the revenue figures stand behind higher levels of employment since on average these activities do not command the value added heights of the economy but they do provide important employment opportunities.

The associated level of local employment in each LGA is stated in the right hand column.

We should also remember that the connection to the Non-Core NTE and the Supply NTE further increases the financial impact and employment that is connected to the NTE.

5.15 LGA progress by Sub Sector

This report is intended to stimulate debate about how future growth in LGA centres might support the wider objectives of social and economic policy.

By that reference it is important to look at growth in the sub sectors of food, drink and entertainment if we wish to make more informed economic development and planning decisions locally and legislative decisions at national level.

We have already seen that Melbourne has grown the percentage of NTE business in its Food sub sector substantially and that Sydney has grown its dollar business in food.

But what does the broader picture of the sub sectors tell us about the capacity of a place to become more food and entertainment orientated?

We approach the analysis on the basis of sales revenue as a proxy for change.

5.15.1 NTE Food Sub Sector

As we see in Table 22 below there is a great variation in size of markets and in rates of change and absolute shares of the total NTE Core Market.

Sydney and Melbourne are at least 250% larger than any other location and both have shown well above average growth compared to inflation for the 2011 to 2013 period.

But surprisingly the highest rates of growth are in places like Darwin, Byron Shire and Newcastle (Newcastle operating from a larger firm base than the other two places).

It has become common practice in this field to associate growth in the food sector as a primary indicator of the delivery of a more sociable NTE. On that basis Perth leads the table at 63%

Table 22 LGA NTE Food Sales 2013

$'000,000	$ Sales	Change on 2011	% All Sales
		%	
Sydney	1687	17	51.4
Melbourne	1550	14	60.1
Perth	628	16	**63.3**
Adelaide	603	12	59.4
Port Phillip	585	11	49.6
Newcastle	514	23	**45.4**
Parramatta	484	8	60.7
Hobart	300	12	50.2
Darwin	242	19	48.9
Byron Shire	214	24	54.7
Greater Dandenong	210	19	51.4
Frankston	152	4	47.8
Maroondah	131	2	49.7

Tabular data extracted from TBR analysis tables

NB. In all three sub sector tables we highlight the highest and lowest % figures to indicate the range.

It is assumed that dining out in all sorts of ways (takeaway food purchases contribute greatly to these numbers) is preferable to drinking out. The association is understandable but not fully warranted because changing the broader nature of outlets available is more important including developing creative and sporting businesses which fit into neither category but may still involve eating and drinking.

There is a question we should leave for further examination about the designation we use for businesses given the multi-faceted aspects of some provided services.

Other factors of clarity of comparison come into play. It is interesting in the context of wider inner cities to see the high levels of food revenue recorded by businesses in Port Phillip and to see the absolute size and rate of growth that is recorded for Newcastle.

The tables should not be seen as league tables. It is quite obvious that smaller centres such as Byron Shire and Frankston will appear at the lower end of the table because they have much smaller local populations and do not attract the higher levels of tourism of the larger centres.

The dynamic of change can be seen in these figures as for example the increase in the proportion of food business which has taken place in Melbourne in a very few years.

If the percentage figures are to have any context in KPI setting then Perth at 63% already shows that it would not be unreasonable to consider an NTE model which is 90% Entertainment and Food and 10% drink led in business type.

The individual performance of the LGAs should primarily be used in the context of the wider local economy to explore market potential as well as consider how economic development and planning can reshape spaces to optimise the needs of those who would spend their time in them.

5.15.2 NTE Drink Sub Sector

The LGA by LGA comparison of the Drinks sub sector shows much more divergent patterns of growth and decline than the Food data. For example in the food data all places register some increase in sales from 2009 to 2013.

Table 23 below is presented on exactly the same basis and yet there are considerably more variations in pattern.

Four places record a decline in total Drinks sub sector sales

- Melbourne
- Adelaide
- Parramatta
- Greater Dandenong

The most striking change is the 39% increase in sales recorded for Sydney Drinks outlets.

We know that the City of Sydney LGA has pursued a deliberate policy of introducing a more sociable and smaller unit concept of bar culture. The firm change statistics seem to indicate that this has worked but this is such an important change that we recommend further study of the statistics and the story within the locality before considering its implications any further.

No one should jump to the conclusion that this is a negative statistic in social terms. Approaching the problems in the drink culture in ways which do not simply depend upon regulation is a necessary part of an encompassing strategic approach.

A further interesting aspect of this table is the way in which Newcastle and Adelaide have pushed Perth and Port Philip down the list of geographies by size of Drinks sub sector. But there is not the same pattern of consistent growth that we have seen in food since both Adelaide and Melbourne show declines in sales from 2011 to 2013.

We draw attention to the Greater Dandenong figures by virtue of overall size, decline and percentage of total activity. As a major location of wide sector activity in Victoria we believe that the % of all sales may be readily explained but the small overall size and declining sales must be due to other factors.

This analysis came out with similar conclusions in the last study and it was suggested that the reasons might relate to differences in the pattern of alcohol consumption as between the home and on and off retail sales. Liquor retail sales form part of the NTE analysis of activities and are part of the Drinks led category.

Table 23 LGA NTE Drinks Sales 2013

Drink Sales Revenue		Change	%
$'000,000	Sales	on 2011	All Sales
		%	
Sydney	586	39	17.9%
Melbourne	320	-7	12.4%
Adelaide	196	-6	**19.3%**
Newcastle	180	12.5	15.9%
Perth	177	17	18.7%
Port Phillip	145	7	12.3%
Hobart	99	3	16.6%
Parramatta	55	-24	8.2%
Darwin	48	22.5	9.7%
Byron Shire	36	29	9.3%
Maroondah	25	10	9.4%
Frankston	23	1.5	7.2%
Greater Dandenong	22	-13	**5.4%**

5.15.3 NTE Entertainment Sub Sector

Table 24 below covers the wide range of activities that make up the entertainment section of the NTE.

Table 25 illustrates the entertainment figures from the study.

Here the most surprising aspects of the figures are the relatively low revenues recorded for Perth and Adelaide LGAs compared to the other large CBD centre LGAs.

In particular the Perth figures disclose a fall in revenue of 16% since 2011[51].

Hobart shows the highest % increase over this period at 23%.

It is noticeable that the larger NTEs in the city centres exhibit lower % of all sales numbers for Entertainment than many of the smaller places.

At 44% Frankston shows the highest percentage of Entertainment led activity whereas Sydney is 30% and Melbourne 27%. Perth is 17%. Frankston figures partly reflect weak food provision.

[51] We know that a major entertainment centre was established in Perth during 2012.

Undoubtedly some of the reasons for these differences lie in the role that smaller centres play within their overall communities and the difference in scenario that comes with larger local economies will in some respects alter the proportional role of such organisations.

As a reminder the operational range of Entertainment activities are tabulated below.

It is perhaps an appropriate point in the study to record that we can identify from the data that ANZSIC 9201 – Casinos - is seriously understated in the figures.

Rather than attempt to correct at this stage we prefer to discuss the subject with the ABS and could present the impact of figures which are clearly reported elsewhere after that dialogue.

Table 24 Entertainment ANZSIC Categories

Entertainment	4530	Clubs (Hospitality)
	9001	Performing Arts Operation
	9002	Artists, Musicians, Writers and Performers
	9003	Performing Arts Venue Operation
	9111	Health, Fitness Centre & Gymnasia
	9112	Sports and Fitness Professionals
	9113	Grounds and Facilities Operations
	9114	Sports and Recreation Administration
	9121	Horse and Dog Racing
	9129	Other Horse and Dog Racing Activities
	9131	Amusement Parks and Centres
	9139	Amusement and other Recreational
	9201	Casino Operation
	9202	Lottery Operation
	9209	Other Gambling Activities
	9534	Brothel Keeping and Prostitution

Whilst the figures in Table 25 below follow a similar general pattern to the other two tables and for very much the same reasons the range of ANZSICs is wide and this clearly will cause variability in the reported numbers. Nevertheless we may take the trends shown in the table as a starting point at the local level to examine the nature of these activities and how they relate and might relate in the future to an improved local activity template for an NTE centre.

Each place will have its own unique characteristics and starting point for future policy.

Table 25 LGA NTE Entertainment Sales 2013

Entertainment Revenue		Change	%
$'000,000	Sales	on 2011	All Sales
		%	
Sydney	1006	14	30.7%
Melbourne	708	14	27.4%
Port Phillip	450	9	38.1%

Newcastle	437	9	38.6%
Parramatta	248	-5.5	31.1%
Adelaide	216	6.5	21.3%
Darwin	206	-4	41.5%
Hobart	198	23	33.1%
Perth	178	-16	**17.9%**
Greater Dandenong	177	-4	43.2%
Frankston	142	-13	**44.9%**
Byron Shire	141	-12	36.0%
Maroondah	108	3.5	40.9%

5.16 Final Comments

This study clarifies a number of critical points about the Australian Night Time Economy. In particular by a widely accepted and consistent definition of activities it identifies the overall size of the NTE and that it is still growing at a rate that is slightly higher than that of the wider economy.

Key challenges for the NTE include

1. Finding the common ground to engage the energies of individuals who both use and do not use the NTE around policy development and practical change to create more appealing spaces.
2. The NTE is unlikely to change greatly in its pattern and practises unless a linked process is delivered which brings all stakeholders face to face with realities to deliver positive outcomes.
3. Point 1 above requires considerable thought and then supported action to deliver the quality of leadership which translates 'words' into actions.
4. The NTE may belong to all but a relatively small cross section of the population makes use of it.
5. Improved engagement with the business community who tend rightly or wrongly to carry responsibility for events which they cannot fully control. Control will be more effective if business sees both commercial purpose and recognises pathways that permit it to show responsibly towards and within the community[52].
6. Commitment to facilitate more useful statistics that inform better decisions in all sorts of ways.

Poor decisions and outcomes result from information that does not compel action but flawed or inadequate information result in friction or paralysis.

[52] NB Work of Heart of London BID in Leicester Square is an excellent example of business engagement.

6. Conclusions

This report is the second comparative statistical analysis of the economic makeup of the Australian NTE with specific reference to 15 LGA areas including all key capital cities except Canberra. The ACT data shows that it may be a small national contributor but an important employer.

The report is based upon the most comprehensive public sector data that is currently available.

6.1 Statistical Challenges

This work presented a number of challenges and primary amongst these were

- Comparing the data detail across so many different locations and geographic layers creates the risk that the numbers simply obscure the key messages for the reader.
- We have tried to improve the way that we address this by simplifying the reporting. For example by almost ignoring the SD and State strata and by adding in the summary LGA comparison tables and commentary from Section 5.7 forwards.

- There is need to examine the messages in the data on a much clearer place by place basis.

- We are working on a proposal to suggest how NLGDAAC may deliver easier comparative clarity on the NTEs of its entire member LGAs.

- We seek the engagement of the ABS to agree the finite levels of detailed analysis which will then become the most detailed and reliable standard that is available for measurement.

This issue of data detail and the colocation of that data within precise NTE concentrated geographies[53] are critical to effective strategic plans.

With clearer longitudinal information local strategy makers can visit existing and new challenges with the businesses and communities who are affected by them and help to provide solutions based upon realities rather than the subjective opinions which tend to inhabit the subject.

6.2 Study Conclusions

The NTE directly employs close to one million Australians out of 11 million at work.

Almost 1 in 10 Australian employees work in this sector

Our 2013 $102 billion estimate of sales revenue can be regarded as a benefit to the economy in a variety of ways. Behind the bare figures stand

- Disposable income earned by Australians which they are recycling into the system as a result of finding services that address their quality of life.
- Taxes that are collected in many ways as result of connected NTE expenditure. Clearly taxation on utility provision and GST are important components which serve a range of public purposes.
- Support for families and careers that define much that is good about Australian life.

[53] Although not as forensic as we would like Australian Postal Code geographies work effectively

- Income from overseas sources which is important to the balance of trade which when out of balance can lead to rising prices or scarcities and increases in the cost of living.
- Opportunity for new immigrant Australians who bring rich cultural diversity to the country and find the NTE as one of the spaces where information and understanding are exchanged

The places of primary concentration of the NTE follow the places of urban centre concentration. Although they are small geographies – tiny by Australian standards - the LGAs of Melbourne and Sydney are by far the largest NTEs in the country.

All NTE economies have the capacity for growth as the performance of Perth in Food and Hobart in Entertainment indicate.

Spatial size and the complex pressures of users of the geographies make the challenges of managing the NTE in Melbourne and Sydney especially high.

7. Observations on future NTE Economic Policy

In this final section we seek to connect the reported economic performance with the challenges that face stakeholders in the NTE. Recent steps by national bodies[54] to develop a debate around the dangers and costs of alcohol in society reflect continuing professional concerns about the visible and documented impact of substance abuse and the related costs of management.

There are at least three distinct aspects to how this relates to the economic development of the NTE.

The first aspect is the performance of businesses which is the subject of this study. It clarifies the role of the NTE in the provision of employment opportunity and reminds us of the contribution to the public purse through personal and business taxation.

It considerably exceeds any views of costs that should be reduced.

In this context the NTE is a group of activities which merit the specific attention of policy makers and facilitators at all levels. We have seen in these statistics that recent NTE growth outperforms the average performance of the rest of the Australian economy but that is less important than fully recognising its development potential for leisure activity provision and for reputation.

It has grown at a faster rate than the overall economy by dimensions of firms, employment and sales revenue from 2009 to 2013.

It is a broad ranging set of activities in which entertainment and creativity play an important part.

In our work in 2010 for the City of Sydney[55] we drew attention to the importance of encouraging small, young and new businesses since it is from this category or cohort of very small firms that many of the larger employers of the future will develop.

The NTE is a source of work as well as a source of leisure for young people.

Sydney has undertaken programmes[56] of support which recognises and assists very small businesses in each of the three sub categories of drink, entertainment and food led businesses.

Detailed investigation will spell out the positive benefits but they are undoubtedly present as can be seen in the $ value of the relative rate of growth of Sydney NTE[57].

The second aspect reflects the need to connect business with social scientists and other professionals about the impact of the NTE on costs to public services and the health and wellbeing of individual people. Often this is simplified to concerns about alcohol abuse and that the NTE might stimulate such abuse but business reputation and both location and brand loyalty requires the same values of conduct in any field where individuals can exercise choice. The majority of people do not see antisocial behaviour as a welcome part of their leisure experience.

Such anecdotally received perspectives of danger do not encourage the growth of the Night Time Economy and are therefore against all interests.

[54] Call by the AMA for a national summit

[55] The Sydney Night Time Economy 2010 – Section 1.4.1

[56] http://www.cityofsydney.nsw.gov.au/business/business-support/business-grants-and-sponsorships

[57] See Section 5 below

There is a sense in which this particular debate is conducted at the wrong level. The LGA jurisdictions in this study can use the law to address bad practise but they cannot change attitudes to the use of substances that may be at their root.

Equally alcoholism did not originate in bars or at cut price retail vendors of liquor. Addiction and harmful behaviour arising from addiction does need to be addressed at a national policy level.

This study has no mandate to consider recommendations on this subject but as experienced NTE consultants we understand that the social mores which set standards spring from the actions or the positions of organisations that have or feel responsibility for strategic change.

If it is the considered view that some contexts encourage the consumption of alcohol at levels which are harmful to individual health then national government needs to use the democratic process to understand the wishes of society to challenge this.

Legislative change might reduce consumption but it can also help to create or improve markets.

It is ineffective to spotlight decisions about cutting consumption on local government and operators because what they do has marginal impact on consumption and habit formation.

Unaddressed the position is harmful to the medium term prospects of the NTE as an economy.

Large sections of populations express themselves in surveys as averse to enjoying the NTE because –rightly or wrongly – they see it as a dangerous rather than a welcoming environment.

Safer habitats and a sense that places are safer will influence choices about where and when individuals spend their disposable income.

The third key aspect in the NTE economic dynamic surrounds the need to defend and to grow reputation through the development of safer and more attractive places.

Tourism is a huge generator of incoming revenue and reputation and published statistics like the Price Waterhouse Cooper league table[58] draw attention to places for investment and for enterprise and living.

Tourism is a key component of NTE economies in large city centres.

Unsafe places are places with high reputation for anti-social behaviour and are in danger of harming wider hard earned reputations as leisure and entertainment centres. They are places where parts of communities are unwilling to be however their views might have arisen.

Therefore if the policy agenda does not address both safety and spatial attraction the overall reputation and economic well-being of a place or location is put at risk.

These three aspects of the NTE agenda

- Optimising the prosperity of NTE business
- Addressing concerns about Public Health
- Developing safe and attractive spaces

[58] Cities of Opportunity – PWC 2014

need engagement at all levels of government but particularly National Government if policies are to be implanted after relevant debate about the management of alcohol consumption.

7.1 Advancing a Debate

This study confirms that the NTE is a significant contributor to the national economy and therefore the findings of the study further support the evidence of need for policy debate.

There are obvious models of how debate could be conducted.

No professional market focussed business can have any possible interest in sustaining a dubious market reputation which may undermine broader strategic market opportunities.

Within the Industry there will be research evidence about the elasticity of demand for alcohol at differing pricing levels. The model will probably show that higher taxation will tend to reduce drinking and therefore reduce revenues. But how sensitive is any model to the secondary impact of changed habits? If NTE spaces seem hostile to some parts of society is their lack of engagement factored into demand elasticity pricing models?

Much research suggests that heavy social drinking is limited to primarily young and non-familial demographics. Could business develop the wider engagement of community in the NTE instead of depending on the income group demographic that is least able to afford the expenditure?

The Suzuki Night Market in Melbourne has been a prime example of the type of spatial context which encourages wider family groups to take part in entertainment gatherings where culture and food is a shared focus alongside moderate and convivial alcohol and soft drinks consumption.

It is clearly part of a model for an evolving the NTE.

Of course this is an Evening economy model rather than an overall NTE model and separate thought needs to be given to the difference in approach towards Evening (ending at the latest at midnight) and Night (spanning the time from Midnight to early morning hours)

7.2 Why this debate is important

The subject encompasses harm to the Individual and to Property; Economic hours lost through the consequences of injury or unnecessary tax funded expenditure and the optimisation of the growth of the NTE.

But debate around redefining socially acceptable norms to stem the excessive individual consumption of substances like alcohol is the heart of the matter. In so far as that is not addressed the subject of maximising economic potential and safe places where people can enjoy their leisure will continue to be a ‘maybe’.

When a tragedy happens to an individual and their family the media remind us about something which stays obdurately down the agenda.

Most people would prefer the NTE to be an uncontroversial context in which people can enjoy some of the time that they have purchased through their incomes and employment.

A process bringing social and economic dynamics into improved harmony begins to remove contention and perceptions that hold back the Night Time Economy.

The primary purpose of this report is to update NTE economic performance with the most recent analysis of the NTE economy. The overall Australian NTE measured outcomes are detailed in Section 3 and Section 5 provides the available detail on the LGA locations analysed in the study.

The Executive Summary (Section 2) platforms key NTE change over 2009 to 2013.

In Australia as in other leading international markets we see a segment of the economy which is critical in a number of ways

- It provides employment to nearly 10% of the population
- It delivers taxes to the public purse which address wide ranging community commitments
- It can reinforce the prosperity and the reputation of places
- It accords with the ways that many Australians wish to spend their own leisure
- It permits important informal contact between people in a highly mobile society

In spite of these many benefits it is a subject beset with difficulty that is polarised by perspectives about the impact of violent crime and the responsibility for anti-social behaviour.

Viewed in a purely economic basis this polarisation is harmful to all concerned.

It inhibits the growth of markets and it diminishes the reputation of places.

8. Appendix A: Agreeing a Data Template for NTE Market Analysis

There is a research need to interrogate data on NTE economic activity as forensically as is possible – 'a firm up rather than a sector down approach'.

In our 2010 Cost Benefits Study[59] for the City of Sydney Council we established that the lowest data level that we could interrogate using the ABS was 4 digit-level ANZSIC for activities that comprise Core NTE.

We saw this as a possible stepping stone to more detailed data which would be more helpful to planners, economic development specialist, community officers and other stakeholders in this agenda.

Unfortunately in January 2013 the ABS redrew the lines such that even this level of detail is no longer available. The examples in this Appendix highlight the impact of this for the analysis of performance.

It has been agreed that this will be discussed with the ABS to optimise the most useful economic insights

In the Sydney study from which the example below was developed we sought to use even more detailed data through examination of information from Dun & Bradstreet[60] – a private sector data supplier that carries longitudinal firm level information for research purposes in its US parent company product services.

In the Sydney research the use of D & B type private sector data did not prove possible. The data supplier requires encouragement to reclassify its rules on information retention.

As a result essential information about

- Detailed firm and cohort size performance by employment and sales turnover
- Value added by firms – i.e. the performance margin difference between costs and revenues
- Detailed 4 digit SIC performance – particularly in an ANZSIC which contains a small number of aggregated businesses
- Incidence and timing of new firm births and deaths and associated employment and revenue
- Entrepreneurial direction – i.e. the corporate management team
- Corporate ownership – i.e. whether an entity is independent or a subsidiary or single site or headquartered.
- Origin investment – whether Australian or non-Australian and from which location.

Are not available for NTE market research purposes

If a local economy is to fully benefit from the intervention of law, regulation, engagement, spatial planning, advice, management and strategic approach then what we would call this 'street level' detail is critical to help guide local economy specialists seeking to optimise impacts and future change.

8.1 Example: New South Wales: Sydney, Newcastle & Parramatta LGAs

This example illustrates how State level data is available whilst LGA level is not.

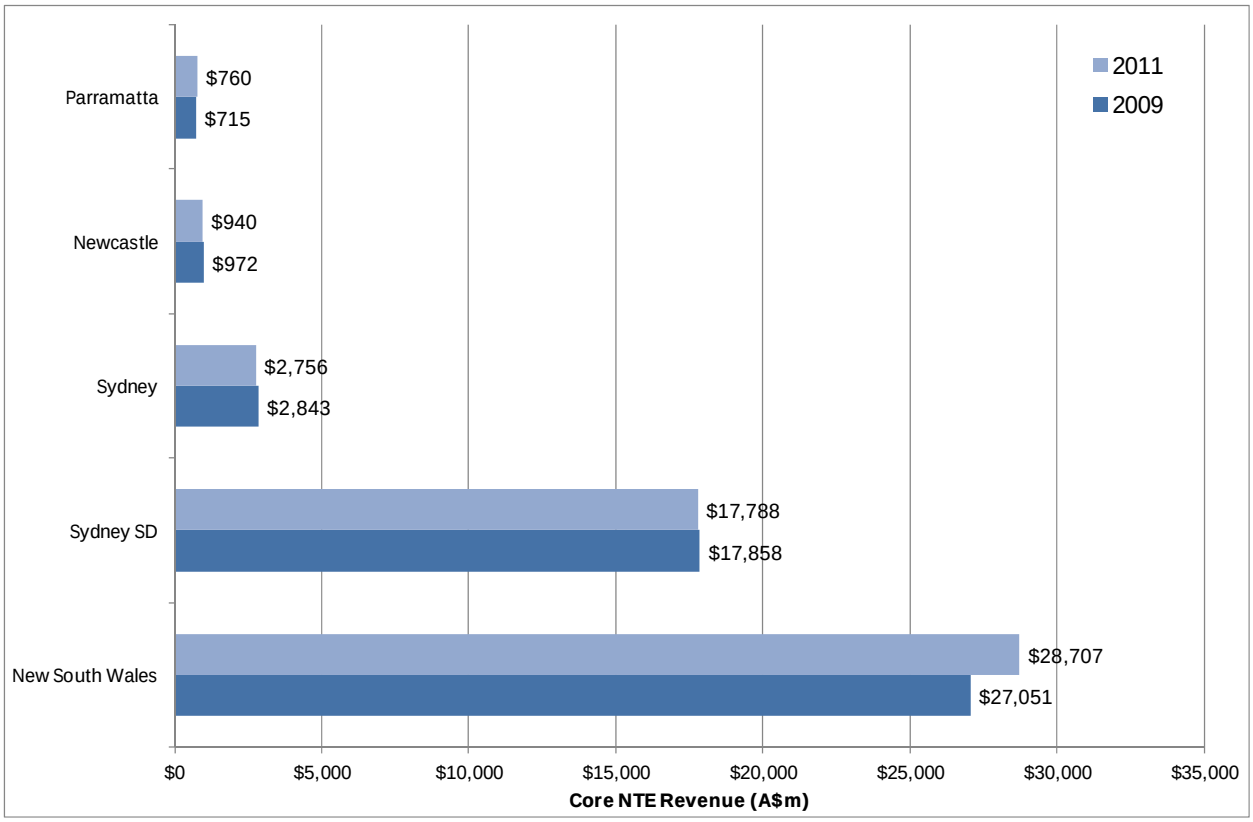
The NSW summary bar chart below – Figure 1 – illustrates the proportionality of the location of NTE activity at all levels. Charts like this are useful and we should not overlook that the smallest figures – those for Parramatta in the bar chart below - still represented $760 million sales revenue in 2011 and yet give no indication of the precise origin activity sources of performance from within the local economy.

[59] A Cost Benefit Study of the Sydney NTE by TBR and MAKE Associates - 2010

[60] Dun & Bradstreet Inc. – US Financial Viability Data Specialist

We can verify the overall NTE growth of all 3 LGAs in this figure below but we cannot account for the contributory individual activities and related firms which variously deliver this performance.

Figure 1: New South Wales NT Economy Revenue Summary (A$ m)



Source: ABS 2009/2011, TBR Ref: W1/S13 NSW

8.1.1 Sydney LGA - 2009 to 2011 (from 1st NLGDAAC Report)

The Sydney LGA Tables below illustrate what is no longer available.

We emphasise that even this level of detail is far from optimal and we would like to see far more data detail than we can access in current research.

Therefore we cannot use data to explain where the growth in drinks sales is coming from in Sydney LGA and what types and sizes of business account for change.

Only precise cohort level employment size data by activity at LGA level begins to answer such questions.

Yet all peer levels of government wish Sydney to address issues of alcohol management in its geography.

Even in the Tables below note the ABS restrictions to 3 level-digit data for many activities.

We wonder why Brothel Keeping which delivers the lowest reported level of revenue can be available at 4 digit level whilst other activities are not available in such detail. It is idiosyncratic to say the least.

Can it really be that the numbers in this category were considered sufficient to provide firm anonymity?

We study a firm number Table after reviewing the revenue table.

Table 26: Sydney LGA Sales Revenue Change 2009 to 2011 by ANZSIC ($m)

Green highlighted rows/numbers are not available in this 2013 study.

							% Core NTE	
Sub-Sector	**ANZSIC**	**Description**	**2009**	**2011**	**Change**	**% Chg.**	**2009**	**2011**
Drink	4123	Liquor Retailing	$118.5	$111.7	-$6.8	-5.8%	4.2%	4.1%
	4520	Pubs, Taverns and Bars	$326.6	$310.7	-$15.8	-4.8%	11.5%	11.3%
Drink Total			**$445.1**	**$422.4**	**-$22.7**	**-5.1%**	**15.7%**	**15.3%**
Entertainment	4530	Clubs (Hospitality)	$69.7	$51.7	-$18.1	-25.9%	2.5%	1.9%
	551	Motion Picture and Video Activities *	$87.5	$82.3	-$5.2	-5.9%	3.1%	3.0%
	900	Creative and Performing Arts Activities	$331.3	$313.1	-$18.2	-5.5%	11.7%	11.4%
	911	Sports and Physical Recreation Activities	$114.4	$80.7	-$33.7	-29.5%	4.0%	2.9%
	912	Horse and Dog Racing Activities	$5.7	$5.6	-$0.2	-3.1%	0.2%	0.2%
	913	Amusement and Other Recreation Activities	$3.8	$3.0	-$0.8	-20.5%	0.1%	0.1%
	920	Gambling Activities	$309.4	$294.8	-$14.6	-4.7%	10.9%	10.7%
	9534	Brothel Keeping and Prostitution	$17.7	$54.9	$37.2	209.7%	0.6%	2.0%
Entertainment Total			**$939.7**	**$886.1**	**-$53.6**	**-5.7%**	**33.1%**	**32.2%**
Food	4511	Cafes and Restaurants	$1,192.9	$1,228.5	$35.6	3.0%	42.0%	44.6%
	4512	Takeaway Food Services	$265.1	$218.8	-$46.4	-17.5%	9.3%	7.9%
Food Total			**$1,458.1**	**$1,447.3**	**-$10.8**	**-0.7%**	**51.3%**	**52.5%**
Core Total			**$2,842.8**	**$2,755.8**	**-$87.0**	**-3.1%**	**100.0%**	**100.0%**

Source: ABS 2009/2011, TBR Ref: W1/S9a

In 2013 we could not see the level of detail to explain the Sydney LGA performance on alcohol revenue change much less analyse the cohort size grouping of firms that deliver performance in say ANZSIC 4520.

This reduction in relevant information is examined further by looking at firm numbers from the same research in Table 27 below.

The simple use of asterisk to eliminate any firm number detail in data where there is less than 10 firms in a category of ANZSIC would substantially resolve this difficulty but the ABS advises that it does not disclose its minimum firm level numbers for disclosure purposes.

We do not understand why it cannot be transparent on this point in line with other public sector national statistical organisations. We would then be able to specify firms by size grouping such as

0 employment firms – business run by individuals with no employees – often called sole traders

1-5 employees - together with the next category below these firm cohorts are usual called the 'micro' firms

6-10 employees

10-19 employees

20-99 employees

100 - 249 employees – At this level all international firm research literature describes the firms as the large component of SMEs.

250 employees and above

This employment cohort information delivers much greater insights into the nature of firm types that are responsible for change.

We would expect firms in the last two large firm categories to be 'asterisked' in public data although they can easily be identified through private sector data providers. Such identification does not permit the analysis of the performance of such firms on an individual and named basis and in 38 years as a research company working in this field we have never done this or had the need to do so.

This is not because we could not do so but because the purpose of our research is market performance appraisal and sector analysis. The dynamic of one large firm is important but only as a component number of employees or estimate of sales turnover or gross value added to derive overall and full comparative sector performance.

In any event in the UK all such companies have to submit accounts in the public domain and this would also be the case in Australia so it is really doubtful that an issue of non-disclosure really exists at this level. We could obtain the information on such large firms within the public domain.

Table 27 : Sydney LGA Firm Numbers in 2009

Activity	ANZSIC	Description	Employing	Non-Employing	Total
Drink	4520	Pubs, Taverns and Bars	230	80	310
	4123	Liquor Retailing	57	49	106
	Total		**287**	**129**	**416**
Entertainment	551	Motion Picture & Video	8	6	14
	900	Creative & Performing Arts	123	324	447
	911	Sports & Physical Recreation	95	115	210
	912	Horse & Dog Racing	4	3	7
	913	Amusement & Other Recreation	6	8	14
	920	Gambling Activities	27	15	42
	4530	Clubs (Hospitality)	41	10	50
	9534	Brothel Keeping & Prostitution	18	33	51
	Total		**322**	**514**	**835**
Food	4511	Cafes & Restaurants	1,617	416	2,033
	4512	Takeaway Food Services	525	172	697
	Total		**2,141**	**588**	**2,729**
		Core Total	**2,750**	**1,231**	**3,981**
		Non-Core Total	**4,491**	**3,140**	**7,630**
		Total NTE	**7,240**	**4,371**	**11,611**
		Total Non-NTE	**12,120**	**15,242**	**27,362**
		Total Economy	**19,360**	**19,613**	**38,973**

As with the sales revenue table above we have highlighted below in Green what the ABS helped us to analyse in 2010 which it now suggests is unavailable because it would transgress privacy rights.

Of particular note is its supply of firm level data on

- Motion Picture and Video
- Horse and Dog Racing
- Amusement and Recreation

There are well below the permitted threshold.

8.2 Greater Dandenong – ANZSIC Data 2009 - 2011

As a final example in this submission we show the detailed extract of firm data made available by the ABS for our first study for NLGDAAC. The data is taken from one of the smaller LGA locations in order to illustrate that at that time the ABS was willing to provide detail for 2009 and 2011 about change on such ANZSICs as

- Liquor Retailing – 10 firms
- Pubs and Taverns and Bars – 2 firms
- Horse and Dog Racing – 0 firms
- Recreation Activities - 9 firms
- Gambling Activities – 13 firms
- Clubs (Hospitality) – 10 firms
- Brothel Keeping – 4 firms

This is typical of all 12 places included in the 2009-2011 study.

Table 28 Greater Dandenong - LGA Firm Change 2009 to 2011 by ANZSIC

							% Core NTE	
Sub-Sector	ANZSIC	Description	2009	2011	Change	% Change	2009	2011
Drink	4123	Liquor Retailing	7	10	3	34.4%	1.6%	2.0%
	4520	Pubs, Taverns and Bars	2	2	0	28.6%	0.4%	0.4%
Drink Total			**9**	**12**	**3**	**33.3%**	**2.0%**	**2.4%**
Entertainment	900	Creative and Performing Arts Activities	25	26	1	6.1%	5.4%	5.3%
	911	Sports and Physical Recreation Activities	36	28	-8	-22.8%	7.9%	5.7%
	912	Horse and Dog Racing Activities	3	0	-3	-100.0%	0.6%	0.0%
	913	Amusement and Other Recreation Activities	9	9	0	2.0%	1.9%	1.8%
	920	Gambling Activities	11	13	2	20.6%	2.4%	2.6%
	4530	Clubs (Hospitality)	12	10	-2	-15.0%	2.6%	2.0%
	9534	Brothel Keeping and Prostitution	4	4	0	2.0%	0.9%	0.8%
Entertainment Total			**99**	**90**	**-9**	**-9.1%**	**21.6%**	**18.3%**
Food	4511	Cafes and Restaurants	164	185	21	12.8%	35.8%	37.5%
	4512	Takeaway Food Services	186	206	20	10.8%	40.6%	41.8%
Food Total			**350**	**391**	**41**	**11.7%**	**76.4%**	**79.3%**
Core Total			**458**	**493**	**35**	**7.6%**	**100.0%**	**100.0%**

We wish to emphasise that we fully understand the legitimacy of the ABS concerns but that we believe that what is required for sound research will not result in accusations of non-compliance with privacy laws in any circumstances. Our objective is to seek an understanding with our client on this subject such that a

meeting with the ABS should be arranged to begin a process of establishing a satisfactory template for all future data provision.

9. Appendix B: ANZSIC NTE Categories

NTE Sector	NTE Sub-Sector	ANZSIC	Description	Level
Core	Drink	4123	Liquor Retailing	4-Digit
Core	Drink	4520	Pubs, Taverns and Bars	4-Digit
Core	Entertainment	900	Creative and Performing Arts Activities	3-Digit
Core	Entertainment	911	Sports and Physical Recreation Activities	3-Digit
Core	Entertainment	912	Horse and Dog Racing Activities	3-Digit
Core	Entertainment	913	Amusement and Other Recreation Activities	3-Digit
Core	Entertainment	920	Gambling Activities	3-Digit
Core	Entertainment	4530	Clubs (Hospitality)	4-Digit
Core	Entertainment	9534	Brothel Keeping and Prostitution	4-Digit
Core	Food	4511	Cafes and Restaurants	4-Digit
Core	Food	4512	Takeaway Food Services	4-Digit
Non-Core	Care	771	Public Order and Safety Services	3-Digit
Non-Core	Care	840	Hospitals	3-Digit
Non-Core	Creative Education	8212	Arts Education	4-Digit
Non-Core	Cultural	601	Libraries and Archives	3-Digit
Non-Core	Design	692	Architectural, Engineering and Technical Services	3-Digit
Non-Core	Education	821	Adult, Community and Other Education	3-Digit
Non-Core	Food	411	Supermarket and Grocery Stores	3-Digit
Non-Core	Food	412	Specialised Food Retailing	3-Digit
Non-Core	Hospitality	4400	Accommodation	4-Digit
Non-Core	Infrastructure	29	Waste Collection, Treatment and Disposal Services	2-Digit
Non-Core	Infrastructure	751	Central Government Administration	3-Digit
Non-Core	Infrastructure	753	Local Government Administration	3-Digit
Non-Core	Infrastructure	772	Regulatory Services	3-Digit
Non-Core	Infrastructure	9531	Laundry and Dry Cleaning Services	4-Digit
Non-Core	Promotion	694	Advertising Services	3-Digit
Non-Core	Research	695	Market Research and Statistical Services	3-Digit
Non-Core	Retail/Other	422	Electrical and Electronic Goods Retailing	3-Digit
Non-Core	Retail/Other	424	Recreational Goods Retailing	3-Digit
Non-Core	Retail/Other	425	Clothing, Footwear and Personal Accessory Retailing	3-Digit
Non-Core	Retail/Other	426	Department Stores	3-Digit
Non-Core	Retail/Other	427	Pharmaceutical and Other Store Based Retailing	3-Digit
Non-Core	Retail/Other	4241	Sport and Camping Equipment Retailing	4-Digit
Non-Core	Retail/Other	4242	Entertainment Media Retailing	4-Digit
Non-Core	Retail/Other	4243	Toy and Game Retailing	4-Digit
Non-Core	Sports Education	8211	Sports and Physical Recreation Instruction	4-Digit
Non-Core	Transport	462	Road Passenger Transport	3-Digit
Non-Core	Transport	472	Rail Passenger Transport	3-Digit
Non-Core	Transport	482	Water Passenger Transport	3-Digit
Non-Core	Transport	4623	Taxi and Other Road Transport	4-Digit
Non-Core	Transport	9533	Parking Services	4-Digit
Supply	Drink	12	Beverage and Tobacco Product Manufacturing	2-Digit
Supply	Drink	3606	Liquor and Tobacco Product Wholesaling	4-Digit
Supply	Entertainment	551	Motion Picture and Video Activities	3-Digit
Supply	Entertainment	552	Sound Recording and Music Publishing	3-Digit
Supply	Food	4513	Catering Services	4-Digit
Supply	Food	11	Food Product Manufacturing	2-Digit

10. Appendix C: The Origin of the Statistical Approach

10.1 Background

In 2008 Terry Bevan and Alistair Turnham decided that it was important that the value of the Night Time Economy was recognised because without recognition of economic value and content how could society take a balanced approach to ensuring that the NTE functions as a valid component of economic and social well-being? Alistair had a long experience in this subject field as a researcher and advocate of creative engagement and Terry brought business experience and economics qualifications to the subject.

The result was the UK Night Mix Index[61] which categorises all NTE economic activity in a recognisable framework linked to the Standard Industrial Classification system used in most developed countries to articulate the structure and measurement of all types of economic activity.

It was their feeling that there should be a debate about the legitimate interests of the NT Economy and how it could be linked with the well-being of citizens and communities.

In some places this constructive agenda has been advanced but only with the benefit of civic leadership.

In many areas of goerance there seems no urgency to engage in a more informed debate.

For example, in the UK the government has enacted Licensing legislation which allows local authorities to exact more revenue from NTE businesses by way of a late night levy. Where put in place the levies will be shared between the police and the local authority[62] to 'improve' the management of places where disturbances occur. This may bring benefit to the wider community but it will certainly increase the costs of running some businesses which are already marginally profitable and declining in large numbers[63].

They in turn may be replaced by more anonymous chains which will be more resilient financially but may have less sense of investment and connection to local communities.

This happens because there is no strongly linked local perspective of broadly based economic strategy. This is not because drinks led establishments are anxious to pursue the sale of alcohol at any cost. In the UK if low pricing and young patronage is the culprit then it is supermarket pricing that is now the catalyst. Non Drink Retail is not part of our definition of Core Night Time Economy.

It is hoped that the very different Australian Cities reflected in this study will employ the information in relation to the development of locally relevant strategies which sustain the importance of regulation and control but focus on ensuring that environments are managed to encourage partnership pathways with that benefit all concerned.

For this to have practical meaning engagement in this agenda should be approached with facts, figures, first-hand knowledge and clear connected strategies and action plans together with evaluation process.

10.2 The Night Mix Index – Defining the NTE

The Night Mix Index or NMI for short is based around a selected list of SIC codes which most accurately describe activities which are the predominant providers of services to the public after 6 p.m. at night and throughout the night.

In Australia this is based upon the equivalent ANZSIC codes[64].

[61] NMI – developed around SIC categorisation in 2008

[62] The Act allows a tax linked to rateable value to be charged and shared 70/30 by Police/Local Authority.

[63] The UK has lost 10,000 outlets over the period 2001 to 2010

[64] See Appendix A for full list of Core NTEs

SIC descriptors do conveniently cross national boundaries in terms of their common identification of activities and thus they will facilitate international comparison with one key proviso.

The proviso is that alongside the structured range of descriptors there exists adequate time series data on the establishments in the relevant categories to deliver clear evidence of the comparative performance of NT Economy businesses compared to all other businesses in defined geographic locations.

If this is the case we understand part of what we need to know to deliver robust economic strategy.

'Strategy which is of benefit to all parts of a community'

A number of considerations influenced the creation of the NMI.

The most important of them was the range of businesses, how they could best be classified and the extent to which it could be verified whether an organisation belonged to an NT Economy category.

It was concluded that a **Core NTE** and **Non-Core NTE** categorisation would be needed.

It was obvious that whilst it could be said that some businesses would not exist without their after dark opening hours, others were not dependent in this way.

Two classic non-dependent cases are Retail and Hotel Accommodation.

Whilst late night shopping may be a feature of retail strategy and retail may extend its hours around the clock its primary hours are daylight hours and in many cases late night shopping is a promotional activity.

There are always exceptions to this by location and by outlet type.

Similarly whilst Hotels provide a resting place at night for tourists of different categories they would exist if the NTE were closed down and most of their employment is day time.

For such reasons activities such as retail and accommodation are allocated to Non-Core NTE along with the provision of public services such as street cleaning and the regulation of night time businesses and the provision of transport services.

Non-Core NTE may be seen as the supply chain activities but not the central services.

Finally it was recognised that there is a category of business which supplies the NT Economy Core which is fundamentally delivering product for resale within an establishment. **NT Economy Supply**.

Thus the definition of Core NT Economy only includes those services which directly provide evening and late night services to the consuming public.

The Core Services are summarised into establishment sub sectors and individual activities relating to

- Drink,
- Entertainment,
- Food.

This report was commissioned by the Australian National Local Government Drug and Alcohol Advisory Committee (NLGDAAC) to deliver insight into the size and shape of the Australian Night Time Economy[65] and in particular the Night Time Economies in the LGA geographies of participating members.

Measurement is based upon the definitions of activity in the Night Mix Index (NMI) jointly developed by TBR and MAKE Associates to provide a first definitive view of the economic nature of the NT Economy.

[65] NTE – Night Time Economy – definition

The NMI uses a common standard of activity description drawn from the Standard Industrial Classification System (SIC). SIC is employed across a wide range of developed economies. SIC, in this case ANZSIC[66], descriptors deliver a comparative framework of economic performance for the Federal economy and the States and LGAs measured across the time snap shots of 2009 and 2011.

The statistics in the NMI focus on Core businesses that provide services after 6 p.m. at night whether they serve alcohol or whether they do not.

The criteria for inclusion in the NMI are based upon whether a firm provides a range of identified Food, Drink or Entertainment services to the general public.

As example, Entertainment includes theatres, cinemas, sports events and cultural and creative activities.

10.3 The Critical Measurement

The final and key critical component of the NMI is that **measurement is dynamic**.

Whilst it is useful to see the size and structure of Night Time businesses this in itself would not meet relevant strategic purposes. If the NMI is to be a useful component of policy there must be a comparative element to indicate the growth and decline of activities over time and between different geographies.

Thus the NMI will always show at least two annual periods of comparison.

10.4 Use of the NMI – Purple Flag

Since its first use in 2009 the NMI has had considerable interest and been applied to economic study in a wide range of UK, Australian and recently New Zealand cities.

In the UK perhaps the most positive initiative to develop the after dark economy is based around the award of Purple Flag status to places which satisfy certain criteria.

Purple Flag is part funded by government and managed by ATCM[67] and the status is awarded to a place which satisfies specific criteria. Award is part of an on-going programme of evaluation. Criteria for award include an understanding of the size and shape of the Core NTE businesses and a strategic approach to introduce wider services to encourage the community to make better use of these spaces.

A component of the programme addresses the management of establishments.

As it can be given so the Purple Flag status can be taken away.

Places seeking Purple Flag status have used the NMI for a statistical understanding of their geographies and the changing economic impact of the 'NTE'.

ATCM has incorporated the NMI statistics into its basic indicators which all places need to understand.

The NMI has been used to help understand the existing quality and development of NT Economies.

Most recently the London boroughs of Lambeth, Newham and Westminster have commissioned studies to look at the strategic development of their NTEs.

[66] ANZSIC – Australia and New Zealand Standard Industrial Classification as used by Australian Bureau of Statistics

[67] Association of Town Centre Management

10.5 Literature Review and References

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City Spaces - Sydney LGA Website – Creative Spaces - 2014

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10.6 Biography

Terry Bevan BSc (Econ); F. Inst. D

The Study Director for this work is Terry Bevan who was responsible, with Alistair Turnham for the invention of the NMI model. Terry is a Director and Shareholder of TBR which is a leading UK economic research consultancy. He has a wide ranging experience in business based upon an early academic training in Economics at the London School of Economics which took him directly into employment with Unilever PLC – one the largest consumer goods multinationals in the world. After holding a number of positions of increasing international responsibility he left Unilever to work for other multinationals including the Guinness and Heineken businesses before establishing his own consultancy practice.

He has delivered research projects for UK national and regional government in enterprise development and critical sectors such as low carbon technologies, cultural and creative skills, digital industries and high growth firms.

Terry has managed and invested in a variety of businesses but now focusses all his energies on his work in the Night Time Economy and his charitable work in the children's special needs sector where he is Chair of a Charitable Trust providing education and care services to young people.

He is a skilled user of business data, which led to him to direct the first full study into the costs and benefits of the Night Time Economy in Sydney in 2011. He has led studies about the future of NTE economies in several London locations. He provided research background to a study for Weymouth as a base for the 201 Sailing Olympics.

He is currently finalising a major study on the costs and benefits of the NTE in Westminster, UK.

In the Australian market Terry works in close collaboration with Michael Lester who has served as an Economist at senior levels in Australian Government and worked in a number of capacities for the World Bank

BENEFIT-COST ANALYSIS

Problems in Quantifying the Social Costs and Benefits of Gambling

By DOUGLAS M. WALKER*

ABSTRACT. As casinos and other forms of gambling spread across the United States, voters and policymakers are becoming increasingly interested in the potential costs and benefits from expansion in gambling industries. Since the mid-1990s, a variety of cost-benefit research has been published, much of it using flawed methodologies. This paper examines some of the most important areas of debate and disagreement among gambling researchers, and explains why the quantification of the costs and benefits of gambling is problematic.

I

Introduction

THE GAMBLING LITERATURE includes research by psychologists, sociologist, economists, lawyers, and others. One area of interest to all of these researchers is how to quantify the costs and benefits of gambling. There is little agreement among researchers about the appropriate way to conceptualize and quantify the effects of gambling on society. Part of this disagreement is due to the different perspectives from which they approach the problem. Also, since the literature is still very young, one cannot expect agreement among all researchers. The gambling literature has a variety of problems, some of which I will discuss in this paper. It is important to understand these problems because a failure to consider them can lead to a misinterpretation of published cost-benefit analyses and misinformed policy prescriptions

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involving an important and growing industry. In addition, clarification on some issues is necessary before the literature can progress.

The paper is organized into four additional sections. Section II briefly discusses some of the different approaches to evaluating the costs and benefits of gambling and describes the potential benefits of adopting a single methodology for evaluating the economic and social effects of legalized gambling. In Section III, I examine some of the general problems with cost-benefit studies of gambling, with a focus on casinos. Also addressed are specific cost and benefit issues that have been particularly difficult for researchers to deal with. Section IV provides a detailed analysis and critique of a casino gambling social cost study. The purpose of this discussion is to describe the numerous potential problems with using cost-benefit analyses to inform policy toward gambling. Section V concludes the paper with a discussion of the extent to which gambling research should be used to inform policy decisions.

II

Different Approaches to Evaluating the Costs and Benefits of Gambling

COMMERCIAL CASINO GAMBLING began its spread across the United States in the early 1990s. As a result of the potential for economic benefits touted by the casino industry and politicians, interest in research on the casino and its industry began to rise, as demonstrated by hearings in the U.S. House of Representatives in 1994. At the hearings, a number of vocal anti-gambling advocates spoke. Some of these speakers have continued to publish studies on the economic effects of gambling during the last decade. Most notable among these is economist Earl Grinols. Even accounting for the published research, there is still remarkably little empirical evidence on how the casino industry affects the local, state, or national economy. In addition to economic studies on the topic, researchers from other fields have produced studies purporting to estimate the costs and/or benefits of legalized gambling and the related behaviors.

At the 1st International Symposium on the Economic and Social Impact of Gambling, researchers from a variety of disciplines and perspectives met to discuss the appropriate way to identify and

measure the socioeconomic effects of gambling. Little ground seems to have been made in terms of agreeing on the appropriate methodology. As Wynne and Shaffer (2003: 120) explain:

> While the ultimate goal of the Whistler Symposium was to derive "best practice guidelines" for conducting future gambling socioeconomic impact studies, participants rapidly realized this was an overly ambitious expectation that would not be achieved. Moreover, the Symposium experience showed that there was little consensus on (a) the most salient philosophical perspective, or conceptual framework, that should underpin research into the social and economic impacts of gambling; (b) definitions of private costs versus social costs attributable to gambling; (c) what costs and benefits should be counted in socioeconomic impact analyses; and (d) the best methods for measuring gambling benefits and costs.

The three major perspectives represented at Whistler were cost-of-illness (Single 2003), economic (Collins and Lapsley 2003; Eadington 2003; Walker 2003a), and public health (Korn, Gibbins, and Azmier 2003).[1] Each approach is briefly described below.

A. Cost of Illness

One popular mechanism for estimating the costs of problem gambling is based on cost-of-illness (COI) studies, which previously have been applied to alcohol and drug abuse. Single (2003) describes these generally, while Single et al. (2003: vi) provide a detailed explanation of the approach:

> The impact of substance abuse on the material welfare of a society is estimated by examining the social costs of treatment, prevention, research, law enforcement, and lost productivity plus some measure of the quality of life years lost, relative to a counterfactual scenario in which there is no substance abuse.

As Harwood, Fountain, and Livermore (1999: 631) explain:

> Underlying . . . COI [studies] is the premise that an illness or social problem imposes "costs" when resources are redirected as a result of that illness or problem from purposes to which they otherwise would have been devoted, including goods and services and productive time.

There are other approaches that are commonly associated with the COI approach. These include the "willingness to pay" and "demographic" approaches (Harwood, Fountain, and Livermore 1999).

The COI approach is useful because it has its foundation in alcohol and drug studies, so the application to problem gambling does not require a reinvention of the wheel. In addition, this approach has much in common with the "economic" perspective described below. For example, the issue of opportunity cost (or the counterfactual scenario) is important in both. They differ, though, in how they treat worker productivity and some types of expenditure.

Like the other approaches described below, COI studies are not without criticism (e.g., Reuter 1999; Kleiman 1999). As the name suggests, COI studies are focused on the costs, not the benefits, side of the equation.

B. Economic

The economic approach, as explained by Eadington (1999, 2003), Collins and Lapsley (2003), and Walker (2003a), shares much with COI studies. Indeed, many of the same "costs" appear in both perspectives. However, there are differences in what should be included as costs and how they should be measured. (Several examples of disagreement are highlighted below.) The economic approach is more general than the COI approach because it provides a framework for also classifying and measuring benefits.

The "economic" perspective is described by Walker and Barnett (1999: 185) as being concerned with the overall level of aggregate wealth in society. If an action decreases the overall amount of wealth, then it is a social cost. Importantly, "wealth" refers to well-being, not just material wealth.

This approach has been criticized by McGowan (1999) and Thompson, Gazel, and Rickman (1999), among others. Researchers have argued that the economic approach ignores certain negative effects of problem gambling (e.g., Hayward 2004: 4). However, many of the criticisms are unfounded because they are based on an assumption that "economic" implies "money measurement." This is more a description of accounting than economics. Most of this paper focuses on the economic perspective on gambling.

C. Public Health

The public health perspective is perhaps the most general of the three approaches introduced here. It is based on the Ottawa Charter (World Health Organization 1986), and it focuses on prevention, treatment, harm reduction, and quality of life. In terms of gambling, it focuses on how gambling can affect individuals, families, and communities (Korn and Shaffer 1999: 306).

The public health approach does not primarily focus on how to measure costs and benefits. Still, economic costs and benefits are an important component of the public health perspective. There are quality-of-life components that defy measurement, and it is important for these to be considered along with components that are easier to quantify. In this sense, the public health framework helps to show how the other approaches fit into the big picture.

While there are some areas of agreement among the different perspectives, there are also some significant differences. Each approach has its merits and limitations, and each implies a different approach to measuring the costs and benefits of gambling.

D. Potential for a Standardized Methodology

Legalized gambling provides benefits for consumers and, possibly, local economies. On the other hand, pathological or problem gamblers impose costs on society. But if a particular cost is "social" according to one research perspective but "private" from another perspective, adherents to one view may see the other perspective as ignoring significant social costs of gambling.[2] Gambling research would improve significantly if we could adopt a standardized methodology for identifying and measuring the costs and benefits of gambling.

Economists use the concept of gross domestic product (GDP), the dollar value of all goods and services produced in an economy during a year, to compare productivity and economic growth across countries and through time. Although it is not a perfect measure of well-being, it does provide a mechanism for comparisons. Psychologists use the DSM-IV for criteria to diagnose various types of problematic behavior, including pathological gambling. Having this standard is arguably

better than relying on individual therapists' subjective criteria. Similarly, a standardized methodology for quantifying the social costs and benefits of gambling would be beneficial.

Developing a standardized methodology would have at least three positive effects on research. First, it would allow researchers to more effectively contribute to the policy debate over gambling. Second, it would enable comparisons of costs and benefits across regions and through time. Third, it would provide a foundation by which the effectiveness of various pathological gambling treatment mechanisms could be tested. However, developing a single methodology is unlikely because of the vast number of problems that exist in the current, still developing, literature. Some of these issues are addressed in subsequent sections of this paper.

III

Problems in Cost-Benefit Analyses

SINCE GAMBLING RESEARCH is by its nature interdisciplinary, it is to be expected that different authors will approach the measurement of costs and benefits in different ways. For example, most economists are adherents to the concept of "consumer sovereignty." This is the assumption that the individual consumer knows better than other people what will make him or her the most well-off. The result of this is a more free-market attitude toward gambling and other goods than gambling researchers in other disciplines. Economists who take an advocacy position begin to see other potential roles for government, say, protecting consumers from bad choices. A sociologist may examine the same issues but have a predisposition for government control of markets. Psychologists may not spend much of their research effort on examining the appropriate role of government in a free society. Some aspects of disagreement in the literature are the natural result of differences in the academic disciplines.

Aside from discipline-specific influences that may be manifest in the literature, there have also been cases of blatantly biased research. Many of the early published studies were "advocacy" pieces, rather than scientific inquiries (Shaffer et al. 2001). The work by Goodman (1994, 1995), Grinols (1994, 1995, 2004), Grinols and Mustard (2001),

and Kindt (1994, 1995, 2001) are clear examples of advocacy. These authors are staunch anti-gambling activists, and their writing reflects this. For example, they fail to cite any literature that disagrees with their perspective or that might lead a reader to believe that there is debate on the issues (Eadington 2004; Walker 2007b). Anti-gambling advocates also typically include any "costs" that can be remotely linked to gambling, without giving justification. Importantly, some clearly biased research has shown up in very respectable outlets (e.g., Grinols and Mustard 2001, 2006; Grinols 2004; Kindt 2001). Much of the "early" (mid-1990s) research on the effects of gambling involved empirical estimates based on questionable methodologies.

On the other side of the ledger, many of the studies purporting to estimate the economic benefits from legalized gambling are simplistic and biased in their empirical models. Some of these are nothing more than guesswork. The casino industry, for example, has hired accounting firms to produce studies finding real benefits from legalized gambling (e.g., Arthur Anderson 1997). There has not been as much research effort on the benefits as there has been on the costs of gambling.

A. Critiques of Research Quality

Questions about research quality/legitimacy have been raised in comprehensive analyses (Australian Productivity Commission (APC) 1999; National Gambling Impact Study Commission (NGISC) 1999; National Research Council (NRC) 1999: chap. 5), as well as in more narrow critiques (Walker and Barnett 1999; Eadington 2004; Walker 2004). The NRC (1999: 186) explains that "most [studies] have appeared as reports, chapters in books, or proceedings at conferences, and those few that have been subject to peer review have, for the most part, been descriptive pieces." The result has been questionable, if not counterproductive, research:

> In most of the impact analyses . . . the methods used are so inadequate as to invalidate the conclusions. Researchers . . . have struggled with the absence of systematic data that could inform their analysis and consequently have substituted assumptions for their missing data. (NRC 1999: 185)

For example, in many social cost studies, researchers use ad hoc methodologies to identify and measure costs.[3] As a result, the annual social cost estimates have ranged from a "conservative" $9,000 to over $50,000 per person.[4] Certainly, there is no standardized methodology for measuring social costs.

Gambling research, even when it is clearly biased, can be very influential.[5] This is because the research has an obvious, direct link to policy. Since the field is relatively young, a new study is likely to address a problem that has not been examined before or to be seen as adding to existing but inconclusive evidence. As a result, it is more likely to receive attention by other researchers, policymakers, and the press. In more mature research areas (say, international trade), a new article may not have much of an impact on policy simply because there is a long history in the literature.

Since gambling research is interdisciplinary, and since many researchers have not read extensively outside their own field of expertise, it may be difficult to spot bias except in their own area of expertise. Biases aside, there are other important controversies over measuring benefits and costs of gambling.

B. General Measurement Hurdles

There are several general issues that make the measurement of the benefits and costs of gambling extremely complicated. Although some studies have acknowledged these issues, there is currently no ideal way to handle them.

1. Counterfactual Scenario

The key to understanding the economic benefits of gambling is the counterfactual scenario (Collins and Lapsley 2003; Eadington 2003; Grinols 2004). What would the resources used to build casinos, racetracks, and so on otherwise be used for? Does a new casino reduce unemployment or simply shift jobs among industries? What about gambling industry revenues? Are these merely shifted away from other industries? Is it possible that the shifting of resources within or among industries can be beneficial for efficiency reasons? A consideration of market economics and a review of empirical evidence

can be informative. Unfortunately, "what would have happened otherwise" in either the short or long run is not likely to be known. On the other hand, we might have strong suspicions in some cases (e.g., the Gulf Coast of Mississippi probably would not have seen as much change during the past decade were it not for casinos). To an extent, however, cost-benefit analysis relative to the counterfactual is guesswork.

2. Comorbidity

Comorbidity remains one of the biggest challenges to researchers interested in measuring the effects of gambling on society (Shaffer, Hall, and Vander Bilt 1997; Walker and Barnett 1999). Few authors have even considered the implications of multiple disorders; they simply attribute the full costs to the gambling disorder, even when other problematic behaviors, such as alcoholism, were clearly present (e.g., Thompson et al. 1997; Grinols and Mustard 2001; Grinols 2004). A mechanism is needed to allocate the harm among coexisting disorders. As with the counterfactual scenario, dealing with comorbidity in estimating the costs of gambling is mainly guesswork.

3. Government Expenditures and Social Costs

Even when particular government-paid costs of gambling are agreed to be "social costs," measuring them may be tricky. For example, most researchers count government expenditures relating to the treatment of problem gambling as social costs (Walker and Barnett 1999; Collins and Lapsley 2003; Eadington 2003; Single 2003). In fact, such expenditures are a primary focus of COI studies. The magnitude of these social costs in a country depends critically on the level of treatment-related expenditures by government. This makes the comparison of social costs across countries difficult. For example, if one country increases its expenditures on problem gambling treatment, the social costs of gambling in that country increase according to most studies, even if the number of problem gamblers or the severity of their problematic behaviors decreases. A country whose government spends nothing to deal with problem gambling may have a significantly lower social cost, ceteris paribus. Alternatively, suppose one

country compensates pathological gamblers 150 percent of their treatment costs. The social costs of gambling in this country would be overestimated.

This is a critical point to understand. Simply because the government spends money on something does *not* necessarily imply that the expenditure represents a social cost (i.e., a decrease in social wealth), though it *may*. Yes, members of society must give money to government (taxes) to fund such expenditures and so, in a sense, it is a cost to society members. However, the benefits also go to society members. For example, education, research, police, unemployment benefits, and so on would all be social costs if government expenditures are sufficient to qualify as social costs. These things are fundamentally different from the social costs associated with pathological gambling. Voters may wish to minimize the social costs of gambling, but do not typically seek to minimize education, research, police protection, and many other forms of government spending. If government expenditures implied social costs, then the social cost problem would be easily solved—by eliminating government spending! This point illustrates why social cost must be something other than mere expenditures by a person or negative consequences to an individual.

Browning (1999) discusses government expenditures as externalities. His discussion is in the context of smoking and the related health care costs that are borne by government. He calls these "fiscal externalities." They are not technological externalities, because expenditures by government result in taxes on citizens, and tax rates are not arguments in utility functions (Browning 1999: 7). In discussing cigarette smoking and medical care subsidies, Browning (1999: 12–13) explains:

> If a fiscal externality in the cigarette market is associated with excessive cigarette smoking and there is a welfare cost, it is simply a reflection of the welfare cost produced by the medical care subsidy. There is no "new" inefficiency produced by the fiscal externality. Fiscal externalities, therefore, do not necessarily imply any inefficiency. If there is inefficiency associated with the fiscal externality, it reflects the distorting effect of the policy (here, the medical care subsidy) that creates the fiscal externality. Fiscal externalities themselves do not cause any new inefficiency in resource allocation.

This is an important perspective that must be considered and addressed by gambling researchers, especially since many researchers call for more government support of pathological gambling treatment and prevention expenditures.

Social cost studies that simply use government expenditures as the measure of social costs are problematic. Yet, there is no obviously better way to handle these costs. As Kleiman (1999: 638) explains in the context of drug and alcohol abuse, "since the costs of remedies are measured, while the suffering they avoid is not, the development of a treatment for an injury or disease can increase, rather than decrease, its measured cost." Clearly, this approach is misguided.

One could argue that government expenditures should be handled in a fundamentally different way, since they may be tied more directly to politics than to the level of problem gambling in the country. Even so, the level of government spending can provide useful information to researchers interested in studying the cost effectiveness of different treatment options.

4. Surveys and Fungible Budgets

In many cases, social cost estimates are derived from responses given by Gamblers Anonymous (GA) members. Examples of this type of study include Thompson et al. (1997) and Schwer, Thompson, and Nakamuro (2003). Researchers will give a survey to a small number of problem gamblers and, from that nonrandom sample, will extrapolate to the general public. Diagnostic and screening instruments like the SOGS and DSM-IV commonly ask how a person financed his or her gambling.

Extrapolating from the experience of the most serious problem gamblers to the general population is inappropriate (Walker and Barnett 1999). But a more fundamental problem results when social cost estimates are based on survey responses from problem gamblers. This is because budgets are fungible. It is difficult for an individual to unequivocally specify the source of money lost gambling (e.g., paycheck, credit card, borrowing from friends or family). People may have several sources of income or money; they also have many types of consumption spending. A person's financial problems may not be due solely to problem gambling.[6] For example, suppose a problem

gambler buys a car beyond what his budget would allow, even without his gambling losses. To what extent are financial woes due to gambling or to the expensive car? This issue has not been dealt with effectively in the literature, but it is very important.

Blaszczynski, Ladouceur, Goulet, and Savard (2006) explain that self-reported expenditure estimates are ambiguous and imprecise. This is due in part to respondents misunderstanding the questions or misinterpreting the instructions for answering them. Of course, there is no guarantee that respondents will be honest or that they will not simply blame all their problems on gambling if they are being asked about the gambling problem. But if survey respondents cannot accurately estimate the monetary amount of their gambling losses, as found by Blaszczynski et al. (2006), how can we expect them to correctly identify specific sources of their income that is spent on gambling?

C. Unresolved "Benefit" Issues

The long-standing areas of disagreement on the benefits of gambling deal more with the degree, rather than type, of benefits. Most researchers acknowledge that legalized gambling may have positive economic impacts. These may include increased employment, higher average wages, capital inflow, increased tax revenues, more choice for consumers, and increased competition among entertainment industries.

The gambling industries have promoted gambling for their own profit, of course, and for the potential economic benefits that may accrue to the local economy. Recent evidence suggests there may even be health benefits from gambling for some (Desai et al. 2004). Despite some agreement on the types of benefits that may result from legalized gambling, there is debate over how these should be measured.

1. Tax Revenues

Most researchers, politicians, newspaper reporters, and citizens apparently believe that the tax revenues from gambling are a primary benefit of legalized gambling. Indeed, this is one of the major selling points of casinos. However, from a purely economic perspective, tax

revenue should not be considered a net benefit of any policy. The reason is that the taxes gained by government come at the expense of the taxpayer. In other words, the benefits to one group are offset by costs to another group.

Even so, voters or politicians in a state, province, or country may decide that certain types of taxes are preferable to others. For example, if there is the choice between an easily avoided tax, like a tax on lotteries or casino owners, and an "unavoidable" tax like a sales tax, many people may prefer the lottery tax or taxes on casino revenues to a general sales tax.[7] The popularity of casinos as a fiscal policy tool has something to do with politicians wanting to generate tax revenue in a relatively painless way. Taxes on casinos are likely to face less opposition than increasing a general sales tax. So, in this sense, gambling taxes could be considered a benefit relative to the counterfactual. In cases where casinos are located on state or country borders, much of the tax revenue may accrue from outsiders. In this case, the tax revenue can be counted as a benefit to the local population, who may see their tax burdens decrease as result of tourism and the associated tax revenues.

Obviously, good records exist for tax revenue, so these are relatively easy to measure. This may explain why tax revenues receive the majority of the attention in the economics of gambling literature. Still, it is the *net* change in tax revenue that is important, rather than the absolute taxes paid by casinos or generated through lotteries.

2. Income and Employment

When a community is considering legalizing casino gambling, one of the benefits it might expect is an increase in local employment and the average wage rate. Yet, analyzing the effect of a new industry to a community can be tricky. Does the new industry create new jobs, on net, or are jobs merely shifted among industries? This is an important issue that is commonly raised by researchers (e.g., Grinols 2004). Even if the gambling industry "cannibalizes" existing industries, is the community better off because of higher wages or increased competition among employers for qualified employees? The effects of gambling on local labor markets have not received adequate attention in the economics literature.

Grinols and Mustard (2001: 147) argue: "There is no net gain to the economy from shifting a job from one location to another unless it increases profits to the economy." This is wrong. First, if the casino job creates more value for consumers than the old job, regardless of overall profits in the economy, then the new job is beneficial to the economy. Furthermore, Grinols and Mustard (2001) ignore the fact that workers who switched jobs to work at casinos must benefit by the new job. Indeed, for all casino employees, their casino job must be the best employment opportunity available to them; otherwise, they would be working somewhere else. This effect is certainly difficult to estimate in money terms, but its abstract nature does not mean that it is irrelevant. Overall, there are probably significant employment benefits from the expansion of gambling industries.

3. Consumers' Surplus and Variety Benefits

Perhaps the greatest potential benefit from legalized gambling is the enjoyment consumers receive from the activity. After all, consumers vote on their favorite goods and services with their pocketbooks. The consumer benefits from gambling are certainly much greater than are tax revenues or employment growth. Several authors have acknowledged this (Eadington 1996; APC 1999; Walker and Barnett 1999; Collins 2003), but most researchers discount or ignore it (e.g., Grinols and Mustard 2001; Grinols 2004). Yet, consumer benefits are critical to understanding how the availability of gambling can benefit society.

There are at least two potential sources of consumer benefits from casino gambling. Normally, consumers benefit when increased competition in a market leads to lower prices. This is one source of consumers' surplus, illustrated by two examples. First, sometimes casinos advertise particular games. If one casino offers craps players "10X odds" while other casinos offer only the standard 2X odds, this is price competition.[8] If one casino advertises that its slot machines pay off a higher percentage of handle than other casinos, it is a form of price competition. If the effective price of playing the casino games falls, then consumers' surplus rises. Second, casinos are often bundled with other products like hotels and restaurants. To the extent this increases competition in the local restaurant and hotel markets, whether through price decreases or quality increases, the casinos

provide benefits to consumers in the form of consumers' surplus. These benefits have been ignored in most cost-benefit of gambling studies.[9]

The other consumer benefit that has been ignored by most researchers relates to product variety. When casino gambling is first introduced to a state, for example, it has the effect of increasing the product choices for consumers. This "variety benefit" could be significant, but it is difficult to measure.[10] In his recent book, Grinols (2004) completely ignores both of these potential benefits from gambling and instead focuses on a rather insignificant benefit, "distance consumer surplus."

Some of the largest benefits of gambling defy measurement. As a result, many researchers focus on more obvious and easy-to-measure benefits of gambling, like employment and tax revenues. If research is to improve in quality, these consumer benefits must be estimated. Otherwise, the best we can expect is superficial benefit estimates.

D. Unresolved "Cost" Issues

The "social cost" of gambling is perhaps one of the most debated economic issues in the gambling literature. Among the different research approaches, there is little agreement either on how to define a cost or on how to measure it. This makes the cost side of the equation even more difficult to deal with than the benefits side.

1. Jargon

The cost-benefit jargon itself may be causing confusion among policymakers and the researchers who use the terminology. All of the following terms, as well as others, describing "costs" have been used in recent papers: private, social; internal, external; direct, indirect; harms, costs; intangible, tangible; external costs, externalities; pecuniary externalities, technological externalities. If a standardized social cost methodology were adopted, presumably it would utilize a terminology that is easy to understand. In any case, researchers are concerned most with quantifying the costs that pathological gamblers impose on others.

2. Definition of "Social Cost"

What constitutes a "private" and "social" cost of gambling is debated, even among economists. Walker and Barnett (1999) provide a detailed explanation of the welfare economics (utilitarian) perspective on social costs (McGowan 1999). They argue that a social cost requires that the action reduce the total wealth in society. This implies that wealth transfers (e.g., gambling losses, bad debts, etc.) cannot be considered social costs. This "economic" perspective has been criticized because it fails to count as costs many of the negative effects that researchers and practitioners believe are critical (Hayward 2004; Thompson et al. 1999). At the other extreme, Thompson et al. (1997) and Grinols (2004) count as a social cost almost anything negative that can be remotely linked to gambling. The differences in opinion on these issues are illustrated in Thompson et al. (1999) and Walker (2003a).

The economics definition of social costs is based on the idea that these costs reduce the overall level of societal wealth, where "wealth" refers to overall well-being, not just material wealth (Walker and Barnett 1999). In this sense, the economics definition fits in the context of a public health perspective, but it is distinct from the COI approach. The COI approach is adapted from the substance abuse literature and focuses on costs insofar as they impact GDP. Economists are skeptical about the use of GDP as a measure of well-being because it does not account for things like the quality of goods, the value of leisure time, environmental quality, or other factors that may affect happiness.

Obviously, what should be counted as costs of gambling—and how to measure them—are issues that will continue to be debated for the foreseeable future. There are several distinct approaches to this issue, and a reconciliation of the different methodologies is not likely to occur soon.

Some researchers (e.g., APC 1999; Collins and Lapsley 2003; Single 2003) have based their definition of social costs on that posited by Atkinson and Meade (1974) and Markandya and Pearce (1989). According to these researchers, for a cost to be "private," the actor must have *full knowledge* about the potential costs of consuming the good. In the case of smoking, this implies that if the consumer is not

"fully informed" about the harms from smoking, he or she underestimates the harms and chooses to smoke too much. The result is a social cost, *even if it is borne by the smoker himself or herself*.

The Markandya and Pearce (1989) social cost definition ignores the fact that consumers are never fully informed about any of their decisions. For example, when I decide to get into my car and drive to work, I am not fully informed about the chances of being in an accident or my probability of surviving a particular accident. Furthermore, consumers are probably as likely to overestimate as underestimate the dangers from smoking, gambling, and so on.[11] Following the logic of Markandya and Pearce, if a consumer *over*estimates the costs of smoking, he or she will smoke too *little*. The result is less smoking than is socially optimal. Yet this possibility is not acknowledged by Markandya and Pearce (1989) or researchers who cite them. There are other problems with the Markandya and Pearce methodology that may undermine the validity of studies based on it. The result of using this definition of social cost is likely an overestimate of the costs, at least from the economic perspective.

3. Transfers of Wealth

Some researchers have argued that wealth transfers do not change the overall level of societal wealth, so they do not belong in cost-benefit calculations (NRC 1999; Walker and Barnett 1999; Collins and Lapsley 2003; Eadington 2003; Federal Reserve Bank of Minneapolis 2003; Single 2003). However, others argue that transfers (bankruptcies, thefts, "bailouts," and "abused dollars") do belong in the equation (Markandya and Pearce 1989; Thompson et al. 1997; Grinols and Mustard 2001; Grinols 2004) because a transfer is a cost to *someone*. This is an extremely important issue because how transfers are treated will have perhaps the largest impact on the magnitude of social cost estimates.

Some researchers base their argument that transfers are costs on an extremely vague concept, coined "abused dollars" by Politzer, Morrow, and Leavey (1985: 133):

> [the] amount [of money] obtained legally and/or illegally by the pathological gambler which otherwise would have been used by the pathological gambler, his family, or his victims for other essential purposes. These

> abused dollars include earned income put at risk in gambling, borrowed, and/or illegally obtained dollars spent on basic needs and/or provided to the family which otherwise would have been "covered" by that fraction of earned income which was used for gambling, and borrowed and/or illegally obtained dollars for the partial payment of gambling related debts.

Researchers who cite "abused dollars" are typically staunch anti-gambling advocates (e.g., Grinols 2004; Grinols and Mustard 2001; Kindt 2001). Kindt (2001: 31) suggests that the abused dollar cost concept "was given the actual or implied imprimatur of the *Journal* [*of Gambling Behavior*]." However, the editor of the *Journal* at the time, Henry Lesieur, has explained, "I have regretted my editing and allowing publication of the Politzer et al. article on the costs of pathological gambling. It has justifiably been criticized" (Lesieur 2003: 1).[12]

The problem with the concept of "abused dollars" is that using this definition, *all* money gambled could be considered "abused dollars." The definition lacks precision, as it fails to define "essential purposes." This type of generality leaves subsequent researchers open to interpret the concept any way they see fit. This has opened the door for advocates like Grinols and Kindt to vastly overestimate the social costs of gambling. If we hope to develop a standardized methodology for measuring the costs and benefits of gambling or to move toward offering relatively unbiased policy analyses, vacuous concepts like "abused dollars" need to be purged from the literature.

The issue of wealth transfers, say, from bad debts and bankruptcies, is an important one. Most noneconomists are not satisfied with the economists' "transfer of wealth" argument. But treating transfers as social costs has its own problems, as explained by Walker (2003a: 165–166). In any case, measuring transfers is relatively simple, once it is determined how they should be handled in cost-benefit studies.

4. Productivity Losses

Employment and worker productivity may be affected by problem gambling. Some researchers argue that there is a social component of reduced labor productivity, so this should be included in social cost estimates (Thompson et al. 1997; Grinols and Mustard 2001; Grinols 2004). Reduced productivity is also an ingredient of cost-of-illness studies (Single et al. 2003: sec. 4.4). Other authors have argued that

such costs are internalized because the costs fall upon one of the parties of the labor contract (Walker and Barnett 1999; Eadington 2003; Walker 2003a). If a problem gambler becomes less productive on the job, the cost of that falls on the employer, unless the employer cuts the worker's wages or fires him or her and hires a new, more productive worker. Therefore, lost productivity is not an external, or social, cost. This is an issue that deserves much more analysis than it has received in the literature.

5. Harm to Family Members

There is no doubt that problem gamblers' behavior may harm family members. But some researchers have argued these costs are "internalized" and do not belong in social cost measures (Manning, Keeler, Newhouse, Sloss, and Wasserman 1991; Walker and Barnett 1999). Others are less sure how to deal with the issue, but suggest that the costs are probably not internalized (Sloan, Ostermann, Picone, Conover, and Taylor 2004: 220–221). Even if harm to family members is a social cost, how to measure it in money terms is unclear. There are other examples of harms from gambling that are not easily measured. For example, how should we measure the cost of a divorce caused by problem gambling? Rather than focusing on money measures, perhaps simply noting that family problems are a likely side effect of pathological gambling would be a better way to acknowledge this issue.

6. Crime

Research indicates that some pathological gamblers engage in criminal activity. The costs associated with these activities may be considered to be social costs. Although there have been attempts to estimate the relationship between crime and gambling, there is still no general understanding of this issue. As a result, even when cost studies include a crime cost component, they are, to a large extent, guesses about the magnitude of such costs. Further complicating the measurement of the crime effect is the comorbidity issue. Until researchers can develop a method for separating the effects of combined disorders, cost of crime estimates will continue to be flawed. An example of this type of research is discussed below.

E. Summary

Taken together, the issues raised in this section represent an insurmountable obstacle to researchers seeking to accurately estimate the social costs and benefits of gambling. Despite several conferences being dedicated to these specific issues, there is still no consensus on how the costs and benefits of gambling should be classified or measured. As a result, cost-benefit analyses of gambling continue to be of limited value. Unfortunately, politicians and the media will probably continue to seek these types of studies to use as their basis for policy decisions. Some researchers will continue to write such studies.

IV

Example from the Literature

A NUMBER OF STUDIES have examined the problems in gambling research.[13] For a general review, see Walker (2007b). Grinols (2004) offers one of the most recent comprehensive economic treatments of casino gambling in the United States. Grinols's work is influential, as it has been used as a foundation for applied studies (e.g., PolicyAnalytics 2006). He does not provide an original estimate of cost. Instead, he simply averages previous estimates and arrives at his estimate of the annual cost to society of one pathological gambler of $10,330 (Grinols 2004: 171).

Since Grinols uses previous estimates to derive his own, we will analyze one of those studies here. Schwer et al. (2003) is one of the studies used by Grinols (2004: 170, 172–173). A further reason to analyze this study is that the authors provide explicit details of their methodology, perhaps to a greater extent than any other study.[14] This discussion will be informative, as it will provide the reader with specific examples of some of the conceptual problems discussed in general terms in the previous section. As the reader will see, social cost of gambling estimates are often derived from arbitrary assumptions.

The report by Schwer et al. (2003) is an attempt to measure the social costs of problem and pathological gambling in Las Vegas. The

issue they address is an interesting one—whether the social costs in a "mature" casino market vary from those in less developed markets. This report received a significant amount of media attention in 2003, and a revised version of the paper was later published (Schwer and Thompson 2005).

The authors should be commended for explaining the details of their analysis. Unfortunately, their results are unreliable because their analysis is seriously flawed. The main methodological problems are (1) basing their analysis on past studies with their own methodological defects; (2) generating a cost estimate using an inappropriate conception of "social cost"; and (3) relying on numerous arbitrary assumptions.

A. Estimate of the Social Costs of Casinos in Las Vegas

The Schwer et al. (2003) report applies a methodology developed in earlier studies to survey results from 99 Gamblers Anonymous (GA) members in Las Vegas. Based on the survey results, the authors estimate the annual social cost per pathological gambler. The authors admit that the survey was not random, but argue that their sample is probably representative of the serious problem gamblers in Las Vegas (2003: 5). However, GA members are likely to represent the most severe cases of pathological gambling. With such a small, biased sample, it is inappropriate to generalize to the population of Las Vegas pathological gamblers.

The survey was used to collect a variety of demographic data on the GA members. It also asks about the following: volume of gambling activity, total lifetime gambling losses, sources of money used to gamble, gambling debt accrued, bankruptcy and other court proceedings to deal with creditors, theft or other illegal activities committed, convictions and jail time served, gambling's effects on jobs, government aid received, and professional treatment received.[15]

Schwer et al. use the survey data to estimate average levels of the different variables' effects. For example, to determine the average amount of lost work time among pathological gamblers, they take the number of people who indicated they had missed work because of gambling (50 of 89 respondents, or 56 percent). Those people

reported an average of 17.22 hours missed each month due to gambling. Allocated over 89 respondents, the average loss is 9.67 hours per month, or 116.1 hours per year (2003: 11).[16] To determine the "social cost" of this, they multiply the 116.1 hours by $15 per hour, to get $1,742. The $15 rate is based on Thompson et al.'s (1996: 17) use of an average annual pay rate of $23,610.

Similar calculations were made to derive the other costs included in their estimate.[17] In some cases, the authors "trim" the data to appear more conservative. Presumably, they are eliminating outliers from the data, but this process is not clearly explained.

Using the process described above for various effects of pathological gambling, Schwer et al. estimate the average annual social costs per pathological gambler in Las Vegas to be $19,085. The components of this figure are listed in Table 1. In the next step, the authors multiply this cost by 43 percent, because Politzer, Morrow, and Leavey ([1981] 1985) estimated that the costs of gamblers not in treatment are only 43 percent as high as those in treatment. This adjustment cuts the annual social cost estimate to $8,207 per pathological gambler.

The authors use current population estimates and the prevalence rates estimated by the NGISC (1999) and Volberg (2002) to estimate the total social costs attributable to problem and pathological gamblers in Las Vegas. The estimated range of annual social costs is an astonishing $301–$470 million.

B. Methodological Problems in Schwer et al. (2003)

The social cost estimate by Schwer et al. (2003) is based on the methodology used in previous social cost studies, including Politzer et al. (1985), Thompson et al. (1996, 1999), and Thompson and Quinn (2000). Unfortunately, Schwer et al. (2003) have ignored published critiques of these works that question the validity of their social cost methodology.[19] The National Research Council notes: "Most [studies] have appeared as reports, chapters in books, or proceedings at conferences, and those few that have been subject to peer review have, for the most part, been descriptive pieces. As this research evolves, it should be subjected to peer review to help ensure that it indeed is advancing the body of knowledge" (NRC 1999: 186).

Table 1

Estimated Annual Social Costs per Pathological Gambler (Uncorrected)[18]

Item #			
	Employment		$6,017
1	Missed Work	$1,740	
2	Productivity Losses (Quit Jobs)	2,813	
3	Fired from Work (Productivity Lost)	1,423	
4	Unemployment Compensation,	41	
	Bad Debts, and Civil Court		$10,291
5	Bankruptcy Debt Loss	9,556	
6	Civil Court Costs (Bankruptcy/Debt/Divorce)	735	
	Criminal Justice System		$2,341
7	Theft	1,819	
8	Arrests	99	
9	Trials	89	
10	Incarceration	84	
11	Probation	250	
	Treatment and Social Services		$436
12	Treatment Costs	286	
13	Welfare	93	
14	Food Stamps	57	
	Total Estimated Annual Social Cost per Pathological Gambler		**$19,085**

Source: Schwer et al. (2003: 17).

C. A Revised Social Cost Estimate

As Table 1 shows, Schwer et al. (2003) estimate a number of curious "costs." This conception of social costs was first analyzed by Walker and Barnett (1999). That discussion will not be repeated here, but Walker and Barnett explained why many of the alleged costs cannot be appropriately classified as such.

First, if one adopts a standard definition of "social cost" from the economics literature, then items so classified must result in a decrease

in the aggregate level of wealth to society. We can think of such items as the result of the existence of pathological gambling behaviors; resources used to address those problems instead of being used for other purposes would qualify as social costs.[20]

Using the Walker and Barnett (1999) social cost methodology, then the Schwer et al. (2003) cost estimate must be revised. First, items in Table 1 that are wealth transfers should be eliminated from the social cost estimate. Items 4, 5, 7, 13, and 14 are wealth transfers, not social costs. Other items on the Schwer et al. list of costs are internalized. That is, there is no external or social component to them. These include Items 1, 2, and 3.

Simply by considering the social costs from an economic perspective, in other words, from a perspective of the well-established economics literature on externalities and social costs, the annual social cost per Las Vegas pathological gambler falls from $19,085 to $2,049 (see Table 2). This is a more reasonable estimate of the true social costs. Recall that

Table 2

Revised Social Cost Estimate

Item #			
	Civil Court Costs		$1,182
6	Court Costs	$635	
*	Legal Fees (Bankruptcy Proceedings and Civil Suits)	418	
*	Legal Fees (Divorce Actions)	129	
	Criminal Justice System		$581
8	Arrests	$99	
9	Trials	89	
10	Incarceration	84	
11	Probation	250	
*	Legal Fees	59	
12	Treatment Costs		$286
	Total Estimated Annual Social Cost per Pathological Gambler		**$2,049**

*Schwer et al. (2003) make several apparent errors in their table. Corrections have been made as indicated in note 18.

Schwer et al. multiply their estimate by 43 percent to get $8,207, as discussed above. When the revised estimate of $2,049 is similarly adjusted, the annual social cost per pathological gambler is $881.

As the reader may have already realized, the original cost estimate is almost completely arbitrary. Even the adjusted estimate could be argued to be arbitrary if one does not subscribe to the welfare economics perspective. Still other caveats are necessary if the gambling social cost estimate (or the adjusted one here) is to be taken seriously.

D. Prevalence Estimates

Psychologists estimate the percentage of a given population that is afflicted with gambling behavior disorders. These disorders are sometimes divided into two categories, "problem gambling" and "pathological gambling." The latter is a more serious condition.[21] Researchers typically multiply the prevalence rate by the population and the estimate cost per pathological gambler to arrive at a total social cost estimate for society (or the locality or state).

The prevalence rates Schwer et al. use to derive the cost estimates for problem and pathological gambling—shown in Table 3—come from two different sources. Volberg (2002) estimated the Nevada prevalence rate for problem gamblers at 2.9 percent and for pathological gamblers at 3.5 percent, for a total of 6.4 percent. For the second pair of estimates, Schwer et al. (2003: 18) cite the NGISC (1999), which reported data showing the rate of problem gamblers at 1.6 percent, and for pathological gamblers, 0.9 percent, totaling 2.5 percent.[22] Since the NGISC (1999: 4-4) reported that these rates double (roughly) when a population is within 50 miles of a casino,[23] Schwer et al. use 3.2 percent and 1.8 percent for problem and pathological gambler rates, respectively, in their study of Las Vegas.

In deriving the cost estimates for problem gamblers, Schwer et al. use the "low" prevalence rate of 2.9 percent (Volberg) and the "high" rate of 3.2 percent (NGISC). For pathological gamblers, they use a "low" of 1.8 percent (NGISC) and the "high" rate of 3.5 percent (Volberg).

Volberg's prevalence estimates are based on the SOGS (South Oaks Gambling Screen). When she presented her research to the Nevada

Table 3

Comparison of Schwer et al. and Revised Total Social Cost Estimates[25]

Row #		Schwer et al. Estimate		Revised Estimate		
		Low	High	Low	High	NODS
1	Est. Annual Social Cost per Pathological Gambler	$8,207	$8,207	$881	$881	$881
2	Est. Number of Pathological Gamblers (Low = 1.8%; High = 3.5%; NODS = 0.3%)	19,836	38,571	19,836	38,571	3,306
3	Total Estimated Social Costs, Pathological Gamblers (Row 1 x Row 2)	$162.8 million	$316.6 million	$17.5 million	$34.0 million	$2.9 million
4	Est. Annual Social Cost per Problem Gambler (Row 1 x 53%)	$4,350	$4,350	$467	$467	$467
5	Est. Number of Problem Gamblers (Low = 2.9%; High = 3.2%; NODS = 1.8%)	31,959	35,265	31,959	35,265	19,836
6	Total Estimated Social Costs, Problem Gamblers (Row 4 x Row 5)	$139.0 million	$153.4 million	$14.9 million	$16.5 million	$9.3 million
7	**Total Estimated Annual Social Costs of Problem and Pathological Gambling** (Row 3 + Row 6)	**$301.8–$470.0 million**		**$32.4–$50.5 million**		**$12.2 million**

State Gaming Control Board (SGCB 2002), she was questioned as to the legitimacy of using SOGS over other instruments. Volberg explained that "the SOGS was used in order to obtain prevalence data comparable to the large number of similar surveys carried out in the United States and internationally" (SGCB 2002: 40). However, she suggested that the SOGS is "on its way out" (SGCB 2002: 130; also see 145) and will eventually be replaced, probably with the NORC DSM Screen (NODS). While the SOGS was developed in the mid-1980s, the more recent NODS relies on "the most current psychiatric criteria" (Volberg 2002: 40).[24]

Interestingly, the prevalence estimates for Nevada using the current NODS are 1.8 percent problem gamblers and 0.3 percent pathological gamblers, for a total of 2.1 percent problem and pathological gamblers (Volberg 2002: 40, Table 21). This is much lower than the combined 6.4 percent used in the Schwer et al. study. If the cost estimate is revised using Volberg's NODS prevalence rates, the estimated total cost falls to $12.2 million.

Table 3 shows how sensitive the total Las Vegas social cost estimate is to the prevalence rate used in the calculation. This information helps emphasize how and why cost-benefit studies are so imprecise and unreliable.

E. Other Issues and Assumptions

The previous section offers a detailed analysis of some of the major problems in the Schwer et al. (2003) study. It is important to be aware of the level of arbitrariness involved in deriving such estimates, especially since the work by Schwer et al. (2003), Grinols (2004), and others is taken seriously by the media, voters, and policymakers. Aside from the above-mentioned issues that introduce uncertainty into the social cost estimates, there are other problems that have not been accounted for in studies like Schwer et al. (2003) or Grinols (2004).

For example, Walker and Barnett (1999) identified a variety of other potential social costs that are not measurable and have been excluded from published social cost estimates. These costs include those associated with lobbying and the political process of casino

legalization and the psychic costs of pathological gamblers and their families caused by gambling problems.

In addition, one must consider how to deal with government expenditures related to treatment costs, for example. Are these social costs or fiscal externalities as described by Browning (1999)? If one takes Browning's view, then Item 12 from the Schwer et al. cost estimate (Table 1) would drop out, further reducing the cost estimate. Perhaps most seriously, the Schwer et al. (2003) study, along with most other studies, including Grinols's (2004), ignores the issue of comorbidity. This oversight essentially renders all cost estimates of problem gambling *useless*.

Finally, the Schwer et al. (2003) study includes countless arbitrary assumptions that have not been mentioned above. Even if the social costs presented in Table 2 were agreed upon, the Schwer et al. cost *values* are mostly based on estimates from the Thompson et al. (1996) study. To my knowledge, those estimates (and that study) have not undergone peer review.

Consider several of the social costs in Table 2. At the beginning of their discussion on costs, Schwer et al. write: "For purposes of clarity and comparisons, and in recognition of past efforts to calculate specific costs for matters such as arrests and [court] appearances, we will use the cost calculations identified in the 1996 Wisconsin study" (2003: 14). Yet, although the Thompson et al. (1996: 19) estimate for arrest costs was $500, Schwer et al. (2003: 16) instead use a cost of $2,900, attributed to the NGISC. One wonders why Schwer et al. (2003) abandon their goal of clarity and comparison in order to use a higher cost estimate.

In explaining their annual treatment cost estimate (initially $545), Schwer et al. write:

> One-fifth of this cost was paid directly by the gambler. One-fourth was not paid at all, making it a "social cost," ($136), while 55 percent was paid by insurance providers. Of the latter amount, we will assign one-half to social costs, or $150. Hence we find an annual social cost of treatment (to others) to be $286. (Schwer et al. 2003: 16)

This process seems arbitrary.

There is no explanation of the $9,600 per person probation cost (annualized and averaged to $250 in Table 1). However, Thompson et al. (1996: 19) describe their probation cost estimate:

> The cost of probation and parole was estimated from the state budgets for corrections minus the costs of the operation of prisons, jails, and juvenile corrections. We assigned two-thirds of the residual budget to probation and parole costs, and divided the costs by the number of persons in these programs.

There are a variety of court costs. Schwer et al. write: "The earlier study found that each federal court action costs $7,500. Considering that these actions may not be as complicated or long enduring as some others, we assign a 50 percent cost factor of $3,750 for each . . . case" (2003: 15).

These examples illustrate that the Schwer et al. cost figures are, to a large extent, derived arbitrarily. Even minuscule changes in the assumptions will have an enormous impact on the social cost estimate. Yet Grinols (2004) does not bother to analyze the Schwer et al. (2003) study, or any of the others, prior to using them to derive his own cost estimate of $10,330. Despite his data being largely arbitrary, Grinols's writing gives the impression that he believes these studies are authoritative.

In their "discussion" section, Schwer et al. suggest that "the gaming industry" may wish to address the issue of social costs before it faces legal action similar to that in the tobacco industry.[26] They suggest "fund-sharing" or increased taxes to fund problem gambling education and treatment (2003: 19).[27] Policy recommendations based on such an arbitrary analysis are certainly questionable.

In discussing prevalence studies, the NRC (1999: 100) writes: "It is important to emphasize how inadequate [the] research base is for drawing confident conclusions about the prevalence of pathological and problem gambling." As indicated in Table 3 and the previous discussion in this section, social cost estimates are very sensitive to the types of assumptions used in the analysis. Therefore, policymakers must use extreme caution when interpreting these studies.

V

Conclusion

THE PURPOSE OF THIS PAPER is to inform readers of some of the potential problems and ambiguities inherent in cost-benefit analyses, particularly of casino gambling. We have examined general measurement

issues, as well as problems specific to the benefit and cost sides of the equation. This general discussion was supplemented with a specific example study from the literature. Considering the number of problems that exist in measuring costs and benefits of gambling, and considering the number of different approaches (economic, COI, public health), it hopefully is clear that the methodological and practical measurement problems in this area of research are unlikely to solved in the near future.

This begs the question: Should researchers bother to do cost-benefit analyses at all? Reuter (1999) and Kleiman (1999) provide valuable perspectives on this issue, as they comment on a cost estimate for alcohol and drug abuse (Harwood, Fountain, and Livermore 1999). Both Reuter (1999: 636) and Kleiman (1999: 640) suggest that research effort may be better spent estimating the impacts of policy changes rather than absolute costs and benefits. This certainly applies to gambling as well. Still, there is political demand for cost-benefit studies. Reuter (1999: 638) explains:

> No senior political figure can afford not to have a number to offer as an indicator of the seriousness of the problem with which her agency deals. The number should be current and have a scientific basis to be credible; that it may have basic conceptual flaws is probably not relevant because there is little organized interest in discrediting it.

As for the usefulness of studies like the Harwood, Fountain, and Livermore (1999) study of alcohol and drug abuse, Reuter (1999: 638) writes: "[The study], although an enormously helpful compendium of a wide range of estimates of various components of something that might be called cost, is an unsatisfactory answer to a question of dubious importance." The same could be said of the study by Schwer et al. (2003), Grinols (2004), and others in the gambling literature.

Certainly, the casino industry can have positive and negative economic impacts. But attempting to estimate a monetary value for these is tricky business. Policymakers and voters would like to have hard data on the effects of casinos prior to legalizing or expanding the industry. There is no shortage of researchers willing to supply politicians with social cost estimates. Unfortunately, most—if not all—of such estimates are flawed.

Despite their attempt to appear "conservative," the Schwer et al. (2003) report does not provide a scientifically valid estimate of the social costs in Las Vegas. There are serious methodological problems with their analysis. For similar reasons, Grinols's (2004) social cost analysis is invalid. It simply reports the results from other flawed studies.

Although there are several competing methodologies for evaluating the effects of the gambling industry and problem gambling behaviors (i.e., cost of illness, economic, and public health), none of these approaches is adequate. Even if researchers from these different camps could agree on a "best practice," there would still likely be serious methodological problems. Until a valid method for measuring the costs and benefits of legalized gambling can be developed, perhaps the best we can do is make policymakers, voters, and other researchers aware of potential problems in the existing literature, while trying to make improvements wherever possible.

Notes

1. The Whistler Symposium papers were published in *Journal of Gambling Studies* (see Wynne and Shaffer 2003).

2. An example here is the criticism that some psychologists have of economists: that they ignore wealth transfers when these may amount to serious consequences to those facing decreased wealth.

3. Examples include Goodman (1994, 1995), Grinols (1994, 1995, 2004), Grinols and Mustard (2001, 2006), Grinols and Omorov (1996), Kindt (1994, 1995, 2001), and Thompson et al. (1997, 1999). See Walker and Barnett (1999), Walker (2003a), or Walker (2007b) for a more detailed review of the literature on social costs.

4. These estimates are by Thompson et al. (1997) and Kindt (1995), respectively. The higher cost estimates are clearly a result of bias (see Walker 2004).

5. For a discussion of biases in the gambling literature, and in particular the *Managerial and Decision Economics* issue on gambling edited by Grinols and Mustard, see Eadington (2004).

6. Obviously, there will be cases where gambling is the clear problem. But it is doubtful that irresponsible gamblers are otherwise financially responsible.

7. From the consumer's perspective, a sales tax *is* avoidable, but not easily, and much less so than a casino tax.

8. This is a fair bet placed behind the pass/don't pass line bet. This is one of the few statistically fair bets offered at casinos.

9. In the case of casinos, many researchers have instead focused only on the "cannibalization" effects.

10. Some economists have examined this effect. For examples, see Hausman (1998), Hausman and Leonard (2002), Lancaster (1990), and Scherer (1979).

11. One could argue that, to the extent gamblers are uninformed about the odds of the games they play, they are more likely to overestimate their chances of winning. The majority of lottery players arguably overestimate the chances of winning. After all, 1 in 100 million is hardly distinguishable from zero, yet lottery players relish imagining what they will do with their winnings if theirs is the lucky ticket. In the case of smoking, if there has been a significant amount of talk about (relatively harmless) secondhand smoke, people may be more likely to overestimate the dangers from smoking.

12. Lesieur appears to regret publishing the article because he believes that many of the costs of problem gambling are not measurable.

13. One of the best examples of poor scholarship in the economics of casino gambling is demonstrated by Kindt (2001). However, rather than examining that work here, interested readers can read published comments on that paper, including those by Eadington (2004), Levy (2004), and Walker (2004).

14. Walker and Barnett (1999) critique a previous study (Thompson et al. 1997) that partially serves as the foundation for the Schwer et al. (2003) analysis. Walker (2003b) is an analysis of Schwer et al. (2003), and serves as the basis for this section.

15. Although Schwer et al. (2003) do not provide the survey questions in their paper, they provide data on these variables. It is unclear exactly what the surveys asked and how they were administered.

16. Calculated $[(50 \times 17.22) / 89] \times 12 = 116.1$.

17. Many of the categories were annualized. The authors use an estimate for the length of the average pathological gambling "career." So for costs that were not already valued at an annual rate, they divide the total cost by a factor of four. For a vague description of this process, see Schwer et al. (2003: 14). The four-year term seems arbitrary.

18. The table presented in Schwer et al. has several errors. The total of the costs listed in their *text* (2003: 14–16) is $19,593. "Missed work" is listed in the text as $1,742, not $1,740. They also seem to have omitted several items from the table: legal fees for bankruptcy and civil court proceedings ($418), legal fees for divorce actions ($129), and legal fees for criminal trials ($59). Also, their table lists "civil court costs" at $735, though it is listed as $635 in the text. I am confused by their discussion, but I believe their number for "bad debts"

($9,556) was calculated incorrectly. (According to my calculation, it should be ($85,551 × 44) / 94 = $40,045. Annualized it would be $10,011.) This error turns out to be irrelevant, as discussed below. Since their overall cost estimate is based on the $19,085 value, it is used in this discussion.

19. Walker and Barnett (1999) and Walker (2003a) examine all of the above-cited papers or their subsequent versions.

20. This approach to social costs is not without critics. See Walker and Barnett (1999) for a complete description of this conception of social costs.

21. There is a wealth of literature on these classifications. However, the specifics are beyond the scope of this paper.

22. These prevalence rates are reported by the NRC (1999: 67). Earlier in their report (2003: 4), Schwer et al. (mistakenly?) report the problem gambler prevalence rate at 2 percent. Their calculations are based on the 1.6 percent figure.

23. This finding is based on combined data from telephone and patron surveys (NGISC 1999: 4-4). This is not an exact science, but surely there is a continuum. Are prevalence rates only sensitive to the 50-mile range?

24. As Volberg notes, since some of the sample sizes are rather small, the prevalence estimates should be interpreted with caution.

25. According to Schwer et al. (2003), the population estimate for Las Vegas adults is 1,102,033.

26. Schwer et al. (2003: 19) write: "The gambling industry, similar to alcohol and tobacco, pay[s] excise taxes, also referred to as externalities." Either this is a misstatement or it indicates the authors do not understand externalities.

27. A news report indicated that Professor Thompson believes the Schwer et al. study "should be cause for the Legislature to increase gaming taxes enough to raise $10 million for programs to treat gambling addiction" (Vogel 2003).

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Closure of venues within Kings Cross precinct

The Kings Cross Liquor Accord states in its submission (submission number 433) to the Senate Standing Committee on Economics *Inquiry into Personal Choice and Community Impacts* that 12 licensed premises have closed since the introduction of measures to reduce alcohol-related violence in Sydney which came into effect on 24 February 2014.

At least four of the venues closed prior to the measures being introduced. In addition, two of the venues had been on the Violent Venues list and one on the three strikes register for failing to comply with license conditions.

Venue	Closing date	Venue history
Hugo's Lounge	July-August 2015	
Hugo's Bar Pizza	July-August 2015	
The Village	Estimated closed between October-November 2014	
The Backroom	July 2015	Three strike register: • Licensee fail to comply with conditions of licence (Kings Cross special conditions - ID scanning) • Licensee fail to comply with conditions of licence (Kings Cross special conditions - high risk venue manager)
Trademark Hotel	Estimated close 6 September 2014	• Violent venues list 2012 – 12 assaults. • Violent venues list 2010 – 12 assaults. • Violent venues list 2009 – 15 assaults. • Violent venues list 2008 – 25 assaults.
Piano Room	Closed in 2012 – turned into a restaurant called 'Santa Barbara'	
Villa Bar & Restaurant	Closed in 2013 or January 2014	
Piccadilly Hotel (SOHO)	June 2015	• Violent venues list 2008 – 21 assaults.
Le Panic	Closed after July 2013	
Love on Top	Closed between 2014-2015; opened in Feb 2014	
Concrete Blonde	Estimated close February 2013	

2011 Residents' Association Inc.

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Potts Point NSW 1335

16 August 2015

Dear Editor,

Residents are concerned about the current media push from the Liquor Accord and the AHA designed to bring about an early review of Liquor reforms and implicit in this, a reversion to the free reign that bar and hotel owners enjoyed prior to the legislative changes made by Barry O'Farrell in February 2014.

We would like to ensure that what is presented for publication by their representatives and politicians is an accurate reflection of the facts, and not fabricated in an effort to gain support from the public through deception.

A recent article listing closures in Kings Cross and loss of jobs is one that was noted by a number of residents as containing inaccurate and therefore misleading information. Some facts:

- The Trademark did not close; it changed its name to Studio X, incorporating the old Piano Room that had closed years prior to the legislative changes. The refurbishment of this venue started after the lockouts were introduced.
- The Goldfish Bowl on the ground floor of the Crest Hotel closed when the owners sold to developers. It was first bought by Iris Corporation about 18 months ago and more recently sold to Chinese investors. It will become a residential and commercial hub.
- SOHO closed after a public lawsuit where the owner's son was convicted for the sexual assault of a patron. Their closure was directly linked to a marked reduction in patron support after this serious incident.
- Hugo's was only open 3 or 4 nights a week and has been on the market for some time. Hugo's may not have had three strikes against it, but there were breaches with respect to noise.

At the peak of the social experiment where Kings Cross was actively marketed as a party destination, there were as many as 283 licenced premises selling alcohol in 1.4 square kilometres. It resulted in violence, vomit, and vandalism. For a period of eight years residents, lost their neighbourhood; they were afraid to go out at night, and inconvenienced by garbage, noise, and property damage. City of Sydney was inadequately resourced to ensure compliance to plans of management and police and hospital staff were overwhelmed by demands on them to deal with violence and physical harm caused by excessive consumption of alcohol. Many venues breached their DA conditions yet suffered no consequence.

Post the legislation a number of new restaurants and bars have opened in the area providing employment and an enjoyable night out for patrons. The daytime economy has also picked up with new shops opening where there were once shuttered doors. Kings Cross is changing and for the better. It has a new energy and vitality which could never have been achieved with crowds of drunken and disorderly people, who frequently acted without regard for themselves or others.

I and other residents are available to assist with research and can be contacted on the number below.

Helen Crossing, Convenor 2011 Residents Association.

LNVA SA

LATE NIGHT VENUE ASSOCIATION OF SA INCORPORATED

SUBMISSION TO SENATE STANDING COMMITTEES ON ECONOMICS

PERSONAL CHOICE AND COMMUNITY IMPACTS

4 NOVEMBER 2015

Unintended Social Impacts of the Lockout

REVIEW FINDINGS

The Review found that:

- The Lockout had a personal effect on patrons' nights out in terms of the way in which they structured their night out;[12]
- Patrons felt that the Lockout impinged on their human rights;[13]
- Patrons were aggressive towards late night venue licensees and security at being locked out;[14]
- It now takes longer to get a taxi from the Adelaide CBD around the lockout time;[15]
- After the Lockout, there was a switch in focus by security of late night venues from outside a late night venue to inside a late night venue;[16]
- The Lockout had placed over-whelming pressure on taxis and public transport services at around the time of the Lockout;[17]
- At around the time of the Lockout, there is more aggression and violence on Adelaide CBD streets due to the over-demand (i.e. lack of supply) for taxis;[18]
- People generally felt less safe in the Adelaide CBD around the lockout time;[19]
- 70% of patron respondents to a community survey said that they left venues earlier than normal to get to another venue before the Lockout;[20]
- 69% of patron respondents to a community survey said that they had at least sometimes preloaded – in other words consumed alcohol before going out – to counter the Lockout;[21]
- Patrons went to the Adelaide Casino instead of another venue because it was the only venue they could enter;[22]
- Patrons went out earlier because of the Lockout;[23] and
- Patrons had felt being "stranded alone" outside venues after the Lockout.[24]

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[12] At page 52.

[13] At page 52.

[14] At page 92.

[15] At page 45.

[16] At page 92.

[17] At page 92.

[18] At page 45.

[19] At page 45.

[20] At page 46.

[21] At page 46.

[22] At page 46.

[23] At page 46.

[24] At pages 46, 92.

The Keystone Group

Submission to the Senate Inquiry into

Restriction of Personal Choice

economics.sen@aph.gov.au

Date: 17th November 2015

Contact: Anthony Prior
COO – Hotels & Bars

City of Sydney – Patron Intercept Surveys
The City of Sydney has measured an 80% reduction on foot traffic in 2014 in comparison to surveys undertaken by them in 2010 and 2012.

NSW BOCSAR Statistics and Displacement
Kings Cross has historically been a late night entertainment precinct destination with patrons arriving into the area later than most other entertainment precincts. The lockout provision has resulted in displacement to other precincts that do not have any of the restrictions associated with Kings Cross and the CBD.

Kings Cross assaults on licensed premises in the periods measured between July to June from 2010 to 2015 show the largest % reduction was achieved prior to the lockout conditions.

Venues Closures – Kings Cross after the Lock-Out Introduction
The effects on non-licensed premises in Kings Cross has resulted in the closure of thirty five small business operators, landlords reporting the harshest business conditions in 50 years and also a substantial decrease in property values. Further patron capacity availability for licensed premises has reduced by 3,500 patrons with the venue closures.

Summary
The Keystone Group believes that to continue to reduce alcohol related crime that it is imperative to adopt strategies that identify individuals that commit crime and increase educational awareness for increased personal responsibility. We believe that a number of strategies have and are proving to be effective however do not believe that lockouts are an effective strategy.

The unintended social impacts of the Lockout are substantial and need to be considered:

- The lockout has had a personal effect on patrons' nights out in terms of the way in which they structured their night out.
- Patrons feel that the lockout impinges on their human rights.
- Patrons are aggressive towards late night venue licensees and security at being locked out.
- It now takes longer to get a taxi from the Kings Cross precinct around the lockout time.
- After the lockout, there is a switch in focus by security of late night venues from outside a late night venue to inside a late night venue.
- The lockout has placed over-whelming pressure on taxis and public transport services at around the time of the Lockout.
- At around the time of the lockout, there is more aggression and violence on streets due to the over-demand (i.e. lack of supply) for taxis.
- Patrons now leave venues earlier than normal to get to another venue before the lockout.
- Patrons continue to preload – in other words consume alcohol before going out – to counter the lockout.
- Patrons go to the Star Casino and other precincts instead of Kings Cross and CBD venues because it is the only venue they can enter.

Yours faithfully

Anthony Prior
Chief Operating Officer – Hotels and Bars
The Keystone Group

CITY OF SYDNEY

City of Sydney
Late Night Trading Premises Development Control Plan 2007

March 2011

city of villages

Prepared by City of Sydney

This DCP commenced operation on 1 January 2008

As amended by:

City of Sydney Late Night Trading Premises Development Control Plan 2007 (Amendment No. 1)

Adopted 6 December 2010.

Commenced operation 13 December 2010.

City of Sydney Late Night Trading Premises Development Control Plan 2007 (Amendment No. 2)

As published in the NSW Government Gazette 3 March 2011.

Commenced operation 3 March 2011.

Ver.2

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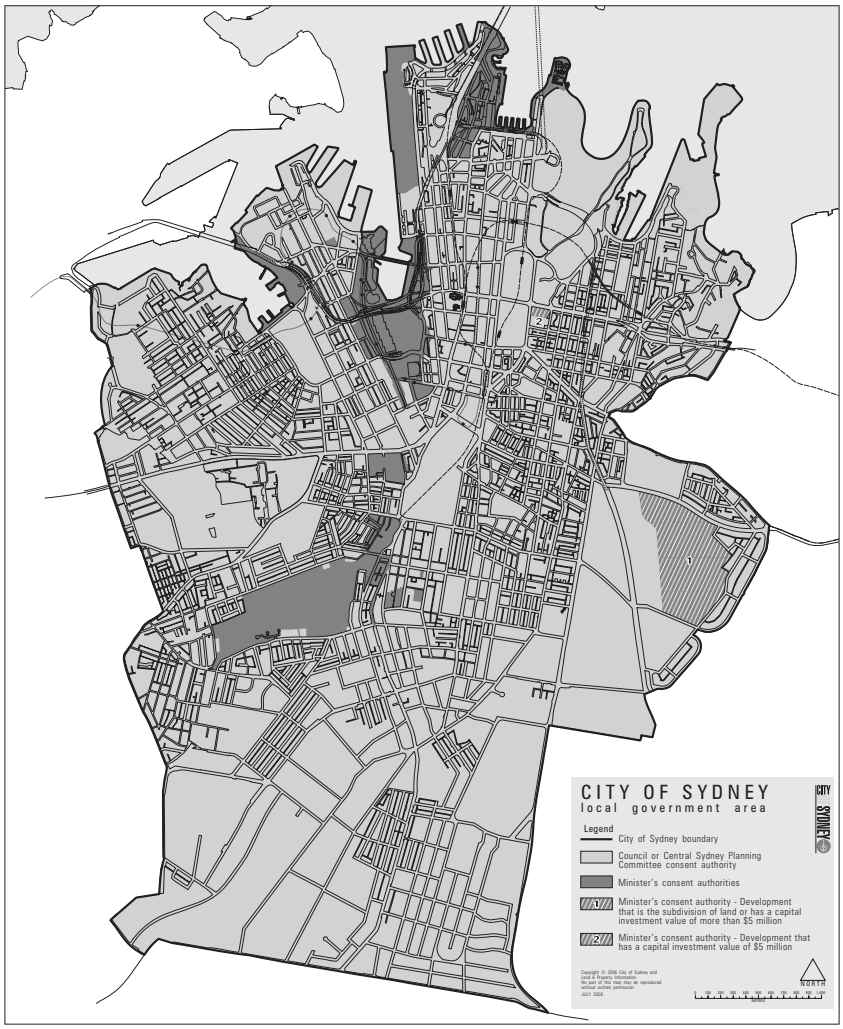
1 Introduction

1.1 Citation

This development control plan is called the *City of Sydney Development Control Plan – Late Night Trading Premises*.

1.2 Area to which the plan applies

This DCP applies to all land within the City of Sydney Local Government Area, the boundaries of which may change from time to time. An indicative map of the City of Sydney is shown below.



1.3 Commencement

This DCP was adopted by the Council of the City of Sydney on 10 December 2007. The DCP commenced operation on 1 January 2008.

1.4 Relationship to other Environmental Planning Instruments and Development Control Plans

This DCP generally complements the provisions of the relevant environmental planning instruments as they apply to the City of Sydney. Where there is any inconsistency between this DCP and an applicable Local Environmental Plan (LEP), the LEP will prevail.

Upon commencement of this DCP the following Council Policy is repealed:

- All provisions in the *City of Sydney Policy on Trading Hours for New and Existing Premises excluding Clauses 4.1 and 4.2*.

2 Strategy

2.1 Aims

The main aim of this DCP is to assist in the management of the impacts of late night trading premises on the sites and neighbourhoods in which they are located, and in particular, protect the amenity of residential properties. A planning policy document can look to achieve this through controls setting limits on late night trading hours and by promoting ongoing good management of late night trading premises by requiring that approvals are subject to ongoing trial periods.

The City's night-time economy is an integral part of its commercial, cultural and social fabric. Late night trading premises are an important part of Sydney social and street life that contribute to Sydney's image as a Global City, and play an important role in the City's economic growth. People living and working in the City, as well as tourists are attracted to these places as a result of their diversity and vitality, and late night trading premises can provide employment and jobs with flexible hours, particularly for people that work in the hospitality and tourism sector.

The controls in this DCP will provide greater certainty to the community and proponents of night trading premises in respect to appropriate operating hours and where such premises can locate. The provisions of this DCP do not set out to curb or increase potential trading hours in a blanket fashion throughout the City, but allow opportunities for late night trading hours in appropriate locations and with appropriate management actions.

As a requirement of this DCP it is particularly important for proponents of 'high impact' night trading premises to demonstrate responsible management over time. This commitment should be demonstrated both at the development application stage and throughout the history of the operation of premises.

Late trading hours are considered by the City of Sydney Council to be a privilege. Late trading hours will only be approved in circumstances where an ongoing commitment to good management is evident through a series of successful trial periods.

The DCP identifies a constrained range of operating hours for night trading in areas within a predominantly residential context allows more flexible extended trading hours for premises located in places where adverse amenity impacts on residential neighbourhoods are likely to be lower and/or are considered capable of being adequately managed.

Generally Late Night Areas identified in this DCP are places within the City of Sydney that already or have historically been characterised by late night trading and related activity such as Kings Cross and the CBD. Longer trading hours may be permitted where it is considered that this character can be reinforced or where there is capacity for more late night uses to operate with acceptable amenity impacts resulting from any new late night activity.

2.2 Objectives

The objectives of this DCP are to:

a identify appropriate locations and trading hours for late night trading premises;

b ensure that late night trading premises will have minimal adverse impacts on the amenity of residential or other sensitive land uses;

c ensure that a commitment is made by operators of late night trading premises to good management through the implementation of robust plans of management;

d encourage late night trading premises that contribute to vibrancy and vitality, as appropriate for a Global City;

e encourage a broad mix of night time uses with broad community appeal that reflect the diverse entertainment and recreational needs of people who work and live in the City of Sydney as well as people who visit the City;

f encourage a diversity of night-time activity in defined Areas;

g prevent the proliferation of poorly managed high impact late night premises;

h ensure that new late night trading premises do not reduce the diversity of retail services in an area;

i ensure that development applications are accompanied by sufficient information so that proposals for night trading premises can be fully and appropriately assessed;

j provide the possibility of extensions of trading hours for premises where they have demonstrated good management during trial periods;

k encourage premises with extended trading hours that are of a type that do not operate exclusively during late night hours and may be patronised both day and night;

l ensure that appropriate hours are permitted for outdoor trading; and

m ensure a consistent approach to the assessment of applications for premises seeking night trading hours.

2.3 What type of development does this development control plan apply to?

The *City of Sydney Development Control Plan – Late Night Trading Premises* applies to development applications for new and existing Category A and Category B premises (as defined in Section 2.4 of this DCP) that:

a seek approval for trading hours between 10pm and 7am the following day;

b currently trade between 10pm and 7am the following day, and seek refurbishment, additions or extensions that will result in an intensification of an existing use;

c seek an extension or renewal of trial trading hours as prescribed in this DCP; or

d seek approval for outdoor trading beyond 8pm.

Note: *this DCP is not retrospective nor does it derogate from existing consents*.

2.4 What are late night trading premises?

For the purposes of this DCP late night trading premises are categorised into one or more of the following types:

Category A Premises - High Impact

Category A premises means any of the following premises:

a a hotel within the meaning of the *Liquor Act 2007 t*hat is not designated as a general bar licence;

b A hotel within the meaning of the *Liquor Act 2007* that has a capacity of more than 120 patrons and is designated as a general bar licence;

c. An on-licence within the meaning of the *Liquor Act 2007* where the primary business or activity carried out on the premises is that of a night-club with a capacity of more than 120 patrons;

d. A club within the meaning of the *Liquor Act 2007*;

e. A premises that has a capacity of more than 120 patrons where the primary purpose is the sale or supply of liquor for consumption on the premises; or

f. Premises that are used as a karaoke venue where the owner or occupier sells or supplies liquor for consumption on the premises.

Category B Premises - Low Impact

Category B premises means any of the following premises:

a A hotel within the meaning of the *Liquor Act 2007* that has a capacity of 120 patrons or less and is designated as a general bar licence;

b. Premises that have a capacity of 120 patrons or less where the primary purpose is the sale or supply of liquor for consumption on the premises;

c. An on-licence within the meaning of the *Liquor Act 2007*;

d. Any premises where the owner or occupier sells or supplies liquor for consumption on the premises that is not a category A premises;

e. Any other commercial premises which in the opinion of the Council may impact on the amenity and safety of a neighbourhood resulting from its operation at night.

Note: *'e' above may include such premises as restaurants, 'BYO' premises, cafes, theatres, karaoke venues, convenience stores, takeaway food shops and the like*.

Note: *Outdoor seating is included in patron capacity calculations*.

Note: *Category A and category B late night trading premises do not include sex industry premises*.

2.5 Late night trading areas

This DCP identifies a hierarchy of three late night trading areas located throughout the City of Sydney. These primarily include areas that:

- are focal points for varied night-time social and recreational activity; or
- are, at least in part, places with a distinct night-time entertainment character; or
- where a night-time entertainment character is evolving, and the area is considered to have the capacity for an increase in late night activity.

The area categories are identified in the maps in Section 3.2 of this DCP and include:

a Late Night Management Areas;

b City Living Areas; and

c Local Centre Areas.

Notwithstanding the above, all proposals for Category A premises located outside of the above Late Night Trading Areas will be subject to the requirements of this DCP.

Trading hour controls for Category A and B premises, and outdoor and indoor trading vary for each area, and are specified in Table 1 of this DCP.

Proposals for late night trading premises that are either not located within (or are not category A premises outside of) one of these areas will be assessed on their individual merit with consideration given to relevant matters as outlined in Section 2.6 of this DCP, as well as Section 79C of the *Environmental Planning and Assessment Act 1979*, and other planning instruments, development control plans and policies that apply to the City of Sydney area.

2.6 Matters for Consideration

Appropriate trading hours for night trading premises will be determined by taking into account a number of primary issues which include (but are not limited to):

a the location and context of the premises, including proximity to residential and other sensitive land uses and other late trading premises;

b the specific nature of the premises, ie. pub, nightclub, restaurant etc and the proposed hours of operation;

c the existing hours of operation of surrounding business uses;

d the size and patron capacity of the premises;

e the impact of the premises on the mix, diversity and possible concentration, of late night uses in the locality;

f the likely operation of the proposal during day time hours;

g submission of a plan of management that demonstrates a strong commitment to good management of the operation of the business, particularly in relation to managing potential impacts on adjoining and surrounding land uses and premises, as well as the public domain;

h the diversity of retail services within an area and the impact of a late night proposal on this diversity;

i measures to be used for ensuring adequate safety, security and crime prevention both on the site of the premises and in the public domain immediately adjacent to, and generally surrounding, the premises;

j the accessibility and frequency of public transport during late night trading hours;

Consideration of all of these factors provides the basis for a consistent approach to the determination of appropriate trading hours and creates greater certainty both for the community and proponents of late night trading premises.

Once these factors are taken into consideration late night trading hours may be permitted in appropriate circumstances, particularly in areas within the City that already exhibit a vibrant night-time character, as opposed to parts of the City that are predominantly residential in character where amenity impacts can be the greatest and most difficult to manage.

2.7 Trial periods

Approvals for late night trading premises will be limited in time to enable Council to assess the ongoing management performance of a premises and its impact on neighbourhood amenity.

Any extended hours (ie. beyond the "base" hours identified in Table 1) will be subject to a trial period. Trial periods also allow Council the flexibility to review the conditions on development consents and respond to such things as changes in the late night character of a neighbourhood and changes in management.

If the Council determines that a trial period has been unsatisfactory then trading hours will revert to the base hours. Council will consult with an applicant prior to making such a determination.

Development applications for a renewal or extension of trial trading hours should be lodged within 30 days of the expiry of a trial period and applicants will be allowed a period of 'grace' from the termination of the trial period until the new development application has been determined. During this period, the premises may continue to trade during existing approved trial hours.

If a development application is not lodged within 30 days from the expiry of the trial period then approved trading hours will revert to base trading hours. This only applies to development applications determined after the commencement date of this DCP.

2.8 Trading Hours

This DCP identifies base and extended trading hours within three late night trading areas and for Category A premises located outside of these areas. Base and extended hours that apply to particular late night trading areas are identified in Table 1 in this DCP.

Base Hours

Base hours are the standard range of trading hours that a late night trading premises is entitled to if a development application is approved.

Extended Hours

Council may approve extended trading hours above base hours on a trial basis.

Trading hours beyond base hours may be permitted at the initial DA stage, but only where the Council has determined that the premises have been (or will be) well managed, including compliance with a Plan of Management.

At the completion of a trial period a new development application must be lodged to either renew existing trial hours or to seek an extension of trading hours.

2.9 Plans of Management

Where the Council is of the opinion that proposals for late night premises have the potential to impact adversely on amenity and neighbourhood safety, applicants are required to prepare Plans of Management that include verifiable data and actions.

Plans of Management are to include information about the operational and contextual aspects of a premises (eg. locality description, security numbers, noise emission, trading hours etc.) as well as details about what actions will be taken to ensure that premises will be responsibly managed (eg. crowd control procedures, noise minimisation, waste management etc.).

This will ensure that proponents of late night trading premises have considered and addressed any potential impacts that may arise from their operation during late night hours, as well enabling the Council to effectively assess any impacts of a proposal. It is the responsibility of the licensee to facilitate a well run and managed premises and display sensitivity about the impact of the premises on the liveability of neighbourhoods.

Plan of Management Monitoring and Review

Consideration should be given to changes in the nature of the operation that have occurred during a trial period that have given rise to unforseen impacts on the amenity of the area or have been the basis for a substantiated complaint made to Council or the Liquor Administration Board against the premises.

At the termination of a trial period it will be necessary this information (in the form of a new Plan of Management which includes a statement of revisions of the previous Plan of Management) accompanies a development application for a renewal or extension of trading hours so that Council can determine whether adequate steps have been taken to resolve problems arising from the operation of the premises during a trial period.

The Council will also undertake its own review of the level of compliance with the Plan of Management and whether the trial period has been successful. This review will include (but not be limited to):

a. consideration of complaints to Council and the Liquor Administration Board;

b. an assessment of inspections by Council Officers during trial periods; and

c. consideration of Police complaints.

3 Controls

3.1 Trading Hours and trial periods

a A renewal or extension of trading hours may only be permitted if Council is satisfied that a late night trading premises has demonstrated good management performance and compliance with a plan of management (or management checklist) following the completion of a satisfactory trial period.

b Category A and B premises seeking extended trading hours may be permitted up to two additional operating hours per trial period if a previous trial period is considered by the Council to have been satisfactory.

c Trial periods may be permitted up to the following durations:

i. First trial – 1 year

ii. Second trial – 2 years

iii. Third and subsequent trials – 5 years

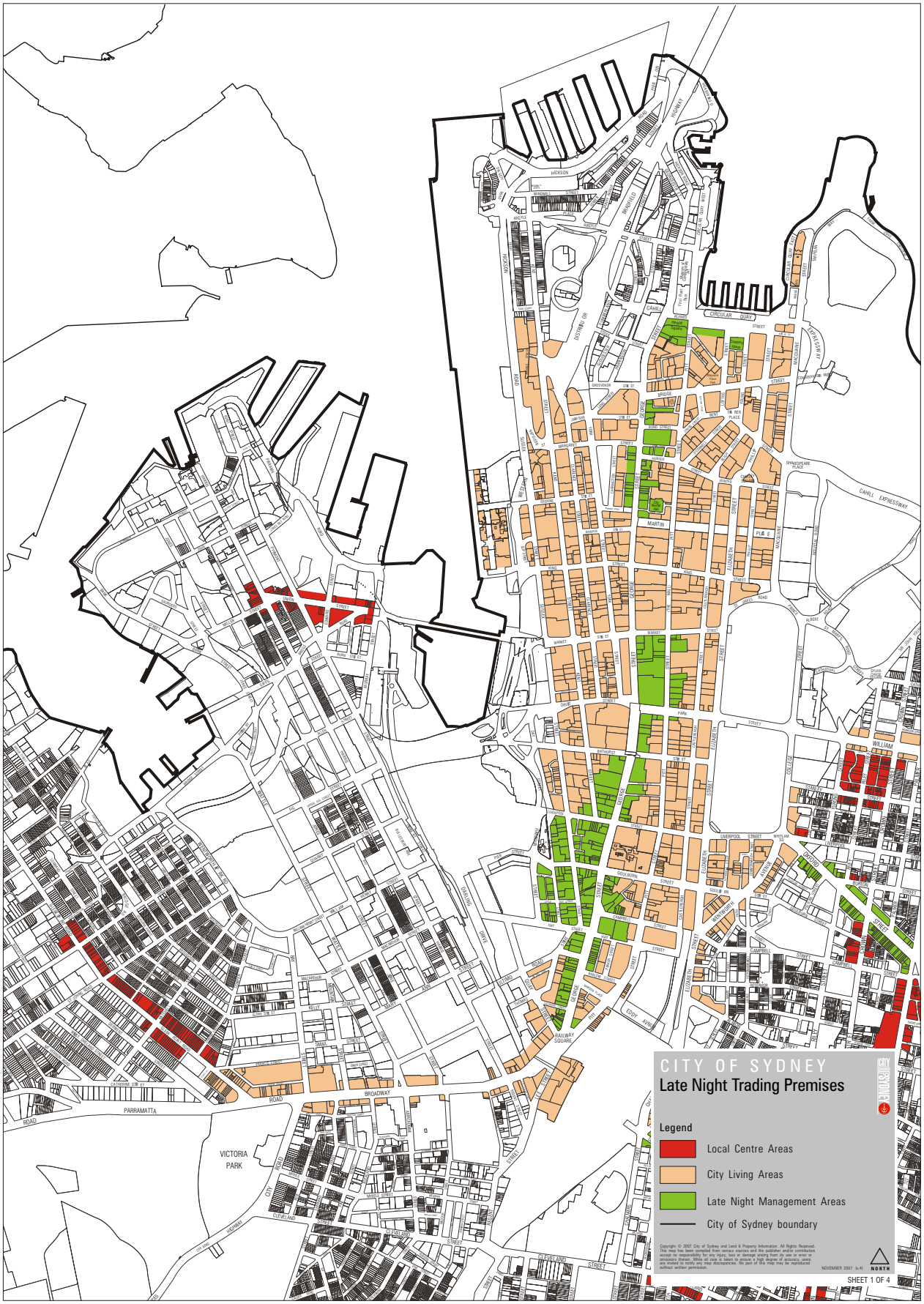
d Once the full range of extended trading hours are reached (as prescribed in Table 1), a DA must be lodged every 5 years to renew trading hours.

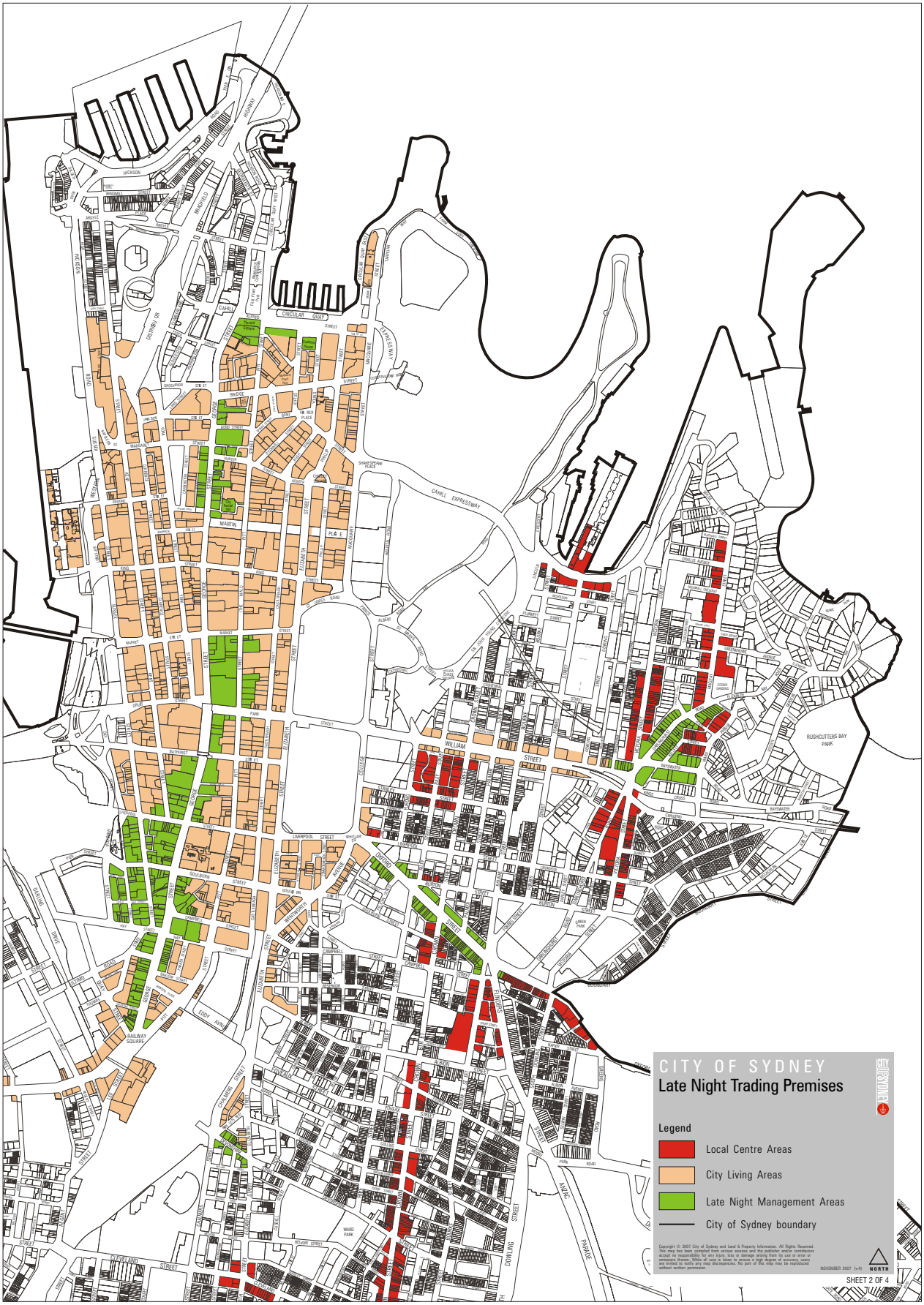
e If the Council determines that a trial period has been unsatisfactory then trading hours will revert to the base late night trading hours; or whatever hours have been approved as the maximum trading hours prior to the commencement of this DCP).

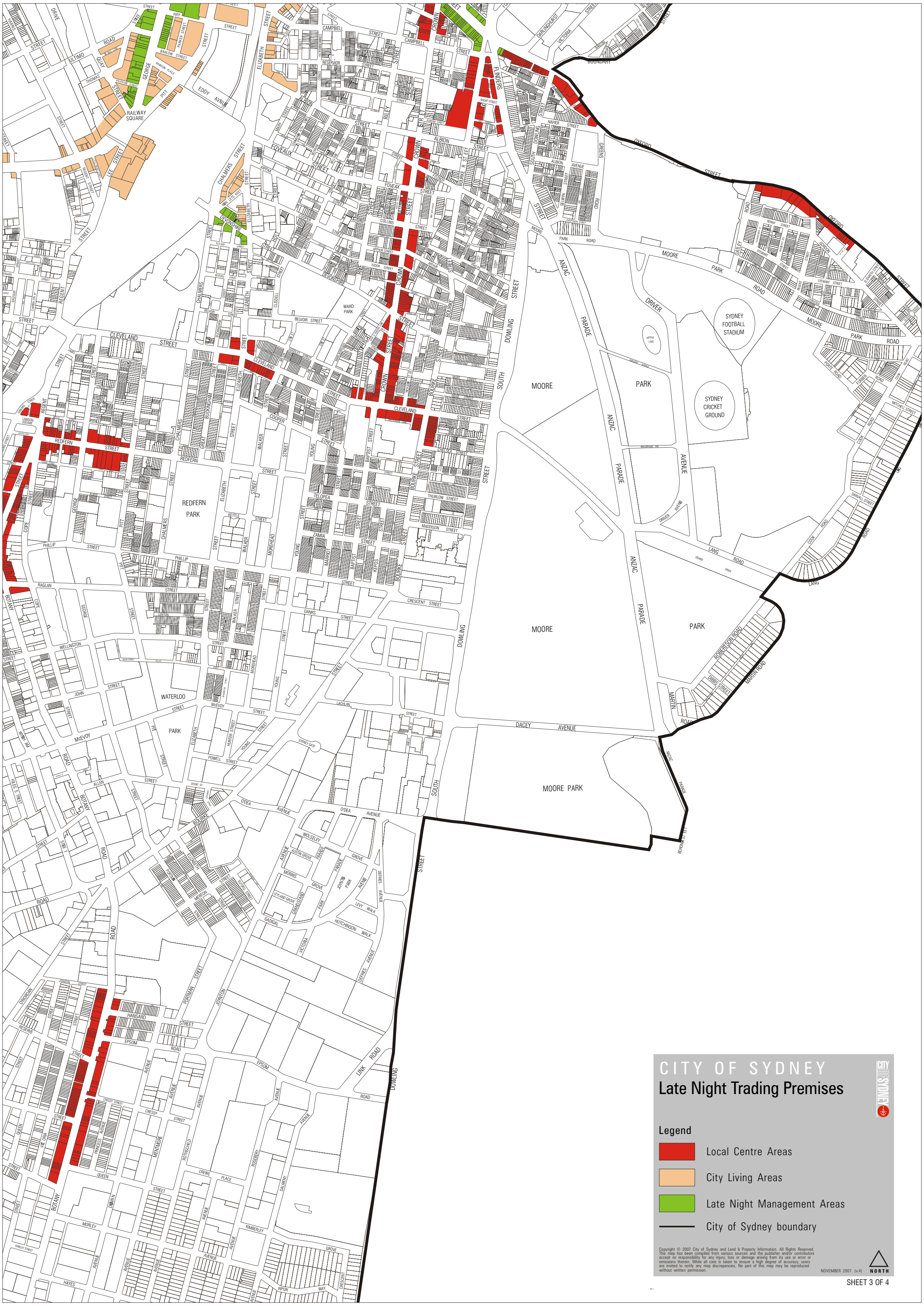
Table 1 – Trading Hours

	CATEGORY A PREMISES		CATEGORY B PREMISES	
	Indoor Trading Hours	Outdoor Trading Hours	Indoor Trading Hours	Outdoor Trading Hours
LATE NIGHT MANAGEMENT	Base – 6am to Midnight Extended – 24 hours	Base – 10am to 10pm Extended – 10am to 1am	Base – 6am to 2am the following day Extended – 24 hours	Base – 8am to 10pm Extended – 8am to 1am
CITY LIVING	Base – 7am to 11pm Extended – 7am to 5am the following day	Base – 10am to 8pm Extended – 10am to midnight	Base – 7am to 1am the following day Extended – 7am to 5am the following day	Base – 9am to 8pm Extended – 9am to midnight
LOCAL CENTRE	Base – 10am to 10pm Extended – 10am to midnight	Base – 10am to 8pm Extended – 10am to 10pm	Base – 8am to 11pm Extended – 8am to midnight	Base – 10am to 8pm Extended – 10am to 10pm
ALL OTHER CATEGORY A PREMISES	Base – 10am to 10pm Extended – 10am to Midnight	Base – 10am to 8pm Extended – 10am to 10pm		

3.2 Late Night Trading Areas






CITY OF SYDNEY
Late Night Trading Premises
Legend
Local Centre Areas
City Living Areas
Late Night Management Areas
City of Sydney boundary
NOVEMBER 2007
NORTH
SHEET 3 OF 4
REDFERN PARK
SYDNEY FOOTBALL STADIUM
SYDNEY CRICKET GROUND
MOORE PARK
WATERLOO PARK
RAILWAY SQUARE

3.3 Plans Of Management

Plans of Management are required to accompany the following development applications for late night trading premises:

a New Category A premises;

b Existing Category A premises that seek a renewal or extension of existing approved trading hours;

c Existing Category A premises that seek extensions, additions or refurbishment which will lead to an intensification of that use;

d Existing category B premises that seek extensions, additions or refurbishment which will increase the patron capacity to above 120 patrons;

e Applications for outdoor trading on the same lot as a Category A and Category B premises.

The operators of late night trading premises are required to review their Plan of Management following every trial period and make revisions necessary to maintain an level of amenity and safety in the vicinity of the premises which is at an acceptable community standard.

Note: *Plans of Management will in most cases not be required for Category B premises. Development applications for Category B premises will be required to complete a "Category B" Plan of Management checklist in accordance with Council's Plan of Management Guidelines.*

However, it is at Council's discretion to request further information regarding the management of a Category B premises if it is considered that the proposal may impact adversely on the amenity of the area.

This additional information may be either in the form of a formal Plan of Management, or (where requested by Council) a letter that addresses a specific matter (or matters) of concern particular to the proposal (eg. security provision, noise, waste management, staffing etc.)

Appendix 1 – Late Night Trading Area Character Strategies

1. Late Night Management Areas

Character Statement

Key Defining Elements

Late Night Management Areas are places within the City that:

- have historically been the focal points for varied late night social and recreational activity; or
- are, at least in part, places with a distinct late night entertainment character; or
- where this character is evolving and the Area is considered by the Council to have the capacity for an increase in late night trading premises

These places should be vibrant and multifunctional places where people can go out late at night in safety without affecting the amenity of nearby and residents. Patrons of late night trading premises should be able to take advantage of a diverse range of cultural and entertainment opportunities in close proximity to each other; without one particular type of late night use dominating which may usurp the diversity and attraction of the area.

Late Night Management Areas are often regional "destinations" that have accessible and frequent public transport at night and usually have their focus on main streets or tourist locations where people shop, meet, work and live. Given the likely higher level of visitation and the possibility of long trading hours, it is important that all premises, especially those "high impact" premises are well-managed and regulated.

Buffer Zones

Late Night Management Areas may be of variable size and their physical boundary is defined by clear transitions in the intensity and duration of late night activity compared to lower impact late night trading areas nearby. Late Night Management Areas often share boundaries with places where less intensive night-time activity is evident, such as Local Centre or City Living Areas (i.e. lower intensity classifications of late night trading).

These lower intensity areas act as buffer zones to the more concentrated late night time activity of Late Night Management Areas. Buffer zones are intended to function as a transition zone by providing a lesser intensity of use. These are not "spill" zones, and are not intended to (in effect) expand Late Night Management Areas.

Mix of Uses

Late Night Management Areas should be vibrant places both day and night, and premises that trade late at night should enhance this vibrancy. The predominant night-time uses in Late Night Management Areas include:

- cafes;
- licensed hotels;
- theatres;

- restaurants; and
- other like premises.

Many of these premises may trade in the early hours of the morning, particularly on weekends.

This development control plan aims to achieve a mix of premises in Late Night Management Areas that reinforce the landmark night-time qualities of the area and premises which can capitalise on night-time attractiveness to encouraging tourism and economic activity. New premises in Late Night Management areas should contribute to diversity rather than usurp it. At the same time, new late night trading premises should not erode the diversity of retail and local services that operate during the day which service the local community, workers and visitors.

Late Night Management Areas should be places that people visit for a number of reasons and not solely to patronise high impact licensed premises such as pubs and nightclubs. Late Night Management Areas provide opportunities for Places of Public Entertainment and have historically been a focus for live music, theatre and 'DJ' Culture. They are appropriate places for the nurturing of performing arts and other cultural activities.

Issues and Management

Due to the concentration of late night trading premises in Late Night Management Areas, the cumulative noise levels, generation of human and vehicle traffic, and activity levels will be an issue, more so than in any other late night trading areas. Whilst it is acknowledged that noise and late night activity is a key characteristic of these areas, it is also essential to manage the cumulative impacts of late night trading premises in Late Night Management Areas and to effectively manage each individual late night premises within the area.

Since Late Night Management Areas may be destinations for people that live outside the City of Sydney, particularly on weekends, it is important that this higher visitation is managed effectively in order to minimise the impacts of late trading premises on nearby sensitive uses. It is important that proposals for late high impact premises such hotels and night-clubs premises are accompanied by detailed Plans of Management which effectively address amenity, safety and security.

Trading Hours

Extended hours can allow Late Night Management Areas to reinforce their role as centres of activity which offer entertainment, social and cultural opportunities that attract both locals and international visitors. Early morning trading hours may be acceptable for premises located in Late Night Management Areas where proponents can verify over time that noise, safety and amenity impacts can be managed to a level which is at an acceptable community standard. Up to 24 hour trading may be permissible in Late Night Management Areas; but only in circumstances where applicants have a sustained track record of good management, minimising amenity and safety impacts.

2. City Living Areas

Character Statement

Key Defining Elements

This Area is characterised by its diversity and potential to accommodate a range of lower impact late night trading premises which can cater to the entertainment and cultural needs of people that live in, work in and visit the City Centre.

Late night trading premises that are desirable in the City Living Area are premises that reinforce the rich cultural life of the City, establish places of interest and provide for the cosmopolitan needs of the community.

However, unlike Late Night Management Areas, concentrations of late night trading premises are not encouraged, particularly when they are located in close proximity to places where the primary land use is residential in character. Concentrations of late night trading premises are better suited to Late Night Management Areas. The City Living Area acts as a buffer around several Late Night Management Areas and requires a lower scale and intensity of late night trading premises in comparison to Late Night Management Areas.

Parts of the City Living Area include places where previous approvals have enabled late night trading to occur up to 24 hours a day, particularly on weekends. However, extended hours are dependent on context and impact, and in cases where impacts on residential properties cannot be effectively managed, late night trading will be limited to a narrower range of trading hours. It is desirable that premises do not trade exclusively at night and also function as places that people go at day to create a balance of activity.

Pockets of night-time activity are encouraged in streets and laneways which are underutilised at night and where impacts on residential uses (if in close proximity) can be effectively managed. Late night trading in such places is only desirable if:

- the safety of patrons and others is protected;
- where there are clear and safe linkages to city streets that are active at night;
- where public transport is frequent and accessible late at night; and
- where no adverse impact is placed on any nearby/surrounding residential development;

Mix of Uses

The City Living Area accommodates a wide range of commercial, retail, cultural, tourism and entertainment uses with wide variations in operating hours, with many premises operating late at night throughout the week. This area includes areas with concentrations of apartment buildings and other residential development in close proximity to existing areas of night time activity (eg. near Chinatown and The Rocks). High levels of pedestrian and vehicular activity is evident in the City Living Area at night and it broadly has a “dual identity”, with parts that contain either predominantly business or predominantly residential uses.

Concentration

The potential for clustering or concentration of late night trading premises is limited in much of the City Living Area due to constraints arising from existing business and residential development that physically dominate some parts of the Area.

The City Living Area can accommodate discrete night-spots that may provide an alternative experience to the types of late night trading premises that locate elsewhere in the City.

Such night spots may range from hotels and night-clubs to small cafes that may attract clientele on the basis of reputation and prior knowledge rather than a 'critical mass' of people (or simply from passing pedestrian traffic) that visit a particular area for its high cultural and entertainment profile. Hence, due to the disparate character of the City Living Area, opportunities may exist for a diverse range of unique 'niche' premises.

An example of this type of premises is The Basement in Circular Quay which has been a showcase for live music in Sydney since the early 1970s and is a point of "alternative" cultural interest for people that live and work in the City as well as for tourists. Another example is the recent trend for boutique "Beer Cafes" and wine bars in the CBD that offer a highly specialised dining and social experience. Both niche and "conventional" market premises are encouraged in the City Living Area, particularly in cases where they promote Central Sydney's role as Australia's principal centre for culture, entertainment and tourism.

Trading Hours

Appropriate late night trading hours for premises are dependent on the extent and proximity of residential premises to any proposal. Decisions on appropriate late night trading hours will be based on the impact it is considered that the use will have on the amenity of residential and other sensitive land uses.

Generally longer trading hours may be acceptable where the predominant surrounding land use is non-residential or is "insulated/protected" from late night trading activity, or where there are clear buffers. Longer trading hours may be acceptable in peak periods on weekends and during special events and may be subject to trial periods as is the case for all types of late night trading land uses addressed by Council's Late Night Trading Premises DCP.

Conversely, trading hours will be shorter where the predominant surrounding character is residential. Due to the generally active character in the City Living Area (even within some predominantly residential areas), longer trading hours may be considered more acceptable compared to Local Centre Areas where the interface between residential and non-residential uses is more defined.

Issues and Management

The central issue for this Area is the management of impacts associated with residential development within and near the Area. As a result, proposals will differ based on whether there is nearby or surrounding residential development to the proposed premises. Again, plans of management will assist in this regard, as aside from the basic content, they may also nominate specific mechanisms to manage proximity to residential development.

3. Local Centre Areas

Character Statement

Key defining elements

Local Centre Areas are primarily located within shopping streets and retail spines in the City of Sydney and consist of active places that are the commercial and cultural focus for the local community.

Local Centre Areas are active and vibrant places at night, although the intensity of activity is distinctly lower than in Late Night Management and City Living Areas. Premises such as restaurants and licensed hotels will generally have shorter trading hours than their counterparts in other areas. This is due to the proximity of Local Centre Areas to residential and other sensitive land uses and thus greater potential to impact upon the liveability of local residents.

Such areas have good access to public transport at night, and offer a broad range of opportunities for passive and low-intensity recreation at night including restaurants, cafes, galleries, licensed hotels and retail uses.

Local Centre Areas may also include places within the City of Sydney that have the potential to support an increase in night time activity, particularly in instances where a notable number of commercial premises are vacant or underutilised such as Regent Street and Redfern Street in Redfern.

During peak periods such as weekends it is appropriate for a number of premises to trade to midnight since Local Centre areas should be safe places for people to go out at night; and can provide an alternative and respite from the sustained levels of activity that are characteristic of Late Night Management Areas.

Although Local Centre Areas cater to people that live and work in the locality, they also have a minor role as destinations for people outside the City on weekends and therefore serve an important role in the hierarchy of night-time entertainment and recreational opportunities in the City.

Mix of Uses/Activities

In Local Centre areas, a mix of commercial and passive recreational uses is evident throughout the day and these uses flow on into early evening hours. However, at this time a gradual transition in character begins where food and drink premises eventually become the primary use, and eventually are the predominant use after 7pm.

Therefore, at night the retail uses in Local Centre Areas have a secondary role and cultural and recreational activities become the main focus. Ideally, some retail uses will continue to operate during late night hours and have a complementary relationship with late night uses. These may consist of premises that sell cultural products such as books, music, artworks and gifts. It is desirable that the “urban village” character of Local Centre Areas is sustained at night in order to maintain diversity. Premises within Local Centre Areas that operate exclusively at night are not encouraged.

Trading Hours

Where Local Centre areas contain 'transitional' sections that differ slightly in character from the rest of the area (usually due to such things as the earlier closure of businesses; less clustering of food and drink premises; less pedestrian activity at night and a more prominent residential character) it is desirable to have shorter trading hours. This is because these segments are characteristically less active during late night hours and there is greater potential for late night trading premises to impact on the amenity of surrounding residential neighbourhoods.

Careful consideration will be given to the residential context of the area and existing hours of other late night trading premises in close proximity when assessing development applications in these areas. Longer trading hours are acceptable in exceptional circumstances where it is considered that the use:

- will have minimal impact on residential amenity;
- is characteristic of other uses in close proximity; and
- where it will not contribute to the clustering of high impact premises such as hotels.

Opportunities

Some areas have the potential to be Local Centre Areas (for example: Redfern and Regent Streets) which have the capacity to support an increase in night-time activity that would encourage greater main street activity at night, ultimately contributing to revitalisation.

Issues and Management

In order to maintain their relatively low level night-time activity and to promote diversity, it is desirable that a wide range of low impact night-time trading premises operate in Local Centre Areas. Thus, the clustering of high intensity premises is discouraged which will prevent a monoculture of high impact licensed premises that may adversely change the night-time character of the locality. Local Centre Areas should characteristically have a strong presence of lower impact premises (eg. cafes, restaurants) that are 'anchored' by higher impact premises such as hotels.

An issue for this area is residential development within and near the area, so proposals will differ based on whether there is nearby or surrounding residential development to the proposed premises. Again, plans of management will assist in this regard, as aside from the basic content they may also nominate specific mechanisms to manage proximity to residential premises. The type of use proposed may also assist, given that high-impact uses are discouraged in this area, low-impact proposals are expected and given their very nature will have a lesser impact.

Appendix 2 – Plan of Management Guidelines

Minimum Plan of Management Requirements

A Plan of Management should be in the form of a separate attachment with a development application. At a minimum, Plans of Management should contain the following information:

Site and Locality Details

a A description of the primary use of the premises as well as any secondary/ancillary uses (eg. retail liquor sales, place of public entertainment, outside trading areas, gaming areas etc). This may be in the form of a floor and/or site plan that indicates the use of all areas within the building or site;

b Identification of any 'active areas' adjacent to the boundaries of the site used in association with the use of premises (eg. outdoor seating, footway dining, queuing areas, parking etc);

c A floor plan that indicates the proximity of external doors, windows and other openings to residential and other sensitive land uses;

d Details of the maximum capacity of the premises and the maximum number of patrons that will be standing and/or sitting at any one time;

e The location of waste storage areas;

f Location of air conditioning, exhaust fan systems and security alarms;

g A site context plan that provides empirical details of on-site and off-site car parking within 100 metres radius of the site, including a description of the availability of public transport in the locality during the proposed trading hours. This should also include routes to taxi ranks or possible taxi pick-up and drop-off areas.

h Identification of the most commonly used pedestrian routes to and from the premises, including any "safety corridors";

i A summary other late night trading premises that operate beyond midnight within a 200 metre radius of the premises, indicating the nature of their use, their trading hours and distance from the premises;

Operational Details

Organisational Overview

An overview of the organisation in the form of a brief statement that provides details about the company/licensee/proprietor that includes information regarding:

a the number and type of staff (including security);

b other similar premises within the company's portfolio (if relevant);

c any Liquor Licenses and/or entertainment approvals for the premises;

d a description of any actions that the proprietor/licensee has taken to co-operate with NSW Police, the local community and incorporated resident groups regarding the management of the premises;

e membership of a Licensing Accord within the City of Sydney;

f actions taken to liaise with the local community about premises management and activities (eg. meetings, letter drops).

Hours of Operation

a For existing premises seeking a renewal or extension of trading hours, a schedule of the current trading hours showing the range for each day. For example; this should be expressed in the following format:

- 9am Friday to 2am Saturday
- 9am Saturday to 2am Sunday
- 9am Sunday to 1am Monday
- 9am Monday to midnight Monday
- 9am Tuesday to 11pm Tuesday
- 9am Wednesday to 2am Thursday

b A schedule of the proposed operating hours for each day of the week for all areas of the premises (eg. courtyards, rooftop, balcony, footway, gaming room etc.) showing the range of hours proposed for each day in the format above; and

c For PoPE applications, a schedule of proposed entertainment hours for each day of the week in the format above;

Noise

a The identification of all likely noise and vibration sources associated with the operation of the premises. This may include such sources as:

- public entertainment;
- external (outside) areas such as courtyards, rooftops, balconies etc;
- patrons leaving and entering the premises;
- the operation of mechanical plant and equipment;
- waste disposal, sorting and collection of bottles etc.

b A description of the existing acoustic environment during hours proposed beyond midnight (eg. from vehicular traffic, noise from surrounding premises, pedestrian noise etc.);

c The identification of all noise sensitive areas of different occupancy in close proximity to the proposed use (eg. residential dwellings; boarding houses, backpacker accommodation, hostels etc.) and;

d If a PoPE is proposed, a description of the nature/type of entertainment (eg. amplified or acoustic, solo or band, number of performers, pre-recorded, Disc Jockey etc);

Security and Safety

a A description of any arrangements that will be made for the provision of security staff. This is to include (but is not limited to) the following:

- any recommendations from Local Licensing Police regarding appropriate security provision and a statement outlining the extent of compliance with police recommendations;
- the number of security personnel that will be patrolling inside and outside the premises including the frequency of security patrols;
- Identification of the physical extent of any patrolled areas outside the premises;
- Hours that security personnel will be on duty (including the period after closing time); and
- Staff security training, weapons detection, and other security response methods.
- Details of CCTV surveillance camera installation that identifies both indoor and outdoor areas monitored by cameras, and camera technical specifications (eg. recording capacity, frames-per second etc.)

c Details of signage that is to be erected providing advice to patrons to maintain quiet and order when leaving and entering the premises;

d Written confirmation that the NSW Police Service raises no objection to trading hours beyond midnight and there is no record of significant crimes generated by the premises or records showing an increase in crime associated with the premises; and

e Details of any complaints associated with the operation of the premises must be recorded in a Complaints Register which includes:

- Complaint date and time;
- Name, contact and address details of person(s) making the complaint;
- Nature of complaint;
- Name of staff on duty; and
- Action taken by premises to resolve the complaint.

Management Measures

General Amenity

a Details of all measures that will be taken to ensure that amenity impacts that may result from the operation of the premises are minimised. This should identify (where relevant) any measures taken to ensure that the operation of the premises will not materially affect the amenity of the neighbourhood by reason of noise, vibration, smell, fumes, vapour, steam, soot, ash, dust, waste water, waste products, grit, oil or otherwise;

b Details of all actions that will been taken to respond to complaints made about the operation of the premises (eg. consultations with residents, discussions with Council Officers, liaison with Police, public access to Plans of Management, review of existing Plan of Management etc.);

c A waste management plan that outlines the procedures for minimising and managing waste that is generated by the premises. This should address such matters as disposal of bottles, how and when waste will be removed, details of waste management facilities, waste collection and storage areas etc.;

d Details of when (frequency) and how the premises will be cleaned and serviced;

e If the premises has gaming machines, details of where gaming areas will be located in order to not be viewable from the street (eg. away from the street frontage, not at ground level if multiple floors, appropriate screening); and how these areas will be patrolled;

f A statement that addresses how the premises/use will impact/ contribute on the mix of uses in the area/locality during both day and night trading hours;

g Details of methods that will increase patron awareness of public transport availability (eg. signage, availability of timetables) as well as a description of any other measures that will assist patrons in using public transport (eg. provision of a shuttle service, taxi assistance etc.); and

h Details of methods that will increase patron awareness of responsible disposal of cigarette butts;

i Any other measures that will be undertaken to ensure that amenity impacts that may arise from the operation of the premises are addressed.

Noise

a Details of all on-site and off-site noise and vibration attenuation measures;

b A statement outlining the premises' compliance with all relevant noise and vibration standards, guidelines and legislation (eg. Australian Standards, *Protection of the Environment (Operations Act) 1997*, *EPA Industrial Noise Guidelines*, etc.);

c Details of all actions that will be taken to ensure that the operation of the premises will not give rise to any "offensive noise" as defined under the *Protection of the Environment (Operation Act), 1997*;

d Details of how management will address complaints relating to noise, and any noise control strategies that will be implemented to minimise the potential for complaints (eg. liaison with neighbours and local police, maintaining a complaint register etc);

e Details of any measures that will be taken to minimise noise from outdoor areas such as rooftops, courtyards, balconies etc; and

f Details of any noise limiting devices to be installed.

Security and Safety

a Measures that will be taken by security personnel to ensure that the behaviour of staff and patrons when entering and leaving the premises will minimise disturbance to the neighbourhood;

b Any provisions that will be made to increase security in times where higher than average patronage is expected (eg. during public entertainment, peak periods on weekends, New Years Eve, following large sporting events in the locality, during special events and functions etc.);

c Liaison that will be undertaken with other licensees or operators of late trading premises in the locality/area to improve security at night;

d Details of measures that will be implemented to ensure that neighbourhood amenity and safety is protected. At a minimum this should include:

- emergency procedures;
- crowd control;
- search procedures;
- maintenance of an incident register;
- monitoring of patron behaviour;
- monitoring of numbers of patrons within the premises;
- recording of complaints and reporting of incidents to Police;
- membership of the proprietor/licensee to a Licensing Accord (please refer to the City's website for details of Licensing Accords operating within the City) and a demonstrated commitment to the strategies and principles of the Accord;
- dress codes;
- staff security training;
- distinctive security attire;
- availability of cloak rooms;
- internal and external security patrols;
- the location, design and type of footpath and external lighting that will be installed;
- measures to prevent glass drinking receptacles being carried from the premises by patrons;
- measures to ensure safe capacities (eg. electronic counting of patrons, occupancy limits, signage); and
- actions to be taken during "wind down" periods prior to closing time;

e If queuing outside the premises is to occur, a description of any measures that will be taken to ensure that queuing is controlled in a manner that will not aversely impact the amenity of the neighbourhood and that the footpath will not be unreasonably impeded. This description may address such matters as:

- the use of temporary ropes and bollards;
- maximum queue numbers;
- actions taken to minimise loitering;
- actions ensuring the fast and efficient movement of a queue; and

f Methods employed to implement harm minimisation and the responsible service of alcohol (RSA) requirements of the Office of Liquor gaming and Racing such as:

- employee training and awareness regarding RSA and harm minimisation;
- approaches that will be used to manage intoxicated and/or disorderly persons;
- promotion of non-alcoholic beverages;
- display of the premises' house policy;
- assisting patrons in accessing safe transportation from the premises (eg. arranging taxis, public transport timetable information)
- encouraging responsible drinking;
- actions taken to discourage drug use and to manage drug-related incidents.

Category 'B' Premises Management Checklist

Where relevant, at a minimum management checklists for category B premises must:

a Describe measures that will be taken to minimise internal and external noise impacts on adjoining properties and how such measures will be implemented;

b Outline the procedures for minimising and managing waste that is generated on site and how and when waste will be collected (eg. disposal of bottles, waste removal etc.);

c Provide details of type and number of staff that will be employed on the premises at any one time;

d Describe any arrangements that have been made for on-site security (if relevant). This is to include specific information on the number of licensed security staff, including details of any electronic surveillance systems within the premises;

e Describe any steps that will be taken to manage patron behaviour when leaving the premises late at night;

f Describe any methods for controlling and managing crowds within and outside the premises;

g Describe measures will be taken to manage large groups of people during peak trading periods;

h Provide a copy of a house policy that describes the measures to minimise harm associated with alcohol consumption to ensure the responsible service of alcohol;

i State the maximum capacity of the premises and the maximum number of patrons that will be standing and/or sitting at any one time;

j State the operating and/or trading hours of the premises;

k Describe any measures to increase patron awareness of public transport availability in the locality;

l Describe when and how the site will be cleaned and generally serviced;

m Provide details of the trading hours of other late night trading premises currently operating within a 50 metre radius (ie. commercial premises that operate after 10pm)

Kings Cross Then And Now — comparing 2007 and 2013

A visual comparison of the impact on residential buildings of extended trading hours and the explosion in liquor licences in Kings Cross / Potts Point and Darlinghurst from 2007 to July 2013.

The new liquor laws introduced in July 2008 deregulated the alcohol industry and abolished the arms length judicial review system.

2007: Kings Cross/Potts Point Portrait

In green: residential flat buildings
In red: about a dozen pubs and clubs, with doors and windows closed.
In orange: brothels along the 200 metres of "the strip" on Darlinghurst Road and a few on Bayswater Road. All quiet.
Bottle shops: about 3 or 4 small shops spread through
In pink: Typical local businesses — banks, newsagents, florists, deli, alterations etc.

Summary: a quirky, supportive, densely populated village like inner-city neighbourhood, reasonably quiet at night.

2013: Kings Cross/Potts Point today — impact of the extended hours trading economy

There is simply not enough room on the map for total licensed premises: 36 Hotels, 240 On-Premises and 19 Bottle Shops.

Late Traders (trade after midnight): 32 Hotels; 170 On-Premises; 10 Bottle Shops.
24/7 Traders: 35 venues can trade around the clock (19 on-premises, 16 Hotels). Two additional venues trade with a small "gap" of a few hours.

The total capacity is about 25,000 patrons, who are overwhelmingly (over 80%) aged about 18 to 24 years. Not shown are the clusters of bars and clubs: on Victoria St, Darlinghurst and Victoria St, Potts Point (to Hughes St); bars on Macleay Street; bar cluster in Challis Ave. The impact of patron migration through residential neighbourhoods in Woolloomooloo, Darlinghurst, Elizabeth Bay can't be shown. The day economy can't compete with the rents of the 24-hour alcohol economy.

Liquor Freeze Loopholes
Since late 2009, a liquor licence "freeze" was introduced for about 200 metres on Darlinghurst Road. It was expanded to a few surround streets after the tragic death of Thomas Kelly, 17 July 2013. Yet, restaurant/bar approvals continue — as bars only need serve pizza with alcohol to be deemed a "restaurant".
A liquor licence can't be granted without Council DA approval for use, numbers and hours. Rarely do DAs come to Council, so councillors and the public are not involved. (One Darlinghurst Road venue was approved as a site consolidation with a capacity of over 1000 patrons!) The liquor licence freeze does not apply to small venues (a capacity of 60 people or fewer that does not or trade after 2am). Over 50% of assaults take place outside venues. Kings Cross uniquely has private security outside venues with no obligation to report incidents. Under the 3 Strikes policy, only 1 KX venue has 1 strike. They call this extraordinary state of affairs a "success".

Summary: a high density residential area destroyed by an explosion of free-for-all liquor licenses with alcohol related violence and anti-social behavior 24 hours a day.

The NSW Government's measures to reduce alcohol related violence are ineffective.

The tragic death of 18-year-old Thomas Kelly was a wake-up call. On 17 July 2012 the Sydney Morning Herald held a "Safer Sydney" forum. People said: the mix is wrong, with too many bars, open too long. The result of alcohol oversupply is too much violent behaviour.

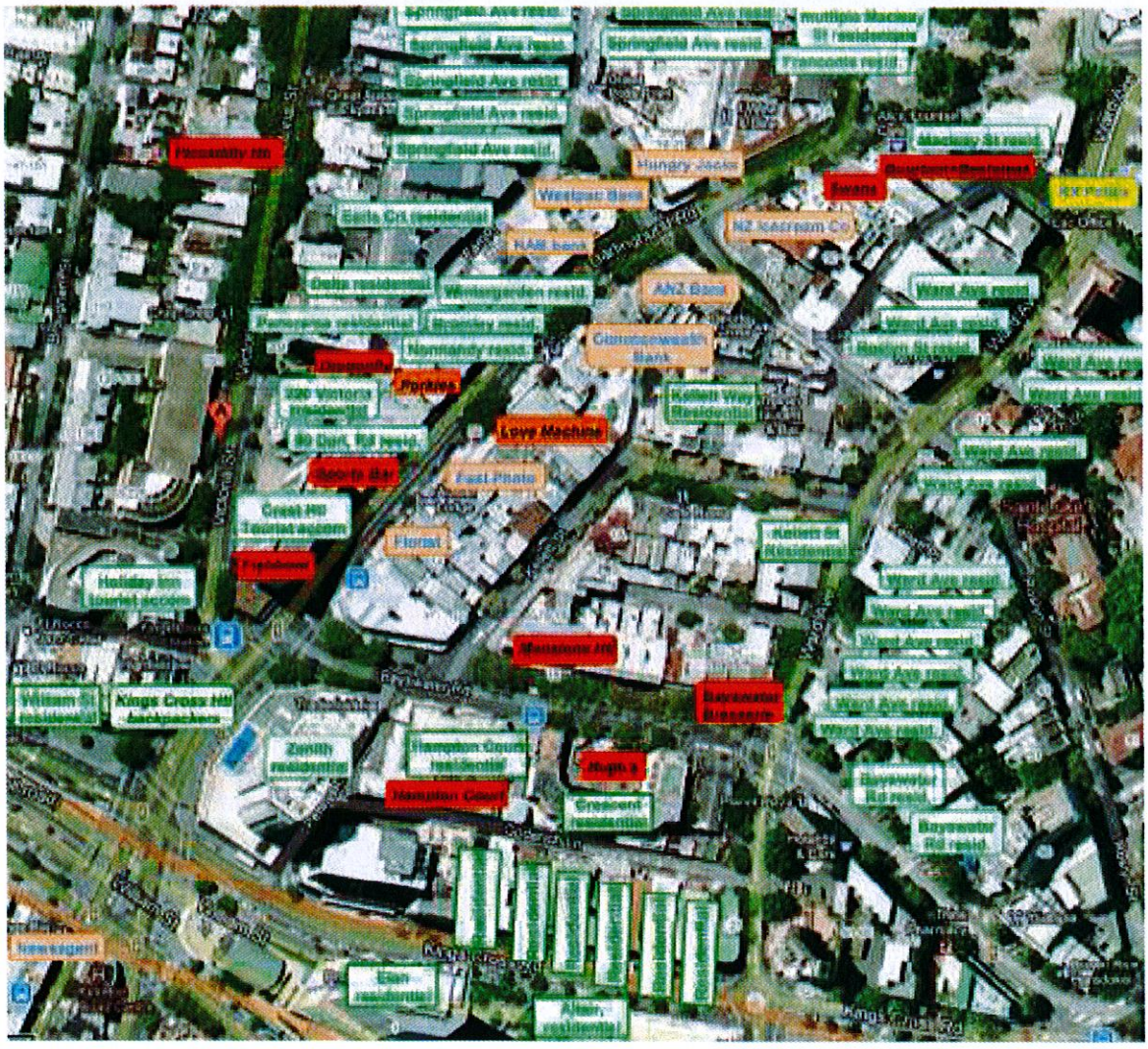
The Premier is listening to the AHA and industry and refusing the overwhelming scientific evidence of harm reduction measures that will reduce alcohol related violence and deaths. Council has its head in the sand. It's like the schoolies week or footy grand final every weekend. Saturation has been reached and exceeded — and police, emergency service and hospital workers agree.

On 5 July 2013 the NSW Government called for public submissions as part of a statutory review of the Liquor Act 2007 and The Gaming and Liquor Administration Act 2007. The changes include consideration of increased penalties, new offences, expanded regulatory powers, a Community Impact Statement process for liquor licence applications and establishment of an Administrative based liquor licensing body.

Support the urgent adoption of proven, cost saving measures that will reduce the alcohol-fuelled violence and harm Kings Cross.

DRAG

Kings Cross 2007



Kings Cross 2013

CRIME AND JUSTICE
Bulletin

NSW Bureau of Crime Statistics and Research

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Lockouts and last drinks:

The impact of the January 2014 liquor licence reforms on assaults in NSW, Australia

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Aims: *To determine (1) whether the January 2014 reforms to the NSW Liquor Act reduced the incidence of assault in the Kings Cross and Sydney CBD Entertainment Precincts. (2) Whether the incidence of assault increased in areas proximate to these Precincts or in nightspots further away but still within easy reach of these Precincts. (3) If there is evidence of displacement, and whether the reduction in assaults in the Kings Cross and Sydney CBD Entertainment Precincts was larger than the increase in the number of assaults in the displacement areas.*

Method: *We examine the effects of the legislative reforms introduced in January 2014 using time series structural models. These models are used to estimate the underlying long term dynamics of the time series of police recorded non-domestic assaults in NSW between January 2009 and December 2013. The effect of the January 2014 reform is captured by including terms in the models reflecting the timing of the change. Separate analyses are carried out for: the Kings Cross Precinct (KXP); the Sydney CBD Entertainment Precinct (CBD); an area contiguous with KXP and CBD that we refer to as the proximal displacement area (PDA); a group of entertainment areas not far from the Kings Cross or the Sydney CBD Precincts, which we refer to as the distal displacement area (DDA) and the rest of NSW.*

Results: *Following the reforms statistically significant and substantial reductions in assault occurred in both the Kings Cross (down 32%) and Sydney CBD Entertainment Precinct (down 26 %) (including a 40% decline in the sub-section George Street – South). A smaller but still significant reduction in assault occurred across the rest of NSW (9% decrease). The January 2014 reforms were also associated with small decreases in assault in the PDA and the DDA but neither of these changes was statistically significant. There was some evidence that assaults increased in and around The Star casino, however the effects are not statistically significant and the reduction in assault elsewhere was much larger than the increase around The Star casino.*

Conclusion: *The January 2014 reforms appear to have reduced the incidence of assault in the Kings Cross and CBD Entertainment Precincts. The extent to which this is due to a change in alcohol consumption or a change in the number of people visiting the Kings Cross and Sydney Entertainment Precincts remains unknown.*

Keywords: *alcohol, assault, trading-hours, liquor licence, Kings Cross, Sydney, time series structural models, displacement.*

INTRODUCTION

On New Year's Eve, 2013, a young man named Daniel Christie was assaulted in Kings Cross; dying 11 days later as a result of his injuries. The incident sparked immediate calls for tougher regulation of licensed premises, especially in Kings Cross and the Sydney Central Business District (CBD) (Roth, 2014). On the 21st of January, 2014 the New South Wales (NSW) State Government announced new restrictions (hereafter referred to as the January 2014 reforms) on licensed premises to curb alcohol-related violence[1]. The new restrictions (contained in the Liquor Amendment Act, 2014) imposed by the State Government took effect on the 24th of February 2014[2] and included:

1. 1.30am lockouts[3] at hotels, registered clubs, nightclubs and karaoke bars in two designated areas: the Sydney CBD Entertainment Precinct and Kings Cross Precinct;
2. 3.00am cessation of alcohol service in venues in these Precincts;
3. A freeze on new liquor licences and approvals for existing licences across the Sydney CBD Entertainment Precinct and continuation of the existing freeze in the Kings Cross Precinct[4];
4. A ban on takeaway alcohol sales after 10.00pm across NSW;
5. The extension of temporary and long-term banning orders issued to designated 'trouble-makers' to prevent them entering most licensed premises in the Kings Cross and Sydney CBD entertainment precincts;

This bulletin has been independently peer reviewed.

6. The introduction of a new risk based licence fee for all licensed premises in which the annual fee payable by a particular venue depends upon its licence type, compliance history and trading hours;
7. The suspension of on-line responsible service of alcohol training.

Our aim in this study was to address three questions: (1) Have the January 2014 reforms reduced the incidence of assault in the Kings Cross and Sydney CBD Entertainment Precincts? (2) Has the incidence of assault increased in areas proximate to these Precincts or in nightspots further away but still within easy reach of these Precincts (3). If there is evidence of displacement, is the reduction in assaults in the Kings Cross and Sydney CBD Entertainment Precincts larger than the rise in the number of assaults in the displacement areas?

In answering these questions we make no attempt to isolate the separate effects of the 1.30am lockouts, the 3.00am cessation of alcohol service and the introduction of temporary banning orders for 'trouble makers' in the Sydney CBD Entertainment Precinct. Our focus here is solely on the joint impact of the initiatives just mentioned.

THE CURRENT STUDY

Past research suggests that trading hours have a powerful influence on levels of alcohol-related crime. A number of studies have found that longer trading hours for licensed premises are associated with higher levels of alcohol-related violence (e.g. Chikritzhs & Stockwell, 2002. See also the review by Stockwell & Chikritzhs, 2009). Several studies have also found that liquor licence restrictions reduce alcohol-related violence (Douglas, 1998; Voas, Lange & Johnson, 2002; Voas, Romano, Kelly-Baker & Tippetts, 2006; Duailibi, Ponicki, Grube, Pinsky, Laranjeira & Raw, 2007; Kypri, Jones, McElduff & Barker, 2011). Kypri et al. (2011), for example, found that the introduction of lockouts and earlier closing times across 14 licensed premises in Newcastle (a coastal city located some 160km north of Sydney) in 2008, was associated with a substantial fall in assaults, without resulting in any displacement of violence into a neighbouring 'control' area.

Although the Newcastle study and other similar studies provide support for a policy of restricting liquor licensed trading hours, there are some significant differences between Newcastle and Sydney that might blunt the effects of similar restrictions in the Kings Cross and Sydney CBD Entertainment Precincts. To begin with, the annual number of assaults recorded in the Sydney Local Government Area (LGA) is more than three times the number recorded in Newcastle LGA, while the number of licensed premises in the Sydney LGA (2,285) is nearly six times the number in Newcastle LGA (398) (NSW Office of Liquor, Gaming and Racing, 2014). Even without any displacement this could make enforcement of the new laws potentially more difficult. Secondly, and more importantly, drinkers unable to consume alcohol in the Kings Cross and Sydney CBD Entertainment Precincts only have to travel a short distance to reach licensed premises unaffected by the restrictions (see Figure 1). Drinkers in Newcastle showed no propensity to travel to Hamilton (a nearby suburb without the same liquor license restrictions) but the range of alternative licensed venues is far larger in Sydney than in Newcastle.

Studies of the impact of spatially concentrated crime control initiatives sometimes report geographical displacement (the crime problem shifts to an area outside the target areas) and sometimes report a diffusion of benefits (the crime problem reduces in the target area and in areas surrounding the target area). The available evidence suggests that diffusion of crime benefits is more common than crime displacement (Bowers et al., 2011). There are at least two ways, nonetheless, in which spatial displacement might manifest itself in response to the January 2014 reforms. The first is an increase in violence in areas contiguous to the Kings Cross and Sydney CBD Entertainment Precincts (e.g. The Star casino, Ultimo, Surry Hills). The second is an increase in violence in nightspots some distance away from the Kings Cross and Sydney CBD Entertainment Precincts but within easy reach of those Precincts (e.g. Double Bay, Newtown, and Bondi among others).

With one exception, the January 2014 reforms listed above were targeted at the Kings Cross and Sydney CBD Entertainment Precincts. The exception is item four: the ban on takeaway alcohol sales after 10.00pm which applies across NSW. For the purposes of our analysis of the impact of the January 2014 reforms on violence, NSW is divided into six regions (see Figures 1 and 2). The first is the Kings Cross Precinct (KXP). The second is the Sydney CBD Entertainment Precinct (CBD). The third is George Street – South (GSt) which is a non-domestic assault hotspot within the the Sydney CBD Entertainment Precinct .The fourth consists of an area contiguous with KXP and CBD and referred to hereafter as the proximal displacement area (PDA). The fifth comprises a group of entertainment areas not far from the Kings Cross or the Sydney CBD Precincts and referred to hereafter as the distal displacement area (DDA). The sixth region consists of the rest of NSW (and will be referred to as such). The first five regions are highlighted in Figure 1, which shows the target Precincts in green and red and George Street South in purple; the PDA in yellow and The Star Casino in pink. Figure 2 shows the DDA in yellow. The rest of NSW is not shown.

If the January 2014 reforms achieve their intended purpose, we would expect to see a reduction in assault in the target areas (i.e. the KXP and CBD). Because four out of the five reforms apply only in the target areas, we would expect any reduction in

Figure 1. The two target areas, Sydney CBD Entertainment including George Street South and Kings Cross Precincts, together with the proximal displacement area

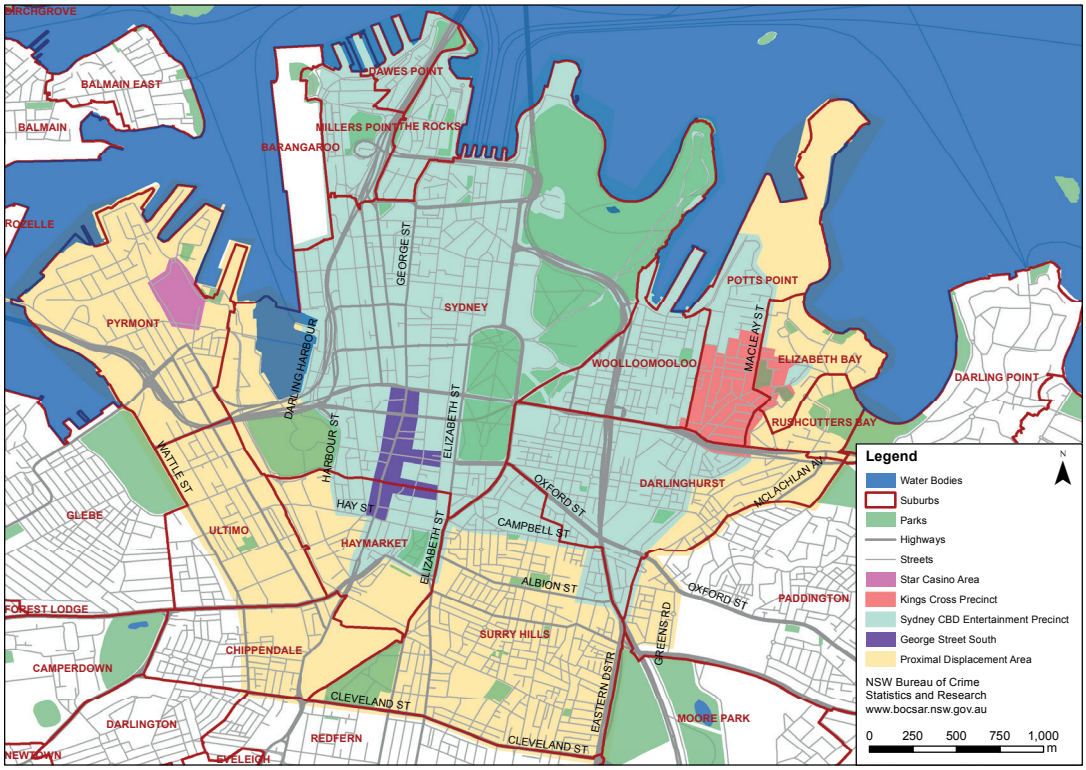


Figure 2. Distal displacement areas in orange including Bondi Beach, Coogee, Double Bay and Newtown

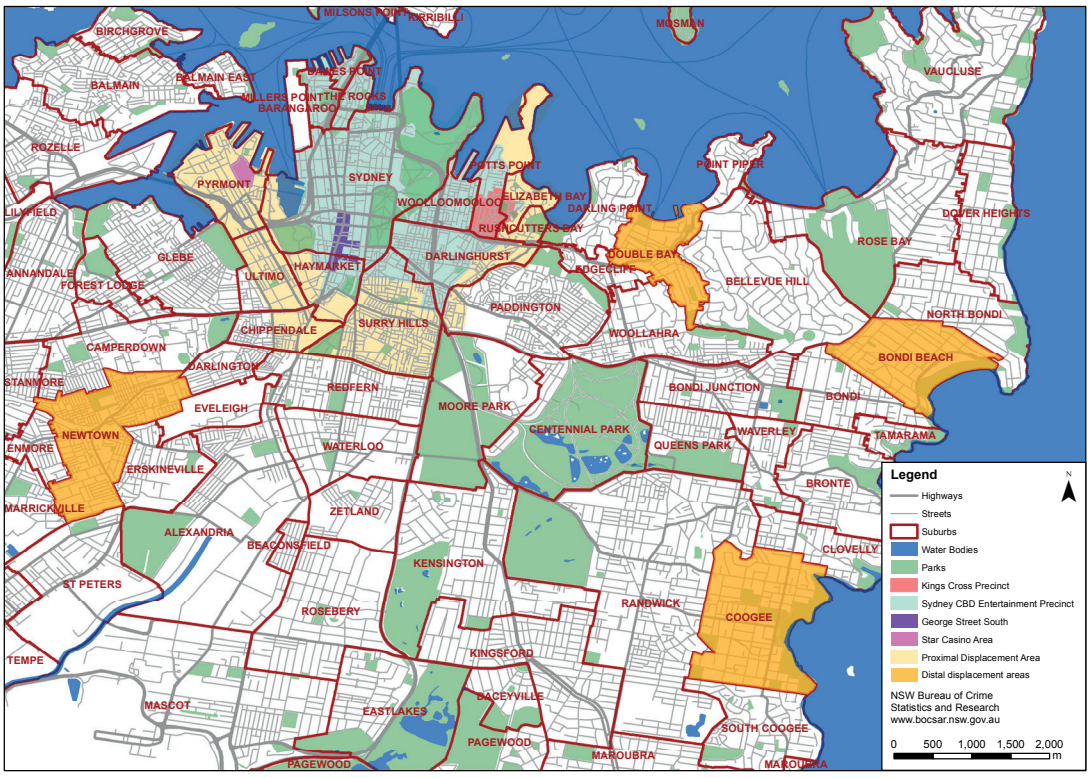
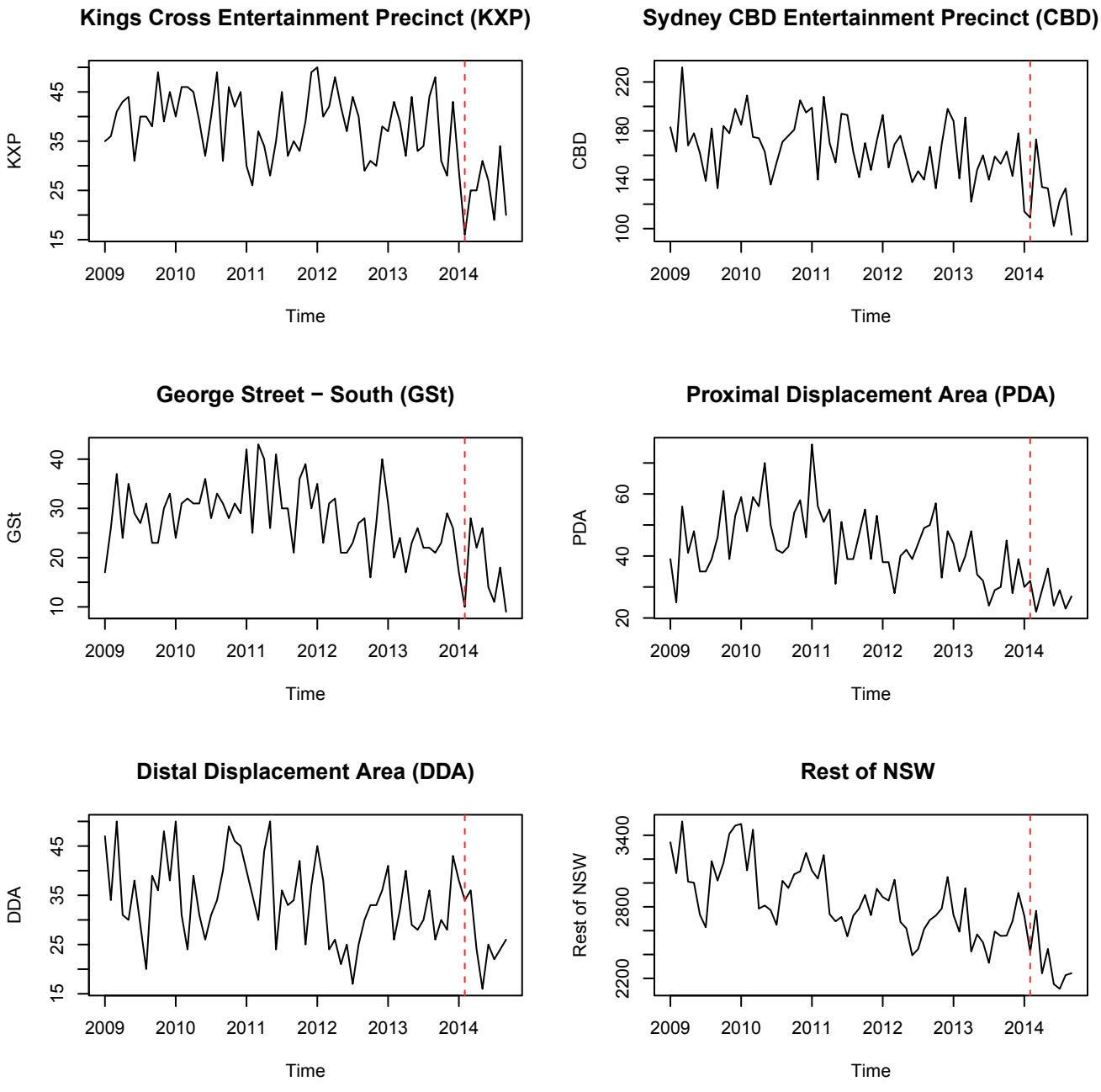


Figure 3.Time series of the number of assaults for Kings Cross Precinct, Sydney CBD Entertainment Precinct, proximal and distal displacement areas together with the rest of NSW



assault in the target area to be larger than the reduction in assault in the rest of NSW. If the reforms result in a displacement of assault to the PDA or DDA, we would expect to see an increase in assault or, at the very least, a deceleration in the downward trend in assault in one or both of these areas. If there is an increase in assault in the PDA or DDA, we can assess the size of the problem by comparing the increase in assault in these areas to the increase in the target area. If a diffusion of benefits occurs we would expect to see a reduction in assault in one or both the PDA and DDA. If a diffusion of benefits occurs to the PDA and displacement occurs to the DDA, we would expect to see a fall in assault in KXP, CBD, GSt and PDA and a rise in the DDA.

METHODS

DATA SETS

The outcome measure used in this study is the monthly count of non-domestic assaults recorded by the NSW police between January 2009 and September 2014. Figure 3 shows the number of assaults over this period in the six locations of this study: KXP, CBD, GSt, PDA, DDA and rest of NSW.

ANALYSIS

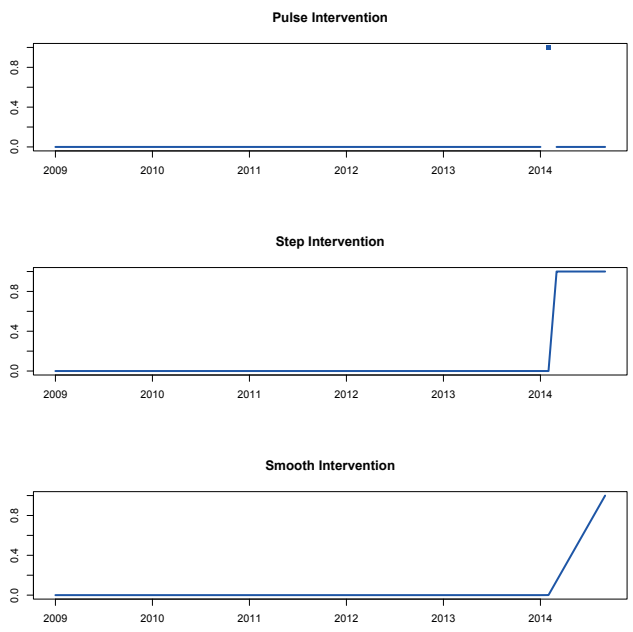
Generalized linear models (GLM, McCullagh & Nelder, 1989) such as Poisson or Negative Binomial regression are often used

to model count data. Models such as these are appropriate when strong autocorrelation is not present and when simple time trends are adequate to model the outcome of interest. However, if strong autocorrelation and complex time dependent trends are present in the data, Poisson and Negative Binomial regression can produce biased estimates.

Because of the presence of autocorrelation and highly non-linear trends in our data, we use an approach based on time series structural models (Harvey, 1989) and their representation as state space models for count data (Durbin & Koopman, 2012). State space models produce a dynamic picture of the different building blocks of a time series, namely, the trend, cycle and seasonal components. A further advantage of these models is that additional variables of interest can easily be included.

There are several ways in which the January 2014 reforms might influence assaults. One possibility is an instantaneous but transitory effect after which assaults return to previous levels. This is known as a pulse intervention effect (see top panel of Figure 4).

Figure 4. Intervention variables representing pulse, step and smooth intervention effects



Letting τ_1 represent the time when the intervention was introduced, the pulse intervention variable can be modelled as follows:

$$x_t = \begin{cases} 0 \text{ if } t \neq \tau_1 \\ 1 \text{ if } t = \tau_1. \end{cases}$$

Another possibility is a step intervention. In this case the change takes the form of a permanent and immediate shift in the level in assaults. The step intervention variable (see the middle panel of Figure 4) can be described as:

$$x_t = \begin{cases} 0 \text{ if } t < \tau_1 \\ 1 \text{ if } t \geq \tau_1 \end{cases}$$

A third possibility is a slow changing response or smooth step intervention effect (see bottom panel of Figure 4). This sort of change might be expected if the reforms have a slow but steady effect that starts when new reforms are introduced and continues until the number of assaults reaches a steady level. The model for such an effect is:

$$x_t = \begin{cases} 0 & \text{if } t \leq \tau_1 \\ (t - \tau_1)/(\tau_2 - \tau_1) & \text{if } t \in (\tau_1, \tau_2) \\ 1 & \text{if } t \geq \tau_2 \end{cases}$$

where τ_1 and τ_2 represent the onset and termination of the intervention effect. In this study, τ_2 was set beyond the end of the available data as it is possible that the full effect of the intervention has not yet been reached.

We have little *a priori* basis on which to determine which model is more appropriate and, at this stage, too little post-intervention data to arbitrate between the possibilities. Our approach, therefore, is to consider a number of models (including combinations of the above intervention variables) and use the Akaike Information Criterion (AIC) to select the best-fitting model. The AIC balances the goodness of fit of a model against its complexity (Akaike, 1974, Durbin & Koopman, 2012). The smaller the AIC value, the better the model. The independence assumption of the residuals will be checked via the Box-Ljung test based on the first 24 autocorrelations (Ljung & Box, 1978) of the Pearson residuals. The detailed models used in this study are described in Appendix A.

All the analyses in this study were done using R version 3.1.2 (R core team, 2015) and in particular, the zoo (Zeileis et al., 2014) and KFAS (Helske, 2014) packages.

RESULTS

Three sets of analyses were carried out in this investigation. In the first, we investigated the possibility of a sudden and permanent change in the monthly count of assaults after the new reforms. In the second, we evaluated the possibility that the reforms triggered a slow change in assault incidence. Finally, we examine the possibility that the intervention effect was transient followed by a slow effect and that was modelled via a pulse plus a smooth step intervention.

Table 1. Results for model comparison via Akaike Information Criterion (AIC)

	KXP	CBD	GSt	PDA	DDA	Rest of NSW
Step Intervention	8.025	10.495	7.779	8.617	8.150	14.026
Smooth Intervention	8.110	10.300	7.741	8.604	8.123	14.023
Pulse + Smooth intervention	8.152	10.308	7.777	8.712	8.256	14.200

Table 2. Model comparison between the selected models with and without seasonal component

Model	KXP	CBD	GSt	PDA	DDA	Rest of NSW
Seasonal Model	8.025	10.300	7.741	8.604	8.123	14.023
Non-Seasonal Model	6.991	10.427	6.890	7.791	7.314	14.123
Intervention	Step	Smooth	Smooth	Smooth	Smooth	Smooth

Table 3. Final model estimates of changes in assault by area

	KXP	CBD	GSt	PDA	DDA	Rest of NSW
β	-0.390	-0.300	-0.525	-0.078	-0.381	-0.09
C.I	(-0.609, -0.171)	(-0.535,-0.065)	(-0.995,-0.056)	(-0.707,0.551)	(-1.107,0.345)	(-0.104,-0.076)
pval	<0.001	0.018	0.028	0.809	0.304	<0.001
Box-Ljung	0.333	0.067	0.425	0.246	0.558	0.178
loglik	-237.186	-351.360	-233.719	-264.783	-248.333	-467.097
AIC	6.991	10.300	6.890	7.791	7.314	13.655
Reduction	-32.270%	-25.929%	-40.851%	-7.471%	-31.675%	-8.630%
Intervention	Step	smooth	smooth	Smooth	Smooth	Smooth

The results of the model assessments are shown in Table 1. Each cell in the table contains the AIC value for the model in each of the six locations. The locations are the two target sites (KXP and CBD), the George Street South sub-section (GSt), the proximal displacement area (PDA), the distal displacement area (DDA) and the rest of NSW. Smaller AIC values indicate a better fitting model. The best model for KXP is a step intervention effect while the other areas are better characterised by a smooth step intervention effect.

The data for the rest of NSW show obvious seasonality as displayed in Figure 3, but the other data (KXP, CBD, GSt, PDA and DDA) only show a weak seasonality. We therefore estimated the same selected models in Table 1 without the seasonal component and the AIC results for model comparison are displayed in Table 2. The AIC values indicate that models without seasonal components were a better fit for all the data except for the Sydney CBD Entertainment Precinct and for the rest of NSW.

The final selected model results are presented in Table 3. The first row shows the estimated effect of the January 2014 reforms. The second row presents the parameter estimate 95% confidence intervals. The third row shows the results of a two-tailed t-test with H0: β=0 (p-value). The fourth row presents the results from the Box-Ljung portmanteau test to check the

Figure 5. Estimated assault trend for the Kings Cross Precinct (KXP): Jan 2009-Sep 2014

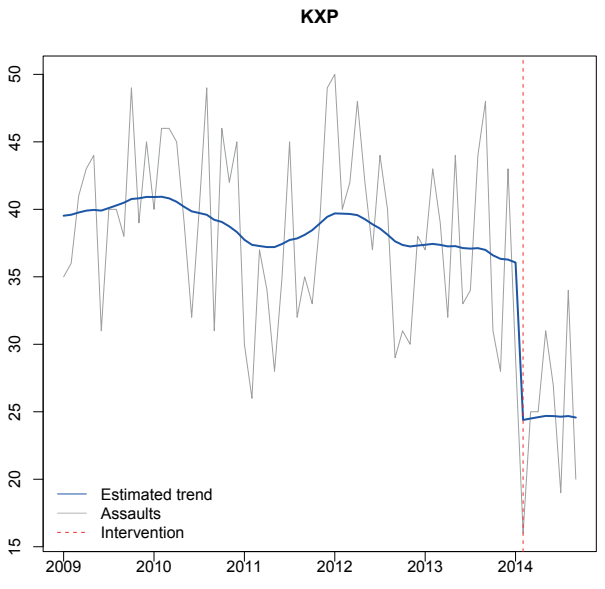


Figure 6. Estimated assault trend for the Sydney CBD Entertainment Precinct (CBD): Jan 2009-Sep 2014

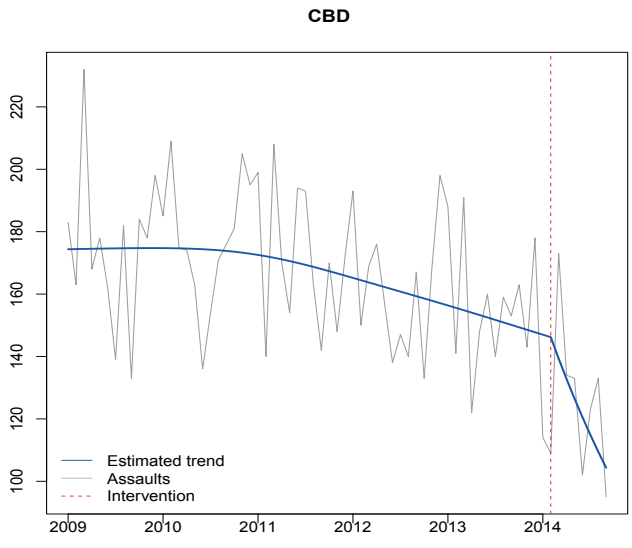


Figure 7. Estimated trend for the number of assaults for the George Street South (GSt): Jan 2009-Sep 2014

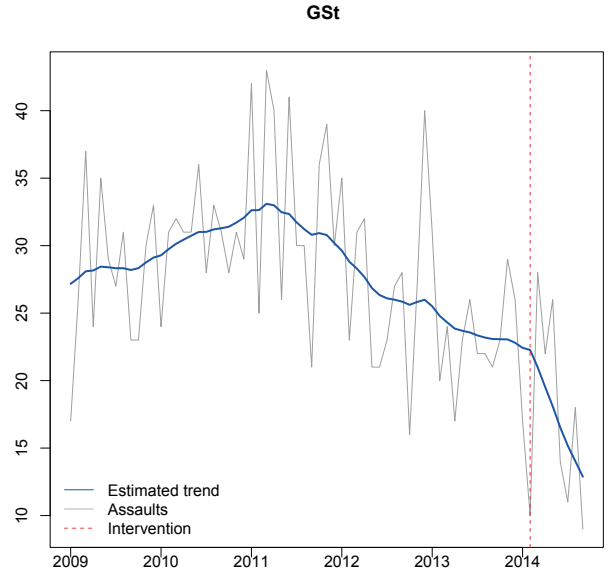


Figure 8. Estimated trend in assaults for the Proximal Displacement Area (PDA): Jan 2009-Sep 2014

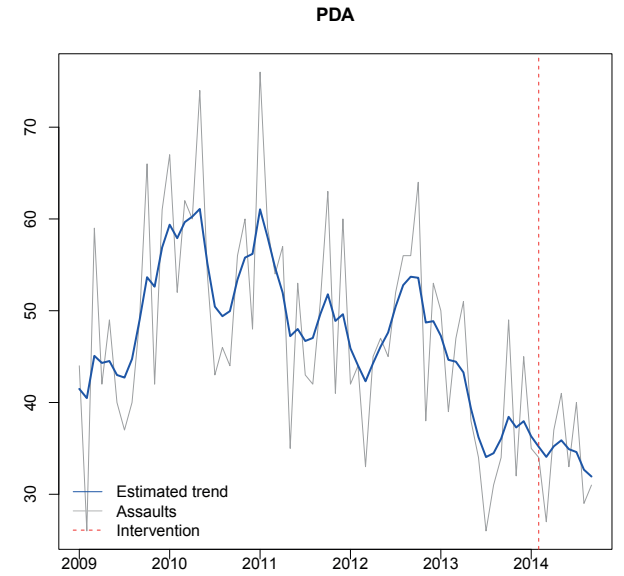


Figure 9. Estimated trend for the number of assaults for the Distal Displacement Area (DDA)

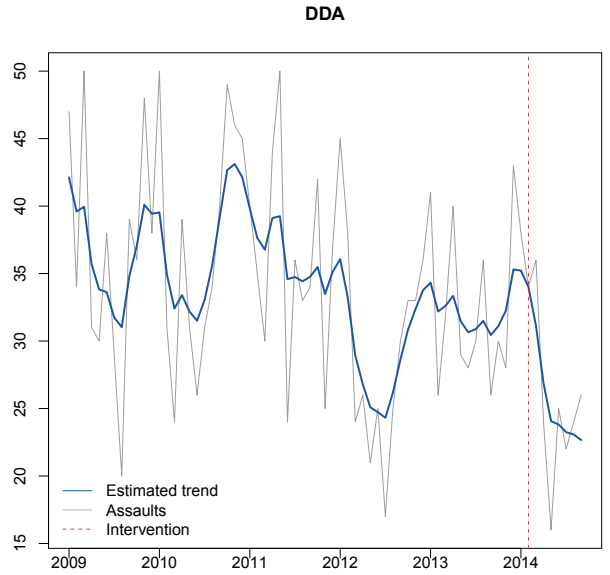
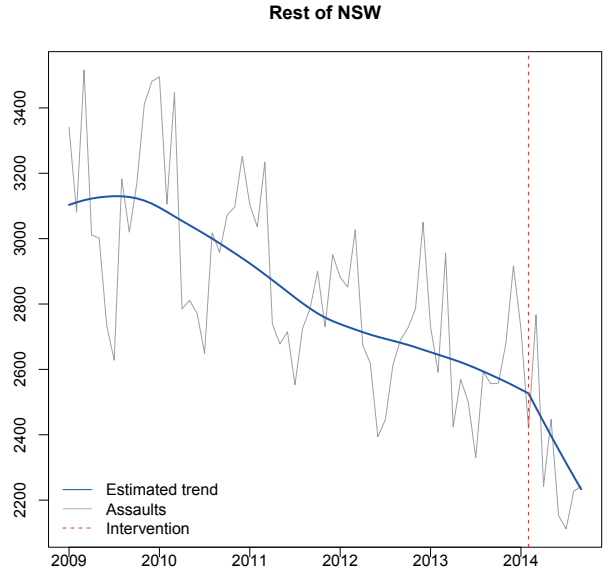


Figure 10. Estimated trend for the number of assaults in the rest of NSW which excludes the targeted areas and displacement areas



presence of autocorrelation in the model residuals (p-value). The fifth and sixth rows provide, respectively, the log-likelihood and AIC values associated with each model. The seventh row displays the percentage reduction in assault associated with the January 2014 reforms. The final row shows the intervention variable included in each of the models.

Results for KXP and CBD, shown in Table 3, indicate that there are substantial statistically significant reductions in assault in both the Kings Cross (down 32%) and Sydney CBD Entertainment Precinct (down 26%). The identified assault hotspot along George Street – South, a subsection of the CBD Entertainment precinct, showed a 40 per cent reduction. The first (KXP) effect has a narrower confidence interval than the second and third one, as shown in the table. The negative coefficients on the intervention variable, displayed in the columns headed 'PDA' and 'DDA', suggest that the January 2014 reforms were associated with a small decrease in assault incidence in the proximal displacement area and a larger decrease in assault incidence in the distal displacement areas, but the confidence intervals in both cases are wide with effects that are not statistically significant at a 5 per cent level. The column labelled

'Rest of NSW' indicates that the January 2014 reforms were associated with a smaller but still significant reduction in assault across the rest of NSW (9% decrease).

The effects can be seen clearly if we examine the estimated trend in assaults for each of the models. We do this in Figures 5 to 10. The raw data on assaults are plotted and the solid line shows the estimated trend in assaults, while the dotted line marks the beginning of the intervention.

In Kings Cross (Figure 5), we observe an immediate drop in the number of assaults following the January 2014 reforms, after which the assault level appears to stabilise at a new lower level.

In the Sydney CBD and George St – South (Figures 6 and 7) there are clear downward trends in the number of assaults in the three years prior to the January 2014 reforms; however the slope of the downward trend is much steeper following the introduction of the reforms than before.

The estimated trend for the proximal displacement area (PDA) is displayed in Figure 8. There is a declining trend in assaults in the period leading up to the January 2014 reforms. However, the intervention effects are not statistically significant at a 5 per cent level.

One key licensed venue, which is included in the proximal displacement area and which has been the subject of a number of media reports concerning alcohol related violence (e.g. SMH, 30 August 2014), is The Star casino. The Star Casino has a 24-hour liquor licence and is not subject to the January 2014 reforms. A separate analysis was conducted of assaults specifically occurring at The Star Casino and in the surrounding streets (see Figure 11, Appendix B) to test the possibility of displacement to this site.

This analysis revealed some evidence of displacement (for details, see Table B1 and Figure 12 in Appendix B). Between February and September 2013 the number of assaults at The Star casino averaged 3.5 per month, whereas for the same period in 2014 it averaged 6.3 per month. There are three points to note about this. Firstly, but for the increase in assaults at The Star casino, the trend in assaults in the PDA would probably have continued the downward trajectory that exhibited prior to the January 2014 reforms (see Figure 8). Secondly, the confidence intervals around the parameter estimates for The Star casino analysis are rather large and the effect appears to be not significant (see Appendix B for model details); thus raising doubts about whether the change in assault incidence at The Star casino after the January 2014 reforms was due to random fluctuation. Finally, even if we take the apparent increase in assaults at The Star casino at face value, the increase in absolute terms (i.e., 2.8 per month) was much smaller than the decreases in the Kings Cross (from 39.6 in 2013 to 24.6 in 2014) and Sydney CBD Entertainment (from 151.8 in 2013 to 125.3 in 2014) Precincts (41.5 assaults per month across the two Precincts).

Figure 9 shows the estimated trend in assaults in the distal displacement area (DDA). In this case, the intervention effects are not statistically significant and thus no further conclusions can be drawn. A longer follow-up period will be necessary to get a clearer picture of the trend in the DDA.

Figure 10 shows the trend in assault for the rest of New South Wales. The trend is somewhat similar to that observed for the CBD model; a pre-existing downward trend that accelerates following the introduction of the January 2014 reforms.

DISCUSSION

Our aim in this study was to address three questions: (1) Have the January 2014 reforms reduced the incidence of assault in the Kings Cross and Sydney Entertainment Precincts? (2) Has the incidence of assault increased in areas proximate to these Precincts or in nightspots further away but still within easy reach of these Precincts? (3) If there is evidence of geographical displacement was the reduction in assaults in the Kings Cross and Sydney Entertainment Precincts larger than the increase in the number of assaults in the displacement areas? (i.e., what is the net effect?)

The results show that the January 2014 reforms were associated with immediate and substantial reductions in assault in Kings Cross and less immediate but substantial and perhaps ongoing reductions in the Sydney CBD. These Precincts were the focus of the January 2014 reforms and the decline in assault in these areas was larger than anywhere else. There is little evidence that assaults were displaced to areas adjacent to these Precincts or to entertainment areas within easy reach of these Precincts. The only exception to this was The Star casino, where the number of assaults increased following the January 2014 reforms. As we have already noted, the increase in assaults around the casino was much smaller in absolute terms than the fall in assaults in the Kings Cross and Sydney CBD Entertainment Precincts. The net result, therefore, appears to have been a 'diffusion of benefits' (Johnson, Guerette & Bowers, 2014). All these findings are consistent with evidence reviewed in the introduction to this bulletin; evidence which suggests that restrictions on liquor trading hours are an effective way of reducing alcohol-related violence.

Notwithstanding the consistency of the current findings with past studies examining restrictions on alcohol availability, it is important to remember that the restrictions on liquor licence trading hours were not the only component of the January 2014 reforms capable of producing a reduction in violence. Other key elements included the extension of temporary and long-term banning orders issued to designated 'trouble-makers' to prevent them entering most licensed premises in the Kings Cross and Sydney CBD Entertainment Precincts, and the introduction of a new risk based licence fee for all licensed premises in which the annual fee payable by a particular venue depends upon its

licence type, compliance history and trading hours. The first of these initiatives might have helped reduce the number of assaults on licensed premises. The second is unlikely to have had much effect as the scheme had not been implemented during the period covered by this analysis.

It is also possible that other factors associated with the January 2014 reforms were partly responsible for the fall in assault that occurred following the reforms. The fall in assault, after all, was not limited to the areas that were the principal target of the January 2014 reforms. The deaths of Thomas Kelly (July 2012) and Daniel Christie (January 2014) focussed a great deal of public and media attention on alcohol related violence in Kings Cross and the Sydney CBD. It is possible this adverse publicity, either alone or (more likely) in conjunction with new restrictions on late-night drinking (introduced in July 2014 under the CBD plan of management) (OLGR, 2015), discouraged people from going to Kings Cross and the Sydney CBD. The NSW Legislative Assembly Law and Safety Committee's Enquiry into Alcohol and Drug-Related Violence heard evidence from business groups suggesting that the number of visitors to Kings Cross and the Sydney CBD had declined; with business revenue allegedly falling by between 20 and 50 per cent (NSW Legislative Assembly, 2014, p. 44). This suggestion that the number of visitors to Kings Cross has declined is supported by transport data. Between 2013 and 2014, counts of the number of passenger crossings in Kings Cross Station certainly declined, whereas over the same period rail patronage at all other City rail stations increased (see Table C1, Appendix C). Taxi patronage at the Bayswater Road secure taxi-rank (a major taxi-rank in Kings Cross) also shows a decline, although taxi patronage at the Darlinghurst Road secure Taxi Rank (another taxi-rank in Kings Cross) slightly increased (see Table C2, Appendix C).

We will have a clearer picture of the mechanisms underpinning the fall in assaults once we have examined their temporal and spatial dimensions more closely. If the January 2014 reforms are responsible for the reduction in assault, we should expect to see a significant fall in the incidence of assault at times when licensed premises would normally have continued to serve alcohol (viz. prior to the January 2014 reforms). We might also expect to see a larger reduction in assault on licensed premises than in assaults in the street, although this will depend on overall visitor levels in Kings Cross and the CBD. If the January 2014 reforms reduced the incidence of assaults, not because they reduced alcohol consumption in Kings Cross and the CBD during hours when assault rates normally peak, but because the reforms discouraged people from visiting these areas, we might expect to see a general reduction in assault, even at times where there are no restrictions on sales of alcohol. It is still too soon to examine these issues in any detail. The follow-up period in the current study is quite short. Further monitoring will be necessary to assess the durability of the effects reported here and to obtain sufficient data to conduct a detailed analysis of changes in the temporal patterning of assaults on and off licensed premises.

ACKNOWLEDGMENTS

We would like to express our gratitude to Mr Helske Jouni for providing us with the latest version of the KFAS R package (unpublished at the time of this study), Ms Nicole Mahoney for preparing the maps and Dr Suzanne Poynton for very helpful discussions. Also, we are thankful to Dr Gavin Faunce, Ms Catherine Bass-Kendzy and Professor Rob Hyndman for their invaluable feedback on an earlier draft of this report.

NOTES

1. A more detailed description of the reforms can be accessed in the second reading speech to the Bill (Second-Reading Speech, Liquor Amendment Bill 2014; Hansard, 30th January, 2014 http://www.parliament.nsw.gov.au/prod/parlment/nswbills.nsf/0/bb87f6864d9693c1ca257c6f007fec0e/$FILE/2R%20Crimes%20and%20Liquor.pdf and here: http://www.olgr.nsw.gov.au/news_New_Initiatives_Announced.asp.
2. Although we refer to the reforms as the January 2014 reforms, it should be noted that further restrictions were placed on the 18th of July 2014 under the CBD Plan of Management.
3. A 'lockout' law is a law which permits licensed premises to continue serving alcohol to people on the premises past a specified hour but which prohibits anyone seeking to enter or re-enter the premises after that hour.
4. This change only applied to higher risk premises

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APPENDIX A

The model is based on the Poisson distribution with mean $\exp(\theta_t)$, that is, $y_t \sim$ Poisson $(\exp(\theta_t)$ where the probability of y_t can be written as follows:

$$\text{prob}\,(y_t = k) = \exp\{k\theta_t - \exp(\theta_t) - \log k!\}, \; t = 1,...,n$$

Our objective is to model θ_t. In order to do that the chosen model can be written as

$$\theta_t = \mu_t + \gamma_t + \beta_t x_t$$

where μ_t represents the level, γ_t the seasonal component and x_t the intervention variable with effect or intervention parameter which measures the effect of the January 2014 intervention: β_t.

The level μ_t is modelled by a local linear level model

$$\mu_t = \mu_{t-1} + \nu_t + \eta_t$$
$$\nu_t = \nu_{t-1} + \zeta_t$$

with $\eta_t \sim N(0, \sigma_\eta^2)$ and $\zeta_t \sim N(0, \sigma_\zeta^2)$. The monthly seasonality γ_t is described by

$$\sum_{j=0}^{11} \gamma_{t+1-j} = \varpi_t$$

with $\varpi_t \sim N(0, \sigma_\varpi^2)$.

All the disturbances in the model η_t, ζ_t, ϖ_t are independent.

The estimated trend displayed in Figures 5-8 is calculated as $\mu_t + \beta_t x_t$ and in Figure 9 as $\mu_t + \gamma_t + \beta_t x_t$ for t varying between January 2009 and September 2013.

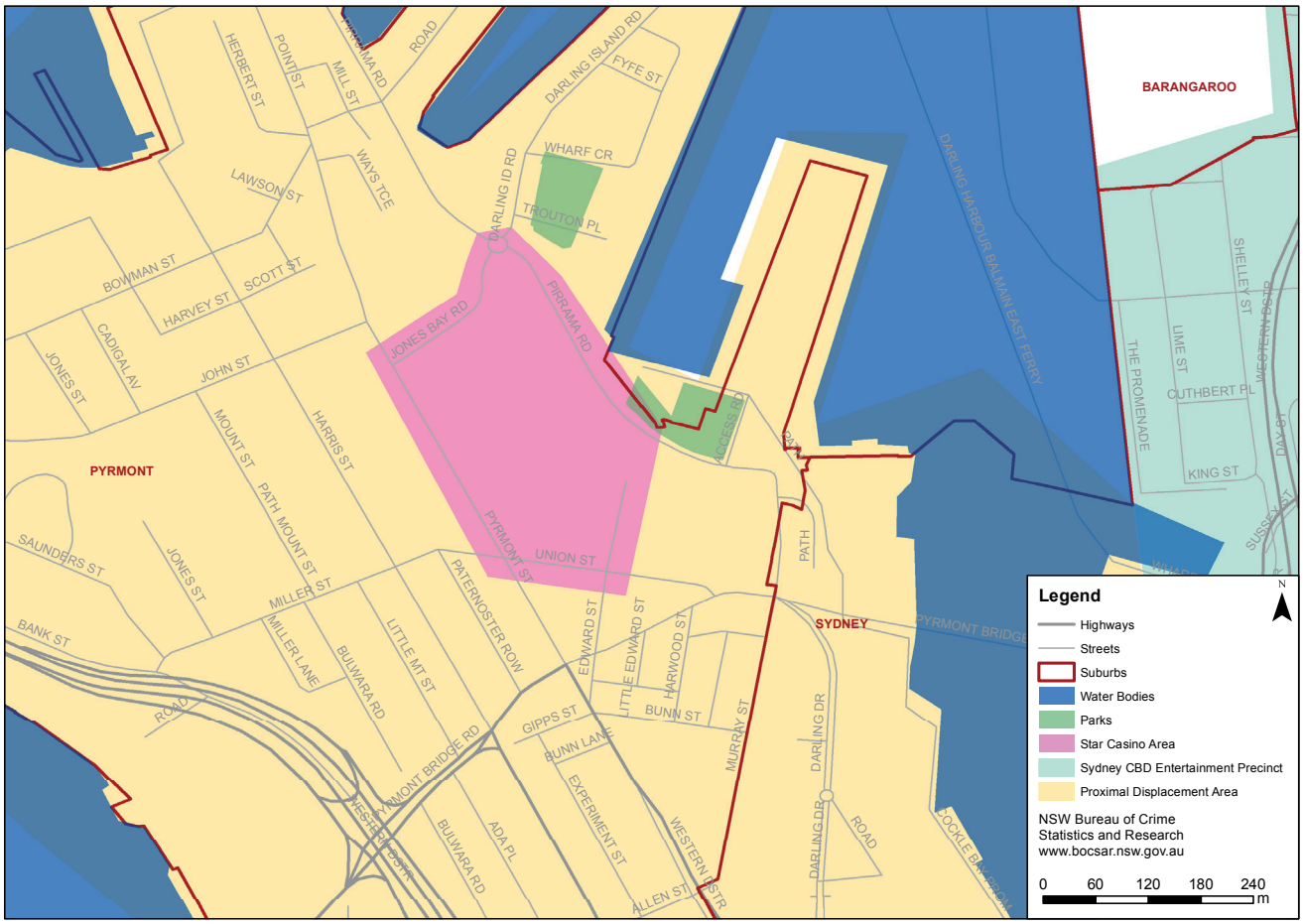
APPENDIX B

Figure 11 displays The Star casino and surrounding streets considered in this study.

The intervention analysis results for The Star casino and surrounding streets are shown in Table B1 together with the analysis of the proximal displacement area without including The Star casino. The rows of Table B1 represent the same values as those in Table 3 with the only difference here being the specification of the intervention variable for the analysis of The Star casino. Now, we assume that the intervention effect at the Star casino was also gradual but in this case the effect starts in February 2014 and finishes in June 2014. The reason for selecting this particular model was based on statistical model selection considerations based on the AIC criterion.

Whereas these results suggest an increasing trend in the number of assaults happening at The Star Casino and neighbouring streets, they also show a decrease on the number of assaults in the proximal displacement area (without

Figure 11. Zoomed view of The Star Casino and surrounding streets



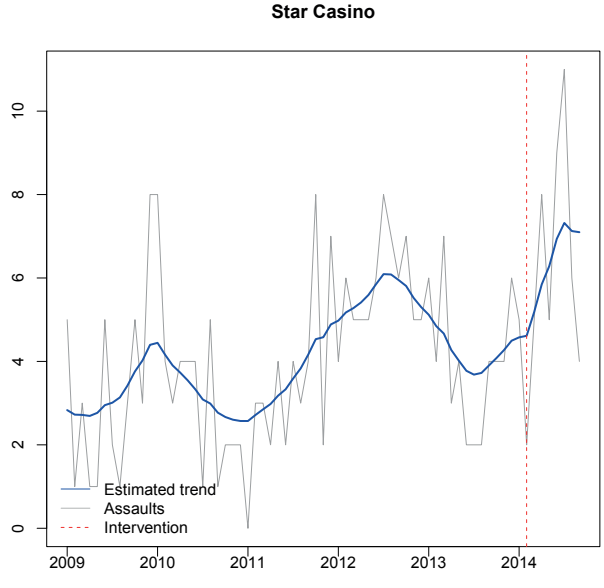
including The Star casino); indicating that the increase in the proximal displacement area (with the Casino and surrounding streets included) reported earlier was mostly driven by the assaults happening at The Star Casino and bordering streets. However the effects are not statistically significant and thus solid conclusions cannot be made at this stage.

Table B1. Final model estimates of changes in assault at The Star casino in Pyrmont

	The Star casino and surrounding streets	PDA without casino and surrounding areas
β	0.790	-0.105
C.I	(-0.145,1.725)	(-0.672,0.461)
pval	0.097	0.715
Box-Ljung	0.979	0.308
loglik	-163.534	-275.385
AIC	5.233	8.475
Reduction	120.396%	-10.009%
Intervention	Smooth (Feb-May)	Smooth (Feb-Sep)

Figure 12 displays the estimated trend in assaults for The Star Casino showing an increasing trend following the January 2014 reforms.

Figure 12. Estimated trend for the number of assaults in The Star Casino between Jan 2009-Sep 2014



APPENDIX C

Train passenger data have been provided by the NSW Bureau of Transport Statistics. The data consist of monthly counts of the number of gate entries and exits on Fridays and Saturdays between February 2013 and September 2014 in Kings Cross train station along with Central, Town Hall, Museum, St James, Martin Place and Wynyard counted between 8:00pm and 3:00am.

The average number of passengers crossing the validation gates on Fridays and Saturdays (from 8:00pm until 3am) between February to September in 2013 and 2014 Saturday are shown in Table C1.

These figures show that the number of passengers crossing Kings Cross Station has declined in 2014 with respect to 2013. However, over the same period, rail patronage at all other city rail stations increased.

Taxi rank patronage data on the Darlinghurst Road and Bayswater Road secure taxi ranks (both located in the Kings Cross Entertainment Precinct) was provided by the Department of Transport. The average number of patrons during the weekends (Friday and Saturday) between February and December 2013 and 2014 (from 9pm and 6am) are displayed in Table C2. The averages shown in the table show a decline in taxi patronage at the Bayswater Road secure taxi-rank in 2014 with respect to 2013, whereas taxi patronage at the Darlinghurst Road secure taxi rank has increased in 2014.

Table C1. Average number of passengers crossings the validation gates each month on Friday and Saturdays between 8:00pm and 3:00am from February to September in 2013 and 2014

Weekend Averages	Entries 2013	Entries 2014	Exits 2013	Exits 2014
Central	6587.48	8008.96	3480.70	4092.94
Kings Cross	1241.02	1204.24	2063.85	2016.54
Martin Place	521.13	680.84	206.44	239.76
Museum	180.61	314.94	249.20	322.94
St. James	52.69	281.71	29.41	107.49
Town Hall	7603.98	9534.59	3553.13	4299.32
Wynyard	2097.53	2885.31	980.49	1283.60

Table C2. Average number of patrons using the secure taxi ranks in Kings Cross each month on Friday and Saturdays between 9:00pm and 3:00am from February to September in 2013 and 2014

Taxi Ranks	2013	2014
Darlinghurst Road	2495.87	2668.87
Bayswater Road	7488.12	4108.50

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