

An Investigation into the Environmental Impact of Off-license Premises on Residential Neighbourhoods

November 2007

Alasdair J. M. Forsyth, Neil Davidson* and Jemma C. Lennox
Scottish Centre for Crime & Justice Research
The Glasgow Centre for the Study of Violence
Glasgow Caledonian University

* Now at the Scottish Institute for Policing Research, School of Social Sciences, University of
Dundee, Dundee DD1 4HN

Acknowledgments

The authors would like to thank Donna Hughes for her assistance during observational fieldwork, Leona Cunningham for assistance during piloting, Stephen Lopez and Catherine McGuinity for help with project administration, Andrew McAuley for providing health statistics, Steve Parkin for information on drug-related litter, Pauline Roberts for graphical advice, Alcohol Focus Scotland for their continued support during this research and the anonymous shop workers who participated in this research.

Contents

	Page
Introduction	
<i>Background</i>	4
<i>Aims</i>	10
Methods	
<i>Research Design and Procedures</i>	11
<i>Selection of Study Area</i>	15
Results	
<i>Observations of Neighbourhood Convenience Stores</i>	19
<i>Interviews with Shop Servers</i>	28
<i>Survey of Alcohol-related Detritus</i>	39
<i>Spatial Relationships between Shops and Alcohol-related Incivilities</i>	58
Conclusions	
<i>Discussion</i>	81
<i>Limitations and Future Research</i>	94
<i>Key Implications and Recommendations</i>	99
Bibliography	
<i>References</i>	103
Appendices	
<i>Shop Observation Schedule</i>	114
<i>Shop Server Interview Topic Guide</i>	118
<i>Items of Alcohol-related Detritus Recording Form</i>	119
<i>Neighbourhood Profiles</i>	120
<i>Brand Identified Items of Alcohol-related Detritus</i>	121

Introduction

Background

In recent times there has been a great deal of concern about levels of anti-social behaviour across the UK (Home Office, 2005; House of Commons, 2005; Scottish Parliament, 2003). Several reports have investigated the role of alcohol as a potentially important contributor to this problem (Babb, 2007; Engineer et al, 2003; Finney, 2004; Home Office, 2001; Matthews et al, 2006; Richardson & Budd, 2003; Travis, 2004). These fears have led to a raft of legislative reaction, from both national governments and local authorities, which has included measures such as the banning of irresponsible promotions (e.g. 'happy hours') and the introduction of alcohol / anti-social behaviour dispersal / disorder 'zones' (e.g. see Academy of Medical Sciences, 2004; Hetherington, 2004; 'Nicholson Committee Report', 2004; Prime Minister's Strategy Unit, 2004). However, to date these policies have tended to be focused more towards alcohol-related disorder associated with on-trade licensed premises (i.e. public houses and nightclubs), particularly those located in city centre night-time economies, rather than towards the off-trade sector or residential neighbourhoods. Consequently it has recently been identified that there has also been a paucity of research into these latter issues (e.g. Human Factors Analysts Limited, 2007; Jayne et al, 2006).

“A large amount of research has been conducted on the selling of alcohol in pubs and clubs, along with a considerable amount of work on violence and disorder and its relationship with alcohol. However, investigations of the exact connections between where alcohol is purchased in the community setting and the effects are limited.” (Pattoni et al, 2007, p30)

This oversight seems odd given that the off-trade sector is indicated as the source of the current rise in alcohol consumption across the UK over the past 20 years. For example, statistics released by the Department for Environment Food and Rural Affairs revealed that compared with 2002-2003, the period up to 31st of March 2004 saw a 5.5% decrease in on-trade purchases of alcohol compared with a 9.0% increase in purchases for home consumption (DEFRA, 2005a). Similarly, according to the Scottish Beer and Pub Association (SBPA, 2005), since 1980 there are 14% more licensed public houses compared with 25% more off-licences, this set against a background where progressively more pub income

is being generated from food provision and where progressively larger off-trade premises (major supermarkets) are selling alcohol alongside 'basic' provisions rather than small 'traditional' designated off-licenses. Additionally, whereas it is true that alcohol in general has become steadily more affordable over the past two decades, this masks great differences between the off-trade and on-trade sectors, with for example off-trade beer prices actually falling since the millennium, such that by 2005 the off-trade price of beer was under 1.5 times that of the late 1980s, compared to nearly 2.5 times for on-trade beer (Godfrey, 2007).

The view that off-licenses are a major cause of (alcohol-related) anti-social behaviour is not only unfashionable but controversial. For example in a recent submission to the Scottish Parliament, the Scottish Retail Consortium (parent body the British Retail Consortium) stated that:

“Retail stores cannot be held responsible for the anti social behaviour once customers have left the premises and are outside their direct control and it must be recognised that licensing law is not a mechanism for the general control of anti social behaviour” (quoted in Scottish Parliament, 2005).

An opposing view was suggested by an earlier Scottish Executive inquiry which, using evidence from public meetings concluded that many communities felt that off-licences were the focal point of local anti-social behaviour:

“In Cumnock, Ministers were told to applause from the audience that ‘off-licenses were the single largest contributory factor’ [in anti-social behaviour]” ('Daniels Report', 2004, p2).

There are number of ways in which off-trade outlets (i.e. off-licences) may be thought to have the potential to be a greater cause of alcohol-related harm in the community than on-trade outlets (i.e. pubs or clubs) including:

- Off-trade prices tend to be cheaper (BBPA, 2007; Godfrey, 2005) and have to date largely escaped policy initiatives aimed at curbing irresponsible promotions such as deep price discounting ('Daniels Report', 2004), which may encourage immodest consumption (e.g. Kuo et al, 2003). This is unfortunate, as off-trade sales are known to be more price responsive,

since a portion of on-trade sales are deemed to be spent towards the social setting (e.g. BBPA, 2007; Prime Ministers Strategy Unit, 2004).

- The alcohol products sold by some off-licenses are those which have been identified as encouraging immodest consumption, such as super-lagers, white ciders, tonic wine and other fortified beverages (e.g. Brain & Parker, 1997; 'Daniels Report', 2004; Forsyth et al, 1997; Galloway et al, 2006; Hughes et al, 1997).
- Despite surveys indicating that off-trade outlets, rather than on-trade premises, are the main source of alcohol consumed by younger under-age drinkers, either directly or indirectly via third party (agent) purchase (e.g. Boreham & McManus, 2003; Bradshaw, 2003; Corbett et al, 2005; Forsyth & Barnard, 2000; Maxwell et al, 2007; Toomey et al, 2004; Willner et al, 2000), concerns have been raised that little has been done to tackle this, with for example only 905 prosecutions of off-sales premises for licensing offences, in Scotland during 2001, resulting in only 100 convictions ('Daniels Report', 2004) and only three under-age drinkers being prosecuted in the Lothian (Edinburgh) region during 2004 (Stow, 2005).
- Off-trade purchases can involve a very large amount of alcohol being purchased with no control over who actually drinks it or the consequences of this consumption (e.g. see Galloway et al, 2006; Human Factors Analysts Limited, 2007). By way of contrast, on-trade purchases involve measured doses with consumption being continually monitored by serving staff (e.g. see Forsyth et al, 2005; Forsyth, 2006; Graham et al, 2005). In short, on-trade consumption is supervised by those with a vested interest in ensuring that it is consumed sensibly, off-trade consumption is not (the same principle applies to the supply of methadone to illegal drug consumers at pharmacies, e.g. see Royal Pharmaceutical Society, 2007).
- In the extreme, there is some evidence serious crimes of violence are more likely to be associated with off-trade alcohol consumption in residential areas than with the much more high profile alleged 'binge drinking' problems associated with city centre pubs and clubs (Norstrom,

1998; Scribner et al, 1999). For example, during 2002 in the Strathclyde Police area, which includes Glasgow, the city with the highest homicide rate in Western Europe, there were 81 murders, none of which occurred within the city centre, despite 44% of these accused being described as drunk at the time of the killing (Lawson, 2003; Scottish Executive, 2003).

This research will address these issues by focusing upon licensed convenience stores (grocers / newsagents) operating in residential areas. Unlike on-trade premises, these outlets (community off-sales) often provide a broad range of services for the wider community, not just drinkers or the over-18s. Unlike city centre weekend binge drinking, the impact of such premises on residents is likely to be continuous and long-lasting, affecting the whole community. For many residents, including children, these premises and their alcohol purchasing clientele offer their only exposure to the consequences of (anti-social) drinking.

To again draw comparison with illegal drugs, a recent high profile poster campaign features a small child about to pick up a discarded syringe with the message “Drug dealers don’t care where dirty needles end up, do you” (see Figure 1, below, http://www.crimestoppersscotland.com/drug_dealer.php, accessed 2007), such sentiment could be extended to the equally applicable, and perhaps far more commonplace problem of the disposal of discarded off-trade glassware (i.e. broken bottles) or other alcohol-related detritus.

Figure 1: Drug Litter Poster



The issue of alcohol-related detritus littering the streets of residential neighbourhoods indicates that, more so than is the case with city centre licensed premises, problems associated with off-trade premises are likely to include physical as well as social incivilities. Not only do these problems affect residents and their families, making communities less desirable places to live, but such incivilities can also impact upon small businesses including local licensed shops themselves. A survey by the Sun Alliance Insurance Group estimated that as many as one in ten small businesses in Scotland are forced to close because of anti-social behaviours, compared with a rate of one in 50 across the UK as a whole. The survey stated that:

“...in Scotland cleaning up rubbish like empty wine bottles, condoms and needles was the biggest problem” (quoted in *Sunday Mail*, 2005)

Other reasons included break-ins, thefts, vandalism, attacks on staff, graffiti and premises being used for sex, drinking, drug use or as toilets. In other words, the incivilities which threaten small businesses appear to have both direct and indirect links to alcohol consumption. This research will investigate the nature and extent of these incivilities including both those directly related to alcohol (e.g. “empty wine bottles”) and similar secondary problems (e.g. “discarded needles”).

It has also been suggested that the presence certain alcohol products or brands within some community off-sales can act as a marker for irresponsible sales, especially where products associated with under-age or anti-social drinking behaviours are prominently on display. This research will investigate such claims, and assess whether the presence of these products increases the likelihood of attracting a troublesome or undesirable clientele.

“Very often the stock carried by ‘suspect’ premises and the way it is marketed is quite clearly aimed at youngsters with cheap, fortified wines, strong cider and ‘alcopops’ being very much to the fore” (‘Daniels Report’, 2004)

From the community shopkeepers’ point of view a license can be a double edged sword. On the one hand it may provide revenue to keep the business going, especially in less-affluent communities (e.g. with low levels of car ownership) where the presence of a convenience store is vital for the supply of basic

provisions. On the other hand, it may attract undesirable customers, including drunkards, street drinkers, under-agers who may loiter with the intent of persuading a customer to buy them alcohol ('Daniels Report', 2004) - a practice known as 'shoulder-tapping' (see Human Factors Analysts Limited, 2007) – or aggressive customers seeking certain products as is indicated by Figure 2 (a popular e-mail attachment during 2006, purportedly a photograph which was taken at a Scottish off-sales premises depicting a poster hand written by staff).

Figure 2: Off-sales Staff Fears concerning Customer Incivility



All of the above alcohol-related problems may harm basic trade, perhaps further increasing the retailers' reliance on these very products. Unlike on-trade staff (or supermarkets with designated security staff) community shopkeepers are less likely to be trained to deal with disorder and more likely to be pressurised by undesirable customers into selling them alcohol. Indeed licensed convenience

store shop servers may be considered potential victims of alcohol-related crime and incivilities themselves. To investigate these concerns, this research also sought the views of the shop servers on the above issues.

Aims

This project aims to pilot methods examining the evidence for alcohol-related incivility in residential neighbourhoods. That is the degree to which the presence of an off-trade alcohol outlet may be related to anti-social behaviours relative to its absence or the presence of other premises (including both on-trade alcohol outlets and unlicensed retail outlets). This research breaks new ground by being the first environmental observational study of alcohol-related incivilities in the UK.

At a time when other sectors of the licensed trade industry have been receiving much scrutiny over their marketing practices, or have been 'blamed' for 'binge drinking' and resultant supposed increases in public disorder, this report explores the role that off-license premises may play in fostering or minimising these. As such, this project is designed to broaden the debate regarding alcohol-related public disorder away from the impression that such anti-social behaviours are only associated with on-trade premises by investigating the nature and extent of the visible signs of alcohol problems to be found in the vicinity of off-licenses. Specifically this research was designed to:

- Identify any links between anti-social behaviour and the marketing practices of off-licenses (e.g. sales of high volume / high ABV / screw-topped products or irresponsible price promotions).
- Assess the effect that holding a drinks license can have on the small local retailer, both positive and negative (e.g. job safety or clientele profile) in the face of competition from the major supermarkets.
- Measure the impact of off-licenses in the community in terms of degree of public safety (e.g. broken glass or nuisance / aggressive customers) and the potential that the presence of such premises have for initiating overall

residential neighbourhood decline through making such localities less desirable places to live.

To achieve these aims three complementary methods were employed:

1. Storefront observations
2. Interviews with shop servers
3. A survey of alcohol-related physical incivilities (detritus)

Methods

Research Design and Procedures

The main research method used will be field observation in the community, including visual observation of convenience stores and a photographic survey of alcohol-related detritus in their surrounding residential environment, with these observations being supplemented by interviews with local convenience store shop servers (in both licensed and unlicensed premises).

The observational method was used here in the first instance to ascertain which shop premises were licensed for the sale of alcohol in the communities in which the research took place (hereafter referred to as the Study Area). In the second instance each local convenience store within the Study Area, whether licensed or not, was visited by the research team who conducted more formal observations of these premises (both externally and internally). These shop observations are similar to the mystery shopper techniques employed within the retail trade, and follow a methodology similar to that of 'Operation Storefront' in the USA which enabled volunteers to assess tobacco retailers marketing techniques (e.g. see <http://www.doh.wa.gov/Tobacco/compliance/Operation%20Storefront/WSOSProtocol.pdf>). To date, this technique has generated a wealth of (American) literature relating tobacco selling at convenience stores (e.g. Celebucki & Diskin, 2002; Feighery et al, 2001; Wakefield et al, 2000), including factors such as where the product is shelved, (e.g. whether or not it is visible to children's line of sight), how it is advertised or promoted at point-of-sale (e.g. cheap offers) and whether any social responsibility measures are visible (e.g. display of proof of age signage).

Three members of the research team (two of this report's authors, AF & JL and a seconded fieldworker) acted as shop observers. All three observers had previous experience of alcohol research work and were familiar with a wide range of off-trade products and legislation. During their shop visits observers behaved as ordinary customers, but noted both internal and external features of each premises including where alcohol was shelved, which brands appeared to be the most prominently displayed, advertising, proof of age signage, security measures and any physical or social incivilities (e.g. vandalism or loitering). All visits were conducted during weekdays between 9.30AM and 5.30PM (with two observers visiting all 17 convenience stores within the Study Area on a Thursday and the other observer doing likewise on the following Friday). To avoid arousing suspicion or otherwise interfering with business, each observational visit lasted less than five minutes actually inside the shop premises. Observations were written up on a schedule (questionnaire / checklist) immediately after leaving each of the premises. The full shop observation schedule used by the observers in this phase of the research is provided in Appendix 1.

The only member of the research team (ND) who did not participate in the above shop observations also visited each of the premises concerned. However the purpose of his visit was to invite a staff member from each shop to participate in the research through taking part in a brief (approximately ten to twenty minutes) taped qualitative interview.

The purpose of these interviews was to give the retailer a voice in addressing the issues detailed in the Introduction. To this end respondents were asked a series of semi-structured open-ended questions about their / the shop's experience of anti-social behaviours (whether alcohol-related or not), their views on alcohol selling and how they perceived their shop's wider role in the community. They were also asked about any specific policies which they enforced regarding alcohol (i.e. harm reduction measures), such as withdrawing a specific product, where their alcohol was shelved and rules regarding age-ID or other refusal of service. A copy of the interview topic guide is provided in Appendix 2.

Interviewees were assured of confidentiality, both verbally and by being provided with an information sheet where they were invited to give written consent to their participation. Each interviewee was paid the sum of £20 for participation. Those who agreed to take part were able to choose the time and place of the interview, though in practice all chose to be interviewed within their shop.

The final and most comprehensive phase of this research project involved assessing the nature and extent of alcohol-related public incivilities. Public incivilities may be described as the environmental manifestations of anti-social behaviours, and comprise features of both physical disorder (e.g. litter, burnt-out cars or broken windows) and social disorder (e.g. loitering, gang activity or prostitution). Although, both physical and social incivilities may be alcohol-related, owing to the scale and exploratory (pilot) nature of this project, this phase of the research will only measure physical incivilities directly related to alcohol (some indication of alcohol-related social incivilities associated with off-license premises was achieved during *Interviews with Shop Servers*). In practice this mean that this phase of the research comprised a street survey of all alcohol-related detritus within the Study Area - that is items such as beer cans or broken wine bottles.

Note that for the purposes of this study, alcohol products are defined as drinks containing an ABV above 0.5%, in accordance with the legal definition used in Scotland (e.g. see Scottish Parliament, 2005b), though in practice very few items were observed below this level of ABV (i.e. only one photograph of an item of alcohol-related detritus, Panache shandy, was excluded from analysis for this reason, see below).

To date there has been little work of this nature conducted to date in the UK, however in the USA there is a considerable body of academic literature into the observation of public incivilities (e.g. Raudenbush & Sampson, 1999; Taylor et al, 1985). The presence of such incivilities has been demonstrated to be an indicator of, or useful marker for, social inequalities (e.g. Cohen et al, 2000; Coleman, 1985; Sooman & MacIntyre, 1995). More controversially 'incivilities' have also been proposed as being a direct contributor to neighbourhood decline (Wilson &

Kelling, 1982). This latter view contends that, left unattended, the presence of incivilities will attract more serious crime, a contention which it has been argued has subsequently been used to justify overly-harsh police crackdowns on low-level disorder by conservative politicians leading to this whole 'broken windows' theory becoming increasingly discredited in recent times (e.g. see Harcourt & Ludwig, 2005 or Taqi-Eddin & Macallair, 1999). The present study breaks new ground by focusing upon the potential role that off-trade alcohol outlets may have in fostering public incivilities in British residential neighbourhoods.

The 'street' survey of all alcohol-related detritus was carried out, on foot, in late June and early July 2007 during the daytime hours (9.30AM to 5.30PM). The survey covered all residential public space (e.g. streets, paths, etc.) within the Study Area but excluded any non-housing environments (e.g. parks, school playgrounds etc.), so that only the impact on residents was measured. These observations took the form of block assessments (see Taylor et al, 1985) in which a tract of streets were covered each day, weather permitting, in turn, until the whole Study Area had been surveyed.

To be sure that all items of detritus (e.g. broken glass) were from alcohol products only those which were brand identifiable were included in this survey. In practice this was fortuitous as the Study Area contained a vast amount of (mainly green) broken glass that was not readily visually brand identifiable in the field, the inclusion of which would have involved a much larger project than this small grant was capable of delivering. Every item found by the research team was noted on a spreadsheet indicating the product / brand concerned, where it was found and its physical condition (i.e. whether or not a bottle was intact or broken). A blank version of the Items of Alcohol-related Detritus Form is provided in Appendix 3.

For confirmation, each item of alcohol-related detritus was photographed using the macro function on a small digital camera (i.e. assuring alcohol brand identity, location / situation, and preventing double counts). No photographed brands remained unidentified, as brand identity could be confirmed either by comparing these against similar products either on shop shelves or by checking the internet (e.g. by using sites such as *Can News*, <http://www.beercannews.com/index.html>).

These photographs were also used as (qualitative) data in their own right. To date, within substance use research, the use of visual methods (analysis of photographs or movies taken during fieldwork) has been restricted to the illegal drug work, where the technique has produced groundbreaking and informative findings (e.g. see Taylor et al, 2004; Rhodes et al, 2007). For example, interpretive photography has previously been used to identify, and map, risky outdoor illegal drug injection sites (Small et al, 2007, see also Dovey et al, 2001 who only used mapping), with a view towards designing out their inherent environmental risk to both users and the public (e.g. likelihood of drug litter). The location of all items of alcohol-related incivilities (i.e. photographs) was plotted on a map of the Study Area (initially in the field, but later reproduced digitally) and field-notes were also made. For ethical reasons any hazardous items found in dangerous situations were removed where possible by the principle investigator (AF) to less dangerous locations (e.g. from footpaths).

All three methods were piloted in Glasgow city centre. Firstly, the two convenience stores (one licensed, one un-licensed), located in a deprived (see SIMD link below) inner-city housing scheme near the university, were observed to pilot the shop observation schedule. Secondly, a student attending the university who was also employed as a shop server in a licensed shop (a dedicated off-sales premise) was interviewed. Thirdly, photographs of alcohol, tobacco (e.g. cigarette butts, lighters, packets), illegal drug related detritus (two sets of needles and syringes) and other physical incivilities (e.g. unidentified broken glass, gum, litter, graffiti, vandalism and discarded furniture) were taken in the nearby housing scheme and also in an adjacent industrial estate / retail park. At this point it was decided to exclude all non-substance use-related incivilities and also tobacco litter as their sheer extent made them too numerous to be considered (i.e. photographed) within the scope of this project (small grant / pilot study), leaving only any illegal or pharmaceutical drug-related litter eligible for inclusion as a comparison to the nature and extent of alcohol-related detritus.

Selection of Study Area

In order to accurately assess the likely impact of off-sales premises located in a residential area, the Study Area for this research had to meet three criteria:

1. To be located away from central business districts, industrial areas or main roads featuring ribbon development where other business, attractions or transport routes may contaminate the study design. As such the residential neighbourhoods within the Study Area should ideally be distinct with clearly defined perimeters and have at least one licensed shop, though not any clusters of shops as outlet density is known to impact upon levels of alcohol-related anti-social behaviour (e.g. see Block & Block, 1995; Scribner et al, 1999; Trenor et al, 2001).
2. The Study Area should be homogenous in terms of environmental architecture and the social backgrounds of its residents, both of which are known to influence the likelihood of anti-social behaviour and incivilities (see Bottoms & Wiles, 1997), as well as how seriously these problems are regarded by residents (e.g. see DTLR, 2001).
3. Although appropriate study areas for this research could feasibly include any unitary pre-planned residential developments, such as a peripheral council housing scheme, a suburb of privately developed estates or a single function village (e.g. former coal mining communities), as this is an exploratory investigation it was felt that a Study Area comprising average neighbourhoods, without any extremes of wealth and poverty, would be the best location for conducting the proposed study.

By adhering to the three criteria above it was hoped to control for, as far as possible, the 'environmental backcloth' in front of which this research would be conducted (Brantingham & Brantingham, 2003). Thus, it was decided to conduct the research in a mid-sized town located in the 'central belt' of Scotland which met the above conditions. The town eventually selected was chosen primarily because it contained a number of clearly geographically defined homogenous

residential neighbourhoods. A development plan map for this town (printed in 1983) was consulted, which indicated that each of its post-war social housing developments had their own designated local shops / convenience stores, each built at the time of neighbourhood's construction on the sites which were spatially best suited to serve their communities (i.e. individually constructed in the middle of the residential neighbourhoods / local markets, away from potential competition of a similar scale or function in accordance with central place theory, after Christaller, 1966). This town was also suitable for this research in that it contained no extremes of wealth or poverty (there was only one small pocket of deprivation) which, together with its geographical position (neither remote, nor inner-city), meant that findings from this research were more likely to be generalise-able to other locations

The town chosen for the research is defined by the Scottish Executive's Urban Rural Classification system as an "other urban area" with a population of between 10,000 and 125,000, though the final Study Area (eight residential neighbourhoods) within this town contained a total population of around 23,750 persons. According to what data were available from Health Scotland (www.healthscotland.com/communityprofiles, accessed 2007) the town as a whole had a rate of 'alcohol attributable' hospital admission (slightly) more than ten percent below the Scottish national average (this was also the case with the town's teenage population only). However, a more detailed analysis revealed that (only) during the most recent years for which these data were available (1999-2001) the four most populous of the eight neighbourhoods in the Study Area (Neighbourhoods A, B, C and D, see below) had rates marginally in excess of the national average, though only in the most deprived of these (Neighbourhood D) did alcohol-related hospital admissions exceed the national average by (slightly) more than ten percent.

The town contained eight planned social housing developments all constructed mainly in during 1960s and 1970s. These neighbourhoods, here-after named Neighbourhoods A to H, were geographically separate from each other and had distinct boundaries, although two (Neighbourhoods C and E) had some newer 'private' housing built as extensions to them. Each of these eight Neighbourhoods

had a pre-planned shop, or shops, the sites of which were designed to make them most accessible to the local community. According to the town developer's map, there were a total of 21 of these planned community shops spread across the eight Neighbourhoods, though at this point their licensing status (or for that matter whether they were still trading) was not known. Likewise five on-trade alcohol outlets (pubs or restaurants) located within the Study Area according to the developer's map. Other alcohol outlets (both on and off-trade) were located in the, older and more recent, parts of the town not included within the Study Area. Only Neighbourhoods B and D were adjacent to the town centre (where only one small off-trade outlet and two on-trade premises were located). More significantly, there were two major supermarket superstores, both of which were sited close to Neighbourhood D (the most disadvantaged part of the Study Area).

The residential Neighbourhoods which comprised the Study Area corresponded to 30 census Data Zones (see Flowerdew et al 2004 for how these were created) as used by the Scottish Index of Multiple Deprivation 2006 (SIMD) (<http://www.scotland.gov.uk/Topics/Statistics/SIMD/Overview>). There are 6,505 such zones in Scotland, the most deprived ranked 1 the least deprived 6,505. The 30 Data Zones in the Study Area had a mean SIMD ranking of 2,494 ($SD = 1,124$). Only one of the eight Neighbourhoods (Neighbourhood D) contained any Data Zones that might be categorised as deprived in the absolute sense. The mean population of the 30 Data Zones included in the Study Area was 792 ($SD = 122$), which also compares favourably to the mean for the whole of Scotland (781 persons). Fuller details of the eight Neighbourhoods (their shopping provision and items of alcohol-related detritus photographed in each (see *Survey of Alcohol-related Detritus*) are provided in Appendix 4.

The above statistics indicate that, as intended, the Study Area had relatively unremarkable demographic characteristics. Although levels of deprivation were slightly skewed toward the more deprived end of the scale (by 11.7% from the Scottish average), this may itself be a function of more affluent neighbourhoods not requiring local convenience stores - for reasons including the more unplanned nature of private housing development, rural locations, and levels of higher car ownership levels (US research has indicated that affluent areas have fewer

alcohol outlets, Pollack et al, 2005). With the exception of one small pocket of deprivation (population approximately 650) the Study Area did not include any Neighbourhoods with extreme levels of either disadvantage or affluence. Indeed it might be argued that the most remarkable feature of the Study Area was its homogenous 'average-ness' (during fieldwork it was often difficult to tell streets apart between those which had already been surveyed and those which had not).

Results

Observations of Neighbourhood Convenience Stores

The first objective of this phase of the research was to establish whether all 21 pre-planned community shops sited within the Study Area identified for this research were still functioning as such. In event only 16 were. One former shop premises was lying empty during the time of the research, two were functioning as hairdressers, one as a chemist (a new health centre had opened nearby) and one as a fast food-takeaway. However a new convenience store had opened adjacent to this latter premises and this shop was included as eligible for the research. Interestingly this more recently opened shop was the only premises in the Study Area which was part of a national grocery chain.

This gave a final total of 17 convenience stores located in the Study Area for this research project. Four of these stores were unlicensed (these premises are hereafter referred to as Shops #4, #7, #8 and #11). These four included a post office and the new chain store which uniquely in this sample sold petrol. Therefore 13 of the 17 (76.5%) community convenience stores serving in these residential neighbourhoods were licensed for the sale of alcohol, with only two of the remaining shops functioning only as an unlicensed convenience store (i.e. grocers / newsagents without an additional source of income such as a petrol station or postal service). Details of how all 17 shops related to the eight Neighbourhoods in the Study Area are provided by Appendix 4.

On their visits to the thirteen off-trade licensed premises within the Study Area, observers first noted where alcohol products were shelved (see Appendix 1). In practice this meant whether there was free access to alcohol in the aisles (i.e.

self-service) or whether access was restricted to an area behind the till, and also whether these products were stored in a fridge or chiller. The results of these observations are shown in Table 1, below, in which numbers represent how many (of the three) observers noted these features during their visits to each shop (see *Research Design and Procedures*). This task turned out to be rather complicated as often fridges or chillers were located behind the till. For example, all three observers noted that Shop #16 had a large multi-level fridge, containing only the Buckfast tonic wine brand, directly behind the till in full line of sight to all paying customers, while on the other hand, only one observer noted that Shop #6 had a floor level chiller unit containing this beverage also behind the till but which would not have been visible unless a customer asked for the product by name (though it was also shelved, 'warm', in the aisles of this shop). Curiously, Shop #10 had no Buckfast tonic wine visibly on display, though an observer noted a flattened Buckfast packing box with empty bottles lying outside the shop).

Table 1: Licensed Shops and Alcohol Marketing

Shop	Alcohol observed at			Alcohol promo ad observed			Proof of age sign observed
	Aisle	Fridge	Till	Fixed	Temporary	DIY	
#1	3	3	3	1	2	3	2
#2	2	3	2	1	2	2	1
#3	2	3	3	0	0	2	3
#5	3	1	3	1	2	2	1
#6	3	3	2	1	1	2	3
#9	2	2	3	0	2	1	2
#10	0	1	2	0	1	2	3
#12	3	3	3	1	1	0	1
#13	3	3	2	0	1	2	1
#14	0	0	3	0	1	2	2
#15	0	0	3	0	0	2	2
#16	3	3	3	0	0	1	3
#17	3	3	3	1	2	2	0
Total	27	28	35	6	15	23	24

Note Shops with #s indicated in bold provided a staff interview

Table 1 also details any alcohol promotions and proof of age signage observed, though it should be noted that these observations take no account of what other products were adjacent to any alcohol products, promotional material or proof of age signage, with for example two observers noting that at Shop #16 alcohol was shelved in an aisle adjacent to children's sweets.

As can be seen from Table 1, all three observers were usually in agreement about the alcohol shelving features (e.g. all three agreed that shops #16 and #17 used all three types of shelving and that shops #14 and 15 only stored alcohol products behind their tills). However there was less agreement over the presence of both alcohol advertising and proof of age signage. This is not a methodological concern because if these features were sufficiently prominently displayed then observers should have seen them. As licensing law requires that vendors display proof of age signage beside alcohol products (e.g. "in a position where it is readily visible to any person seeking to buy alcohol", *Licensing (Scotland) Act 2005*, Section 110) this indicates that perhaps some of these stores could make their proof of age signage more prominent, particularly Shop #17. Interestingly, though for obvious reasons not shown in Table 1, one observer noted that Shop #11 was displaying a proof of age sign despite it not selling any alcohol products.

From Table 1, it would appear that there was surprisingly little promotional activity of alcohol products taking place at these shops during the time of the research. In fact DIY ads (usually brightly coloured paper with hand written offers) were much more common than any fixed advertising (e.g. screw-in signs or advertising lights) or temporary ads (i.e. posters and displays). This apparent low-key emphasis on promotions contrasts with the findings of other recent research into this topic, in Scotland, by Human Factors Analysts Limited (2007), although it was noted in their report that promotional activity is greatest at certain special times of the year (e.g. Christmas) or during major sporting events (e.g. The World Cup) neither of which was the case at the time of this research. However, in the present study this lack of promos might also have been a result of the pre-planned spacing of these community shops within the eight Neighbourhoods meaning there was not

much competition between such premises within the Study Area (though as we will see in following sections of this report the influence of the two superstores in the town did extend across all these residential neighbourhoods).

Again it should be noted that the data shown on Table 1 is an over simplification. In the case of alcohol advertising, it occasionally proved to be difficult for observers to ascertain which ads were fixed, temporary or DIY. For example, at Shop #2 two observers noted that a Budweiser lager poster had been ambiguously converted in a DIY fashion to an ad for Buckfast tonic wine. In the case of proof of age signage, some shops had several of these, often posted side-by-side, on both their interior and exterior, including both DIY notices and those produced by organisations such as *Young Scot*, *Think 21* and *Portman*.

More surprisingly some shops had produced their own DIY alcohol server responsibility signage, in particular Shops #10, #14 and #15 (all three of which interestingly provided a staff interview, see *Interviews with Shop Servers*). In the first of these, Shop #10, a sign saying “no self-service” for alcohol was noted by two observers. In the second, Shop #14, there was a sign on the shop door stating “only one bottle of wine or cider per customer per day”, which was noted by all three observers (a subsequent interview with a shop server in this store revealed that the she had written the sign 18 years previously – indicating that these issues have been important to some retailers for a long time before the present high levels of concerns about them, see *Background*). In the third, Shop #15, a large luminous sign above all the alcohol products (which were located behind the till) asked customers to provide “ID passport or drivers license only” (i.e. the ID specified in *The Licensing (Scotland) Act 2005*, Section 142 (a)(b)) was noted by two observers (in a subsequent interview a server in this shop described how she strictly enforced this rule, see *Interviews with Shop Servers*).

Observers were also asked to detail the alcohol brands which were featured in any promos (whether on fixed, temporary or DIY ads, see above) and also to name the three most prominent brands on display in each shop. (The shelving of large amounts of products in line-of-sight of customers, in ‘power-walls’ can also be considered as a type of advertising / promotion in its own right, e.g. see

Henricksen et al, 2004.) The brands noted by observers as on promo or being the most prominently on display are shown in Table 2, as well as a mean estimated percentage of shelving space dedicated to alcohol products within each shop.

Table 2: Licensed Shops and Alcohol Brands

Shop	Brands observed being advertised or on promo	Most prominently displayed brands as noted by observers	Shelving Est. % alcohol
#1	Lambrini (3), Strongbow	Buckfast (3), Lambrini (2), Aftershock Bells, Reef, Strongbow	16.7
#2	Budweiser (3)	Budweiser, Frosty Jack, Merrydown, Pulse, Red Square, Strongbow, Tennent's, WKD	15.0
#3	Smirnoff	Tennent's (2), Blossom Hill, Buckfast, Carling, MD 20/20, Miller, Stella Artois	20.0
#5	Smirnoff (2)	MD 20/20 (3), Frosty Jack, Glen's, Lambrini, Tennent's, Smirnoff, VS	16.7
#6	WKD	MD 20/20 (2), Buckfast, Frosty Jack, Magners, Pulse, Red Square, Strongbow, Tennent's	21.7
#9	Smirnoff, Tennent's	Buckfast (3), Glen's (2), Tennent's (2), MD 20/20, Chenet	21.7
#10	Tennent's	MD 20/20 (2), Tennent's (2), Bells, Glen's, Lambrini, Polaris, Strongbow,	17.5
#12	Grolsch	Glen's (2), Blossom Hill, Grolsch, Jacobs Creek, Polaris, Pulse, Stella Artois, Tennent's	13.3
#13	Bulmers, WKD	Buckfast (2), Bulmers (2), Tennent's (2), WKD (2), Lambrini	25.0
#14	-	Buckfast (2), Glen's (2), Lambrini (2), Grouse, MD 20/20, Reef	8.3
#15	-	Glen's (3), Buckfast (2), Stella Artois (2), Bacardi, Reef	23.3
#16	-	Buckfast (3), Glen's (3), Magners, MD 20/20, Red Square	20.0
#17	Carling (2), Paul Masson	Buckfast, Carlsberg, Glen's, Grolsch, Magners, Paul Masson, Red Square, Stella Artois, Tennent's,	17.6

Notes Shops with #s indicated in bold provided a staff interview. Figures in brackets indicate the number of observers, if greater than one, who had noted this

promo or who felt that the brand concerned was one of the three most prominently displayed in the store.

In examining Table 2 it was noteworthy that some of the brands apparently displayed most prominently were of those products which have previously been considered 'suspect' in relation to anti-social behaviour (e.g. 'Daniels Report', 2004) or which have been demonstrated in recent research to be popular with under-18s or street drinkers (e.g. Galloway et al, 2006). However, it should also be noted from observations that some of these (e.g. Buckfast tonic wine) may have been quite literally been being sold from 'under-the-counter' in some premises (see above). How these brands compare with actual physical incivilities in the community will be explored in later sections of this report.

Finally observers made notes on the presence or absence of any incivilities in the immediate vicinity of the 17 shop premises which they visited, and also the presence of any security measures either inside or on the exterior of each of the premises (i.e. including the four unlicensed convenience stores). As can be seen from Table 3, all 17 shops had visibly taken a number of security measures, with for example at least one observer noting the visible presence of at least one CCTV camera at every shop. Less commonly observed were bells to indicate that customers had either entered or left the shop, security mirrors and obvious break-in (burglar) alarms. Shops #9, #14 and #15 all had barbed wire on their roofs (noted by two, three and two observers respectively). Thus at this stage there appeared to be little obvious difference in the extent of security precautions taken between the licensed and unlicensed premises observed. However, this did not appear to be the case in regard of the extent of visible incivilities between shops, as noted by observers, which is also detailed in Table 3.

Table 3: Security and Incivilities Observed at All Shops

Shop	Security measure observed				Incivility observed at shop			Rated as Run-down or derelict*	SIMD Data Zone Rank
	CCTV	bell	mirror	alarm	graffiti	vandal-ism	alcohol detritus		
#1	3	0	0	1	0	0	2	0	26
#2	2	0	0	0	0	0	1	1	23
#3	2	2	1	2	3	2	3	3*	6
(#4)	3	0	0	1	0	0	0	0	5
#5	1	0	0	0	2	0	0	1	5
#6	3	3	0	1	2	1	0	2	20
(#7)	1	0	0	1	1	0	0	1	24
(#8)	2	0	0	1	1	0	1	2	8
#9	3	2	1	2	3	3	1	3*	1
#10	2	0	0	2	3	1	2	3	2
(#11)	1	0	1	2	2	0	0	2	11
#12	2	0	1	0	3	2	2	2	13
#13	2	3	0	0	1	0	0	1	30
#14	1	0	1	0	1	0	1	1	14
#15	2	0	0	0	1	0	0	0	15
#16	1	0	0	0	0	0	2	0	16
#17	2	0	0	0	0	0	0	0	28
Total	33	10	5	13	23	9	15	22	-

Notes Shops with #s indicated in bold provided a staff interview. Unlicensed shops are indicated by numbers in brackets.

In terms of incivilities some shops did appear to suffer from more of these than others. In particular shops #3, #9, #10 and #12 (all of which were licensed) seemed to be experiencing elevated levels of graffiti and vandalism, as well as obvious alcohol-related litter. This table does not offer any indication of the extent or seriousness of these problems at shop premises, though at these four stores things did appear worse than elsewhere. Taking graffiti as one example, at Shop #3 this among other writings, tags and gang slogans was the line “[name of person] got stabbed ha, ha” written above the front window, while at Shop #10 a racist term had been written over the name of a newspaper on a fixed advertising sign “[name of newspaper] sold here”. It was noteworthy that these two shops’

sites were different from the others in the sample in that the nature of their construction (they were located within larger buildings) allowed cover (semi-hidden public space) and shelter (i.e. from the elements), where people would be able to congregate (and perhaps consume alcohol) directly outside. This is an acknowledged risk factor for loitering and related problems outside shop premises (Association of Convenience Stores et al, 2004). Indeed, Shop #3 in particular appeared to have a large amount of alcohol-related detritus (e.g. intact and broken bottles of vodka and tonic wine) immediately outside the storefront (this issue will be explored in more detail in *Spatial Relationships between Shops and Alcohol-related Incivilities*).

Observers also rated the state of surrounding properties on a four point scale; “attractive”, “well kept”, “run down”, “derelict”. From Table 3, it was striking that the adjacent properties of three of these four stores tended to be consistently rated as being in either of the worst two categories (with shops #3 and #9 having one or two observers respectively rating these as “derelict”, marked * on Table 3). Overall these ratings show a high degree of correspondence with area deprivation, as measured from the SIMD 2006 scores for the Data Zone in which each of the shops was situated (ranked 1 to 30 for the 30 Data Zones in which comprised the Study Area) and shown in the final column of Table 3. Shop #9 appeared to be situated in a particularly depressed location, only here did all three observers note any ‘other incivilities’, including abandoned furniture / white goods, loiterers and gangs of children running around brandishing improvised weapons. (Elsewhere the only other instances of any ‘other incivilities’ were once each at shops #6 and #10.) These observations at Shop #9 would appear to concur with its location, at the centre of the town’s one pocket of absolute deprivation (as according to the SIMD, see *Selection of Study Area*).

Observers also made field-notes regarding the behaviour of customers and anything else not covered by the observation schedule. Although it was not expected to observe much in way of social incivilities (since all fieldwork was conducted during weekday ‘office hours’), two noteworthy incidents were witnessed. The first of these took place on a Friday afternoon (during the school summer holidays), when a group of four male youths (perhaps aged between 14

to 17 years) loitering outside Shop #15 asked an observer to go into the shop for them. After refusing to do so the observer asked a customer who was leaving the shop whether he too had been asked if he would buy alcohol for the youths (this customer was observed arriving in a car, then purchasing three bottles of Buckfast tonic wine, before driving off). The customer replied that he had, and that the shop server was aware of these youths presence (the customer used the shop server's first name, which was the same as that given by the interviewee provided by this store, see *Interviews with Shop Servers*) and he also stated that there was presently an undercover police officer inside the shop.

In their recent observational research of off-sales premises in Scotland, Human Factors Analysts Limited (2007) witnessed no under-age purchasing and no 'shoulder-tapping' behaviour, of the type described in the above incident, this despite conducting 108 hours of observations, at various times of the day / evening, at a variety of store types, in both urban and rural locations. It was therefore striking that an instance of this was witnessed here as the total time spent observing at all licensed stores in the present research would have amounted to little more than two hours during daytime hours.

The second noteworthy observed incident took place on a Thursday afternoon inside Shop #9, which was located in the town's pocket of deprivation (see above). Observers witnessed the shopkeeper refuse to serve a customer. This would-be-customer was obviously over-18 and did not appear to be under the influence of alcohol (no refusals of service for alcohol were witnessed in the course of observations, though in fairness only the one alcohol purchase was - as described in the incident above). Without being asked, the shopkeeper explained to the observers that he had the goods which the would-be-customer had asked for, but he had refused to serve him any bicarbonate of soda or ammonia, as he believed that these products could be used to manufacture crack (cocaine).

On the whole these exploratory observations did indicate some potential for alcohol-related problems to occur in the vicinity of community off-sales premises, as illustrated by the first incident above. However, as is perhaps illustrated by the second incident described above, public incivilities, including those relating to

alcohol, may also be strongly related to more general deprivation levels, even in an urban area with relatively minor differentials of geographical advantage / disadvantage such as that chosen for this research.

Interviews with Shop Servers

After the researchers had identified which of the shops mapped on the town's development plan were still trading as convenience stores within the Study Area (see *Observations of Neighbourhood Convenience Stores*) the member of the research team who did not take part in shop observations (ND) visited each of the 17 premises to invite a member of the serving staff to take part in the research as an interviewee. In the event eight of the seventeen shops agreed to take part and provided an interview. These eight shops comprised six licensed and two unlicensed premises. Four interviewees were female, four male. One interviewee was a manager (of the chain store), two were other employees (both female) and the remaining five were either the shop owners themselves or other members of their family business (i.e. their grown-up children).

Shops refusing to take part in the research did not usually give any reason beyond being "not interested" or "too busy", though some did seem suspicious of the researcher's identity or intentions. However in one instance, at Shop #9, which was located in the town's pocket of deprivation, the shopkeeper, who appeared to be in some distress, gave the following statement when invited to take part in the research (recorded as field-note made by the interviewer immediately upon exiting the shop).

"I'm sorry mate but you couldn't have picked a worse time. I can't talk to anyone at the moment. I ignore these lot [referring to customers] I can't stand them. I'm so stressed I can't even talk to my family. I barely see my children. I don't even speak to my wife other than at night before bed. There is so much hatred in this area. And after all I have done for this community. I can't believe it. It makes me sick... They burned down my shop. That is how they repay me?" (Male server, Shop #9 – field-note)

From the above statement it would appear that the timing of the interviewer's visit was unfortunate, though as will be expanded upon in the *Discussion* section, this

shopkeeper's experiences (he is almost certainly the same man who spoke to the observers in the second, crack-cocaine-related, incident of social incivility detailed in *Observations of Neighbourhood Convenience Stores*) may not have been typical of other shop servers working in this largely non-deprived town.

Although a number of consistent themes soon emerged from these interviews, it was soon apparent that these differed slightly for the interviewees working in the two unlicensed stores which took part in this phase of the research in that they were not able to answer questions specific to their own experience of selling alcohol. (This in turn meant that their responses also differed when they were asked about their general trade, and so their comments will be analysed at the end of this section.) For example, near the start of the interview, when all eight interviewees were asked what their store's best sellers were (see Appendix 2) and as expected those interviewees working in licensed premises invariably mentioned alcohol products.

"Best sellers are the sweets, crisps, juice and cigarettes and alcohol because most people buy alcohol, like vodka and whisky..." (Male owner, Shop #10)

Indeed only one licensed store's interviewee stated that alcohol was not their biggest seller, coming "After the sweets and cigarettes it's the booze" (Male owner, Shop #17). However, when asked what the main advantages of being licensed were, it appeared that his initial response may have referred to the volume of his sales rather than their value.

"It's the money really you know what I'm talking about, honestly if you don't have the off license then you don't make much money, there is nae point in being here. It's your biggest money maker. Bow of Tennent's eight quid, bottle of Smirnoff 10 quid, Mars bar 40 pence so you see what I'm saying, were talking about, the sales are a lot bigger" (Male owner, Shop #17)

(It should be noted that this store, Shop #17, was situated in an attractive location, within arguably the least deprived of the eight Neighbourhoods, something which the interviewee repeatedly acknowledged throughout his interview, and as became apparent during the *Survey of Alcohol-related Detritus*,

there was a particularly strong level of community action locally, perhaps explaining why this was the only shop in that survey to have no alcohol-related detritus photographed in the immediate vicinity of its forecourt. These localised special factors will be discussed further in *Spatial Relationships between Shops and Alcohol-related Incivilities*).

Interestingly when asked this question to state what their best sellers were (i.e. of any product not just alcohol) interviewees at two of the six licensed stores (#14 and #15) instantaneously gave the same one word answer, "Buckfast", as did a third when asked what his best selling alcohol products were, after initially replying "Its mostly alcohol" (Male owner, Shop #16). This would appear to concur with observations of these three premises (see Table 2). (It is worth noting at this stage that neither of the two large supermarket chains' superstores located in the town stocked this brand of tonic wine).

Shop servers in licensed stores felt that selling alcohol was vital to the success, even the survival, of their business, especially in the face of increasing competition from the supermarkets.

"Would the shop survive if it got rid of its license?" (Interviewer)

"No way, no. It would definitely struggle. We would have to have it to keep going." (Female employee, Shop #15)

"It brings in customers for the drink. I don't think we would survive without the drink." (Female employee, Shop #14)

"...if we don't sell alcohol in here we can't survive, you know, with [name of superstore] a 100 yards away from here. So if we only sell papers and groceries, even if people carry two bags in the hand from [the superstore] when they come in they still come and ask 'can I have some cigarettes please' or buy a lighter because they want no sign of a queue. So no we need the license, because we don't want to lose out." (Male owner, Shop #10)

Nevertheless, interviewees ultimately felt that alcohol was no different from other goods, in that they were struggling to compete with the supermarkets' economies of scale.

“Alcohol is a big part of everything, know what I mean? [Name of superstore] and [name of the other superstore in the town] is taking over everything.” (Male owner, Shop #16)

“We used to be a lot more busy, we used to be continuously getting drink out, but now we do it once a day and then at night and just re-stock what we need to, but before it used to be really busy... people will come in and go ‘that’s only 70p in [name of superstore], we get that continually everyday I swear. But I mean we’re not buying as much as [that superstore]. They are buying a 1,000 and were getting two cases of it you know? It’s harder, it’s definitely harder. I have seen a big, big difference.” (Female employee, Shop #14)

Shop owners claimed that the supermarkets sold goods at retail prices which were less than they could buy them wholesale. In the extreme one interviewee stated that he had actually bought stock from the supermarkets for re-sale, as this was cheaper for him than conducting his business via the cash and carry.

“Its no so much it’s [business] declining, it’s just you gotta work extra hard in them and I don’t know if I have it in me to work extra hard. I mean I have been at it for 10 years and it’s like everything, when you get [name of superstore] opening up selling stuff cheap, and I’m talking like the groceries, the booze and everything else there is not much you can do. So you can’t compete. I have been known to buy the stuff there and bring it here! Honestly no joking I know quite a few of them that buy it there and then sell it in the shop. Your better off cos’ it cheaper to buy it there than in cash and carry. So if it’s cheaper than cash and carry then you can see how much I am making then.” (Male owner, Shop #17)

The one advantage that their stores did have over the supermarkets, which interviewees invariably did highlight, was that they provided a friendly local service, especially for the poor, the young and the elderly who may not be able to drive or even walk to the town’s two superstores

What would you say are the main advantages of having a license are?
(Interviewer)

“You can give people what they are looking for rather than having to go all the way up to the super market.” (Female owner, Shop #5)

“Yes, old people, especially old people and kids, because we are in the middle of the housing and if the people go to [name of superstore], we kids go to [superstore], sometimes they want just the one thing, but if they go to [superstore] they sometimes spend half an hour, old people can’t walk properly, can’t breathe properly, and we have everything here, cash machine, groceries, cigarettes, we try to provide everything here under the one roof, but no compete with [the superstore] everyday.” (Male owner, Shop #10)

Interviewees saw this relationship with the local community as one of the most positive aspects of their job, highlighting the potential that such licensed premises may have as social venues within residential neighbourhoods (e.g. see also Jayne et al, 2006).

“When I walk out of here I feel like a celebrity cos’ everybody knows my name especially having worked in three shops [at that point a customer walks in and says ‘Hi (first name of server)’] See what I mean!” ... “Another thing is the older folk that like to come in and have a chat... I get Christmas presents from my customers!” (Female employee, Shop #14)

“I find them [the customers] friendly, even the junkies [drug addicts] like me!” (Female employee, Shop #15)

Their local knowledge, unique market position and social standing within the community, was felt to act as a buffer against troublesome customers.

“If you do get them [drunk customers] it will be someone not from the area you know and can get aggressive, and you do get aggressive under-agers coming in trying to get booze you know “can I get some booze” and you then ask them for ID then its all them acting offended” ... “I will be quite honest with you, here is a good area and I have had some rough shops in some rough areas but here is ok. Some areas you do need two people on. All depends on if you know the area well, know the locals well, so you can spot the ones that will give ya trouble.” (Male owner, Shop #17)

“Well you sometimes get jobs acting funny when they are trying to buy the Buckfast if they have had one already. That’s the only thing. But most of the boys we have known for years. If we get any trouble we maybe bar them for a couple of months then they tow the line after that.” (Female employee, Shop #14)

However, despite the obvious economic advantages, the presence of a license to sell alcohol did seem to bring a range nuisance customers, and related problems, for those selling it.

“Well they argue about the prices etc you know what I mean. Or they usually just go off their rocket sometimes, the number of crackpots out there! ...its usually when they have been drinking alcohol otherwise they are alright. (Male owner, Shop #16)

“Aggressive people come sometimes, drunk people, and cause trouble... Well you know, being shouty and loud and not very nice in general. We get under-agers as, you know, who try to buy some beers, who we refuse and they get angry as well sometimes” ... “...we have refused to serve someone before and they put the store window in, with a brick or sometimes kick the window in...”. (Male owner, Shop #10)

The above quote by the owner of Shop #10 highlights a particular concern of the interviewees' who worked in licensed stores, how to prevent sales to under-18s.

“And now I have started a book up the road from 18 to 21, I am making sure they come in with, even if I have known them for years, I have been taking a copy of their passport or driving license, mainly so the police can see we are doing something and we're no serving under-agers. Even if someone else is on they can still come in and say 'my name is in the book'. I suppose they could still lie but at least it's something. They will always find a way around it!” (Female employee, Shop #14)

Interestingly the supermarkets were felt to have impacted upon level of under-age purchase attempts taking place at local community off-sales and also in pushing younger over-age customers in their direction.

“...they [the two superstores in the town] used to go through the young ones, but as far as I have heard they have raised the age limit to 25, as far as I know anyway... Oh yes definitely had a knock on effect, because likes to see trying to get a 16 year old and they are done up in make up it's very hard, very hard, and with the height of some boys you know? I mean my boy is only 14 and he is 5 foot 10, you know what I mean? So it's really hard, and you can't go by appearance. Even the ones that are of age that you knock back you say get your proof, and if they are genuine then they bring the proof back. That's the way I look at it, I just play myself safe because I would hate to think that I had served an under-ager drink. I

mean if you get caught selling an under-ager then it was you that pays that fine no just the shop.” (Female employee, Shop #15)

However, here again their local knowledge and informal connections were felt to give community off-sales an advantage over larger anonymous superstores.

“Like I was saying it’s a nice area so there is no direct disadvantages but folk coming in and buying for under-agers, that’s the main disadvantage, but you can only do so much like ask for ID. But you still get under-agers as well, like 5 foot 2 asking for a bottle of Buckfast you know what I mean? ... Aye that and yer cheap vodka. Sometimes the [MD] 20/20. Overall there was a lot more problems back when I first bought the place and I didn’t know anyone but now I know most folk.” ... “You get to know them on a general basis and ask them to keep an eye out for you with the kids drinking.” ... “Its like an extra pair of eyes.” ... “Its how you deal with them you know what I mean? You gotta get on a friendly basis with them all if your gonna be there seven days a week you gotta get to know them from the younger ones to the older ones cos’ in two, three year they are gonna be 18, 20, 21 so you gotta get them by their name and they don’t cos’ you any trouble.” (Male owner, Shop #17)

In line with the findings of recent research by Human Factors Analysts Limited (2007), interviewees’ main disquiet was not so much about these under-agers attempting to buy alcohol themselves but the adults who acted as their agents.

“Aye you do get problems outside the shop aye. You get people asking for drink. It’s mostly folk hanging about a few yards down the road. See you don’t know cos’ if they are a few yards down the road you cannae see them and you get customers coming and tell you that’s what’s happening.” ... “Sometimes you do get cops come along and move them away then come and ask you if you sold anyone, this person, that person. But you know you cannae do nothing about that. You could come in and be 22 and have ID and come in and buy booze for them and you there is not a whole lot I can do you know?” (Male owner, Shop #17)

“I just make sure they have got a passport or proper ID If I don’t know them you don’t get it, you know. I think you should have a lot of restrictions but the problem is you get adults who buy it... ...you don’t know when they come in. One time a guy came in and he bought a half bottle of Buckfast and I went to put something in the bin and I looked at him out the window and I saw him handing it to some 14 year olds so I shouted at him and he denied it but I says ‘aye you were I saw you passing

it to them' and I went like that 'I'm phoning the police'. But then there is no proof because it's happening out there and it's his word against mine... Well he has never come back and if he did I wouldn't serve him. By law you shouldn't be serving him. Then if you suspect, you know you can refuse." (Female employee, Shop #15)

Although no interviewee stated that their shop had ever withdrawn an alcohol product because it attracted such problems, one did put restrictions on some beverages sales. This was Shop #14 which had a prominent sign on the door indicating that cider and wine was limited to one bottle per customer per day (see *Observations of Neighbourhood Convenience Stores*). When asked why this policy was introduced the interviewee replied that it was "Mainly to stop the youngsters getting it, so no-one can come in and say 'give me three bottles of Buckfast' so we can say 'you're only getting one'" (Female employee, Shop #14). However this policy was acknowledged to have pushed those under-18s who buy alcohol via agents towards other, perhaps stronger drinks.

"It's Buckfast and cider [that we monitor] but then they [under-agers] get wise to that and all chip in for a bottle of vodka so it's hard". (Female employee, Shop #14)

A related issue concerned theft of alcohol. This could involve either shoplifting or break-ins, however though incurring considerable cost, such events were not felt to be a common occurrence (say in comparison to children stealing sweets).

"What kinda booze did they steal?" (Interviewer)

"Glen's, Buckfast, most of the whiskys and things that's what costs them the most money, it's what they want. No point in stealing a Mars bar eh?" (Male owner, Shop #16)

The above account of what was taken during a break-in implies that licensed convenience stores may be thought of by some criminals as having items of value, worth attempting to steal, in comparison to say similar unlicensed shops (the above interviewee stated that without a license at Shop #16 "Half of our sales would drop"). This perception, that where there's alcohol there's money, may be one reason why some interviewees reported being affected by more serious crime. Although not a common occurrence, the reported dangers faced by

off-sales staff was found to extend well beyond the more frequent hassles of nuisance / anti-social behaviour or the occasional theft of alcohol to more serious financially motivated violent crime, with, in the extreme, the interviewee at Shop #5 stating that while working in their store her mother had been held up at gun-point. The following account, from Shop #14, illustrates how off-sales staff may even be considered to be an at-risk group for being victims of workplace violence.

“I was held up three times down here. First time there was three of them. I didn’t recognise any of their faces. They got away with £50 or so. Second time... I’m getting a bit mixed up with the order they happened in but one of them had a Halloween mask on and I thought it was a friend of my sons dressed up so I says ‘come on, come on’ and went to pull the mask off and he put a knife to my throat. So he tried to get the till open but whatever I was doing I couldn’t get the mask off so they didn’t get anything and they eventually ran off. Third time it was three guys and that was frightening cos’ there was a customer in the shop who had a new baby. She went hysterical. I think that was what kept me calm because one of the guys was at the door with a hammer above the babies head. And again I don’t think they got anything or if they did it wasn’t much.” ... “After the third time I started crying for no reason. I think I was off for four days. I had victim support out one time and that was quite good” (Female employee, Shop #14)

Three interviewees (Shops, #5, #14 and #15) stated that they had attended alcohol responsibility server training courses, which included advice on how to deal with troublesome customers. However, opinions as to the effectiveness of these were mixed.

“I just recently done that ServeWise course, I did it at the start of the month, I didn’t sit the exam at the time but I done that now, and now any people working in an off license trade have to have a certificate from October, it’s a compulsion. So we have all got it now” (Female owner, Shop #5)

“We actually went to a thing called eh, ‘Drink Wise’, and shown a video and it just doesn’t happen like that. It was actors rehearsed and I says to them that were running the course that it just doesn’t work like that, they don’t just go ‘oh, no’ and they away.” (Female employee, Shop #15)

“I went to [the local] college for a license training thing there. That’s just a new thing that came out about five years ago... It was good, it was

interesting. There was a few things that I didn't know about. Knew most of it to be fair but I enjoyed going to college!" (Female employee, Shop #14)

The accounts from members of staff from the two unlicensed stores which provided an interview were very different from those given by the six licensed shop servers (and also from each other). For example, when asked what their best sellers were, both the unlicensed store interviewees stated cigarettes, although in the case of Shop #4 this was along with lottery tickets and petrol. (It should be noted that from the *Observations of neighbourhood Convenience Stores*, tobacco, newsagents and grocery products were also sold in all 13 of the off-sales, as well as the two other unlicensed stores located in the Study Area.)

When asked why they did not sell alcohol, the interviewee from the unlicensed convenience store only, Shop #7, cited reasons of religion, while the interviewee from the only chain store in the Study Area stated that this was because "The stores main purpose is to sell petrol not be an off license" (Female manager, Shop #4). Of these two unlicensed premises the chain store seemed to have a distinct economic advantage (perhaps even over the licensed stores in the sample) in that it sold petrol and was open 24 hours (only Shop #17 was also located on a through road where this might be practical). However these features did make Shop #4 prone to experiencing some anti-social behaviour and crime (the interviewee stated that her store had no fewer than 14 CCTV cameras).

"We have quite a lot of shoplifters in this shop and if they are confronted they can get aggressive. You get a lot of people who get annoyed if we don't have something, especially if people are looking for their cigarettes. Our staff don't have 24 hour access to the store for the cigarettes, so it's only me and the manager, so if they don't get what they need before 5 then they don't have any for the rest of the night." (Female manager, Shop #4)

This interviewee acknowledged that if her shop did acquire a drinks license then this might bring additional problems and she also indicated that despite being unlicensed they already experienced alcohol-related nuisance behaviour.

"I think some of our staff were worried that having a license would provoke more aggressive behaviour. We already get people who are drunk

looking for drink here and sometimes they cause problems cos' you don't know how they are going to behave." (Female manager, Shop #4)

This interviewee also mentioned a robbery which had taken place at the premises, though the target was a security van rather than the shop itself. Interestingly she also felt that a server training course, for dealing with troublesome customers, would be of benefit to her staff as some were not as good as others at dealing with difficult customers. As was the case elsewhere, this interviewee stated that the majority of her customers were regulars (often elderly) and that this helped to reduce problems, with trouble tending to be caused by strangers.

In contrast to the above and all the licensed premises, the interviewee from the shop which functioned only as a convenience store reported much less anti-social behaviours and crime, with for example the extent of theft entailing "Maybe sometimes there maybe a child who takes something, but not very often" (Male owner, Shop #7). This shopkeeper stated that he had only called the police twice during the whole of the three years in which he had operated the shop, once when a window was broken and once when a female customer "...had a little bit of an attitude to me and was not very nice" (Male owner, Shop #7). Although he also stated that local stores like his had the advantages of being more accessible to the elderly or younger people and also the social aspects of shopping at such premises, more so than was the case at any of the licensed shops, this interviewee felt pessimistic about the future of businesses such as his in the face of competition from the supermarkets.

"We no compete. No way. We are so small so we have to buy in expensive. They [the supermarkets] buy big and a lot. They can throw away food but if we do it is bad and does not do good for the profits. The people want the cheap... I think it not a bright future. It gets me down that one day this type of business will be finished." (Male owner, Shop #7).

In summary then, a picture emerged where local convenience stores were often dependent on alcohol-related custom for their success, if not survival (often being pushed towards the more problematic end of the drinks market in terms of

product range or types of consumer), in order to compete against the major supermarkets (though this source of revenue was also seen as under threat from the town's two superstores). For those serving in convenience stores which were licensed this state of affairs could create a variety of problems, including higher levels of anti-social behaviour, crime and fears concerning the sale of alcohol to under-18s. In this scenario alcohol sales may be seen as keeping these local businesses viable, in the face of fierce competition, and allowing them to continue operating as convenience stores (i.e. grocers / newsagents), thus providing a service to the communities in which they were situated, especially to those for whom the supermarkets were not readily accessible (e.g. the poor, children and the elderly) and for whom local shops also had a valuable social function.

Survey of Alcohol-related Detritus

The final phase of this research involved identifying and documenting (photographing and mapping) any physical evidence of alcohol-related incivilities within the Study Area (see *Research Design and Procedures*). That is all items of alcohol-related detritus littering the eight residential Neighbourhoods which comprised the Study Area. A full break-down of all items photographed is provided by Appendix 5.

A total of 1,406 individual items of alcohol-related detritus including intact glass bottles, broken bottles, plastic bottles, cans, crown or screw caps and alcohol product packaging (e.g. cardboard boxes) were brand identified from 1,239 photographs (some photographs contained more than one item of the same brand in the same shot, maximum of 10 items). These were categorised according to brand, with broken glass being sub-divided as whether it was identified by the presence of either a cap or a label which bore this brand. However, this highlights a major limitation of this method in that there was a great deal of (mainly green) broken glass observed which could not be brand identified (perhaps representing the majority of all items of detritus) and without brand identification it could not be safely assumed that this detritus was alcohol-related.

It should be remembered that it was not within the scope of this project to document any non-alcohol-related glass (excepting any drug-related glass that might be identified, see Introduction and Methods). However, the impression was that what other glass which could be identified tended to be of a local lemonade brand (not Irn Bru) and this was often near vodka detritus (e.g. Glen's), perhaps indicating use as an alcohol mixer. Nevertheless it was very evident during the course of the fieldwork conducted for this survey that soft drink litter tended to be plastic or aluminium (i.e. cans) rather than glass bottles or their remains. As such it is believed that had brand identifiable soft drink-related glass been formally recorded (i.e. photographed), this would have amounted to less than one-tenth that of alcohol-related glass detritus identified.

Brand identified items of alcohol detritus were often embedded in a 'carpet' of unidentified glass. This is illustrated by Plate 1 which shows an aluminium can identified as the Tennent's brand of lager lying on the pavement (i.e. a path) surrounded by unidentified broken glass, including clear, brown and especially green coloured glass (the brown and green glass fragments here are, arguably unlikely, to be the remains of soft drinks bottles or other non-alcohol products). The scene depicted in Plate 1 cannot tell us how the lager can is related to the unidentified broken glass, if at all. It may be the case that this can was deposited here at the same time as the glass was (whether or not it was smashed or, at least initially, left intact). Nevertheless Plate 1 implies that non-glass alcohol containers may be more durable and such easier to brand identify in surveys such as this than say beer or wine bottles. Note that there is also a plastic soft drinks bottle surviving intact amongst the detritus, in the top left of Plate 1.

Plate 1: Can in a 'Carpet' of Unidentified Glass



In the bottom left corner of Plate 1 a small cap is visible. This was identified and recorded in the data set as a cap bearing the Merrydown brand of strong cider (with its own close-up photograph also being taken). Whereas at first the recording of bottle caps may seem a relatively trivial incivility, the presence of these minor items is perhaps indicative of what some of this unidentified glass may be (though we have no way of knowing whether any of the detritus in Plate 1 is Merrydown glass). There is a possible limitation here, where a drinker may discard a cap (which is subsequently photographed by a researcher), consume the drink and then discard the bottle several streets away (where it is subsequently photographed, with both pictures counting in the data-set). However, it might also be argued that these represent two separate incivilities.

In any event, it is strongly suspected that the number of such 'double-counts' is much less of a limitation than is the under-counting of some products. For example it was apparent that many bottles (usually green in colour) appeared to have had their labels peeled off. Plate 2 shows six intact green bottles lying in

bushes. However only five of these could be brand identified (via their caps), as all their labels had been peeled off. Thus only five of these were included in the data-set of alcohol-related detritus, all five in the intact bottle category, although the excluded bottle, the one which had no cap (in the right of the picture), would seem likely to be the same brand / beverage as the others (i.e. Buckfast tonic wine). Many such green bottles or parts of bottles, usually held together by the distinctive gold-coloured ring-seal around the neck visible in Plate 2, were excluded in this research for this reason.

Plate 2: Identified and Excluded Intact Bottles



Similarly Plate 3 shows a great deal of unidentified broken glass (of various colours as in Plate 1) plus an unidentified intact green label-less bottle (with gold-coloured ring-seal, but no cap, as in Plate 2) next to a fence post. The only item of detritus included in the data set from this picture was one case (instance) of broken glass identified via the Buckfast brand label (centre left of the photograph).

Plate 3: Identified and Excluded Broken Glass



The most common category of alcohol-related detritus was (bottle) caps only (i.e. not physically attached to any glass), $n = 431$ (30.7%) items. This type of detritus was evenly divided between two varieties; crown-caps ($n = 204$, mainly from beer or alcopops bottles) and screw-caps ($n = 227$, mainly tonic wine or sprits). In public safety terms the latter type of cap appeared to carry the greater health risk. This was because only six of the 135 instances where broken glass could be identified by having a cap attached were of the crown variety (i.e. 129/135 instances involved screw-caps, or 95.6%). There would appear to be two reasons for this. Firstly because as crown-caps cannot easily be re-sealed they are more likely to become detached from their bottle before consumption is finished and secondly because screw-caps (often with ring-seals) tend to hold on to some glass when they are smashed. This category of alcohol-related detritus (which constituted 9.6% of all items) appeared to be the most hazardous of all because, as is illustrated by Plates 4 and 5, it usually existed as a flat surface holding together a ring of solid broken glass with sharp edges or shards sticking out.

Plate 4: Broken Glass with Screw-cap



Plate 5: Broken Glass with Crown-cap



The category of alcohol-related detritus which appeared to be the next most dangerous in community safety terms was broken glass identified by a brand label, $n = 260$ (18.5% of items). These were usually flattened or broken into small pieces, although some more intact specimens could have particularly dangerous edges or shards protruding upwards. This would appear to indicate that it is perhaps more recent breakages which are the most dangerous. This is illustrated by Plate 6 which shows one of several large segments of a bottle of tonic wine which was located lying in the centre of a major footpath (this item subsequently removed from this location to a safer position by the researcher, AF).

Plate 6: Broken Glass with label



The final glass category of alcohol-related detritus recorded was intact bottles, $n = 194$ (13.8%). This means that two-thirds (395/589) of alcohol-related glass bottles observed lying in these residential neighbourhoods were smashed.

Of the remaining categories of alcohol-related detritus the most commonly photographed was cans $n = 324$ (23.0% of all items, mainly beers and ciders). Other categories were much less common. There were only 25 plastic containers

recorded (1.8% of all items). Twelve (48.0%) of these were miniatures (small single measure bottles) of the Smirnoff (vodka) brand, with the remaining 13 comprising multi-litre bottles of (mainly white) cider brands. This latter figure, relatively speaking, is surprisingly low, given such containers prominence in the shop observations detailed earlier (see *Observations of Neighbourhood Convenience Stores*) and in the literature on street drinking (see *Background*). There were 18 instances (1.3%) where only a (paper) label for an alcohol product brand was photographed and finally there were 19 (1.4%) items of discarded alcohol product packaging, mainly cardboard boxes, such as the crate pictured in Plate 7 found lying in an alcove of a path going underneath a block of flats.

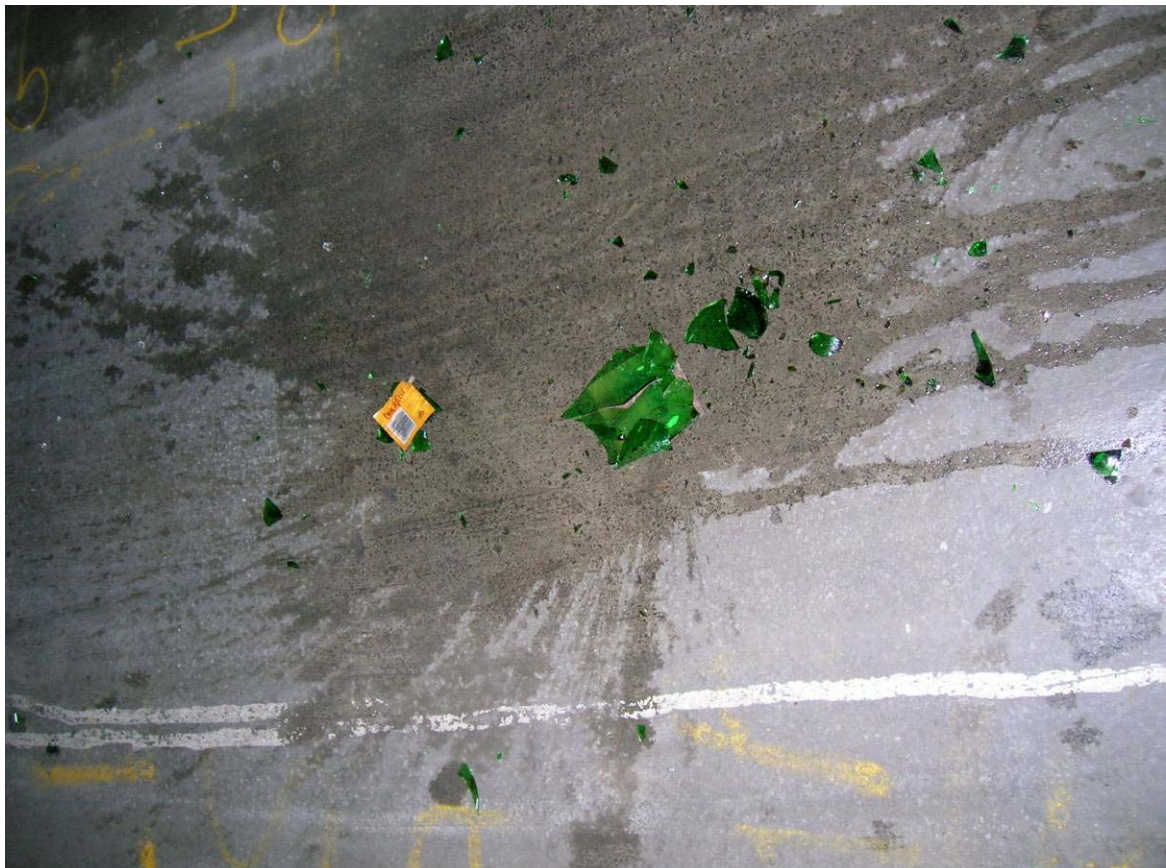
Plate 7: Alcohol-related Packaging



There was no way from this cross-sectional survey of estimating how long any photographed item of alcohol-related detritus had been in the environment, although it may be surmised that more intact items (i.e. less broken or rusty) are more recent. The caveat to this assumption was that some items appeared to have been deliberately destroyed (e.g. by being hit off a metal post or by having a

brick dropped on them). Plate 8 depicts the remains of bottle which would appear to have been only very recently smashed, and which was initially identified by the distinctive smell of Buckfast tonic wine (photograph taken in a public / residential car park on a Friday afternoon).

Plate 8: Recently Destroyed Bottle



The community safety risk represented by alcohol-related detritus may also be considered to vary relative to the type locus where is situated. There were two reasons for this, the first of which relates the type of surface on which it is lying. Table 4 compares the full range of items of alcohol detritus detailed above with the type of surface on which they were photographed. In this table, types of surfaces are categorised as being either 'hard' (comprising paths, $n = 333$; underpasses, $n = 97$; car parks, $n = 70$; steps, $n = 68$; footbridges, $n = 47$; plazas, $n = 42$; shop forecourts, $n = 38$; lock-ups, $n = 30$; bus stops, $n = 27$; roadways, $n = 7$; church concourses, $n = 2$ and a phone booth, $n = 1$ - Plate 1 depicts an example of a 'hard' surface), 'soft' (comprising either bushes, $n = 480$ items or

grass, $n = 68$ - e.g. see Plate 2) or as an 'edge' between 'hard' and 'soft' surfaces (specifically fences, $n = 49$ and walls, $n = 47$ - e.g. see Plate 3). (It should be remembered that this research was only conducted in public space within residential neighbourhoods and included no private grounds, no recreational or parkland, no educational campuses, no playing fields, no grave yards or cemeteries, no industrial areas, no NHS or MOD property, no central business districts, no shopping centres, arcades, parades, precincts or malls, no green or brown-field sites and no transport nodes - which accounts for the relatively low number of items photographed on grass or road surfaces.)

Table 4: Alcohol-related Detritus and Locus

Item of detritus	'Hard' surface	'Edge' surface	'Soft' surface	All
Intact Bottles	25 (12.9%)	27 (13.9%)	142 (73.7%)	194
Glass with label	199 (76.5%)	12 (4.6%)	49 (18.9%)	259
Glass with cap	79 (58.5%)	11 (8.2%)	45 (33.6%)	134
Cap only	307 (71.2%)	12 (2.8%)	112 (26.0%)	431
Label only	12 (66.7%)	3 (16.7%)	3 (16.7%)	18
Cans	122 (37.7%)	28 (8.6%)	174 (53.7%)	324
Packaging	9 (47.4%)	3 (15.8%)	7 (36.8%)	19
Plastic containers	9 (36.0%)	0 (-)	16 (66.7%)	25
Total	762 (54.2%)	96 (6.8%)	548 (39.0%)	1406

As can be seen from Table 4, almost three-quarters of intact bottles were photographed on 'soft' surfaces, the opposite from what was the case for broken glass identified via the brand label (only one-third of broken glass with brand identifiable caps was photographed on soft surfaces). This implies that glass items deposited on 'hard' surfaces (e.g. concrete) are more likely to smash than those deposited on 'soft' surfaces (e.g. vegetation).

A potential caveat to this assumption is that intact bottles (or for that matter cans or plastic containers) are arguably more likely to be picked up and placed in the bin by either the public or cleansing department workers, and that when this is not possible, intact bottles may be more likely to be removed from hard surfaces to

soft surfaces by persons concerned about community safety but who may be more wary about picking up any sharp, dirty, edges. This also implies that more dangerous forms of glass detritus are more likely to be found on the surfaces most often frequented by the public (i.e. on footpaths as opposed to in bushes).

The second way in which the locus in which alcohol-related detritus is lying may influence levels community safety risk relates to how accessible these items are. On this dimension certain locations (e.g. paths or grass) may be regarded as more risky (e.g. to pedestrians or playing children) than others (e.g. bushes or roadways) regardless of the physical condition of this detritus (e.g. whether or not a bottle is already smashed). Plate 9 shows a particularly hazardous example of this type of danger, where clear broken glass is partially embedded in grass.

Plate 9: Glass with Label on Grass 'Risky' Locus



In contrast to Plate 9, Plate 10 shows a typical example of intact bottles in bushes, the most common of all surfaces in which alcohol-related detritus was

located. This type of environment, usually surrounded by foot paths, was common across the post-war social housing 'schemes' of the town in which this research was conducted (see *Selection of Study Area*), most of which had no conventional streets or through roads with pavements on either side. (Note that from the path where the photograph for Plate 10 was taken it is possible to see through these bushes to the path and housing on their other side, where another bottle is lying.)

Plate 10: Intact Bottles in Bushes 'Safe' Locus



Plate 10 also illustrates how alcohol-related detritus often co-existed with other litter or physical incivilities (e.g. blue bags or plastic soft drink bottles). It is not possible within the scope of this research to assess whether this co-existence was simply due to such locations being viewed as common dumping grounds (as might be the case with the bushes in Plate 10), however it may be the case that the existence of other physical incivilities may attract alcohol-related detritus (or vice-versa). For example in Plate 11 where a lager can appears to have been thrown on an abandoned computer monitor. (After supermarket trolleys abandoned computer monitors appeared to be among the most common large items littering the Study Area).

Plate 11: Alcohol-related and other Physical Incivilities



Although not formally recorded (owing to the small scale and pilot nature of this study) it did appear to the research team that the litter which tended to co-exist with alcohol-related detritus fell into certain categories, specifically smoking products (including cigarettes, packets and disposable lighters), confectionary, soft drinks (including those which may have been used as alcoholic drink mixers, e.g. by street vodka drinkers, see Galloway et al, 2007) and fast food (including foil cartons, plastic utensils and half eaten remains) as is illustrated in Plate 12.

Plate 12: Alcohol-related and Associated Other Litter



The one other type of detritus which was formally recorded by this research was drug-related litter (see Introduction and Methods). Despite the much higher profile nature of this issue, in comparison to alcohol-related detritus, no instances of discarded sets of needles and syringes were identified and photographed within the Study Area. There were however, three instances of other types of potential drug-related litter. Two of these concerned apparent improvised smoking devices, presumably for cannabis use. Both of these were found in close proximity (i.e. within camera shot) of Buckfast tonic wine bottles or their remains. The first of these devices comprised burnt tin-foil which appeared to have been shaped around the neck of a bottle and then perforated. This can be seen in the centre right of Plate 13, lying among leaf-litter in an underpass. The second, pictured in Plate 14, involved a bottle cap which had holes bored directly into it, though, in the absence of burning, this appeared to have been abandoned before use.

Plate 13: Alcohol-related Detritus and Potential Illegal Drug Litter 1



Plate 14: Alcohol-related Detritus and Potential Illegal Drug Litter 2



The third and final potential instance of drug-related detritus concerned several brown plastic medicine-type bottles which had been discarded under a hedge (i.e. in bushes) next to two intact bottles of Buckfast tonic wine and an unidentified (label-less) brown glass bottle as is shown in Plate 15.

Plate 15: Alcohol-related Detritus and Potential Medical Drug Litter



Thus it would appear that drug-related litter did not represent any serious community safety concerns within these residential neighbourhoods (e.g. in terms of health risk to children at play - as depicted by recent anti-drug campaign propaganda, see Figure 1). The same however could not be said of alcohol-related detritus. It was striking that items of alcohol-related detritus were often located at places where young children congregated, and also that these were often found beside items of litter usually associated with children (e.g. sweets or soft drinks – mirroring the situation within the convenience stores), as is illustrated by Plate 16.

Plate 16: Alcohol-related Detritus as Urban Landscape



The extent to which alcohol-related detritus has become part of the urban landscape was illustrated by an incident which occurred while one of the research team (AF) was demonstrating the use of the digital camera in this survey to another member of the team (ND). While taking photographs of alcohol-related detritus (including Plate 10) a group of children, perhaps aged between 10 and 12 years, walked passed, apparently on their way to Shop #10. From several metres away these children shouted towards the researchers “look at them they are taking pictures of the Buckie [i.e. Buckfast tonic wine]”. What was striking about this incident was that they could not have seen from their position what the researchers were actually photographing. These children might have perhaps been expected to have shouted that the researchers were taking pictures of the bushes, or of ‘rubbish’ or ‘litter’, of ‘bottles’ or ‘glass’, of ‘drink’ or ‘booze’, but in the event they only mentioned this one brand, and did so several times including “Imagine taking pictures of the Buckie”. (Also note that, as detailed earlier, Shop

#10 was interesting in that, unusually in this research, it did not appear to stock Buckfast, see *Observations of Neighbourhood Convenience Stores*).

Such a high degree of familiarity with this brand of tonic wine would appear to underscore the cultural importance of Buckfast locally (see also Galloway, 2007), in this case even to those presumably too young to consume it. This incident would also appear indicate just how accustomed children must be to seeing this product lying around within their neighbourhood (no other brands of tonic wine were noted in any part of this research). Buckfast did not appear to be widely overtly promoted (i.e. by its distributors) in the town, although on the evidence of this incident alone it hardly needs to be. This begs the question of whether all the alcohol-related detritus photographed during this phase of the research might be regarded as an informal route of advertising, one which is free, viral and most likely to reach (and influence) children, who are likely to be both physically closer to the line-of-sight to these items and, arguably, also the most likely to frequent (i.e. play) in the public spaces which these discarded drinks containers occupy.

The four-week period during which this phase of the research was conducted coincided, after one week, with the start of the school summer holidays. It was striking that children were often observed at play near to clusters of often potentially hazardous alcohol-related detritus (indeed a good deal of time was spent during fieldwork waiting for children to move on before a picture could be taken). Whether this influences young peoples' eventual drinking behaviour is not known, nor can it be known from this research whether any detritus is in itself evidence of under-age drinking within these Neighbourhoods. However during the survey of detritus in the week before the schools 'broke-up' for their summer holidays, a group of children, perhaps aged between 12 and 14 years, were observed by one of the research team (AF) drinking from a can of Strongbow cider as they apparently made their way home from school for the day (they should have been unaware of the researcher's activities, who was waiting for them to pass in order photograph a smashed Budweiser lager bottle). As they passed, they shouted to some other children "it's Irn Bru" (i.e. non-alcoholic) before covertly returning and throwing an empty crisp packet filled with cider at the researcher (there was no scope for photo-evidencing this incivility). Curiously

at the end of that week (i.e. on the afternoon of last day of school term) the photograph for Plate 17 was taken, in which alcohol-related detritus can be seen lying next to a discarded school tie. (See also 'shoulder-tapping' incident at Shop #15 witnessed in during in-store observations which occurred during the school holidays, in *Observations of Neighbourhood Convenience Stores*).

Plate 17: Alcohol-related Detritus and Young People



This phase of the research (brand identified) a large volume and variety of alcohol-related detritus. These items of detritus were often highly visible (e.g. to children at play during the school holidays) and / or in a dangerous condition and / or a hazardous location (e.g. shards of glass embedded in public grassland spaces between houses). What remained to be assessed was to what extent this widespread degree of physical incivility could be related to the presence or absence of licensed convenience stores operating within these residential neighbourhoods. This issue will be addressed in the next section.

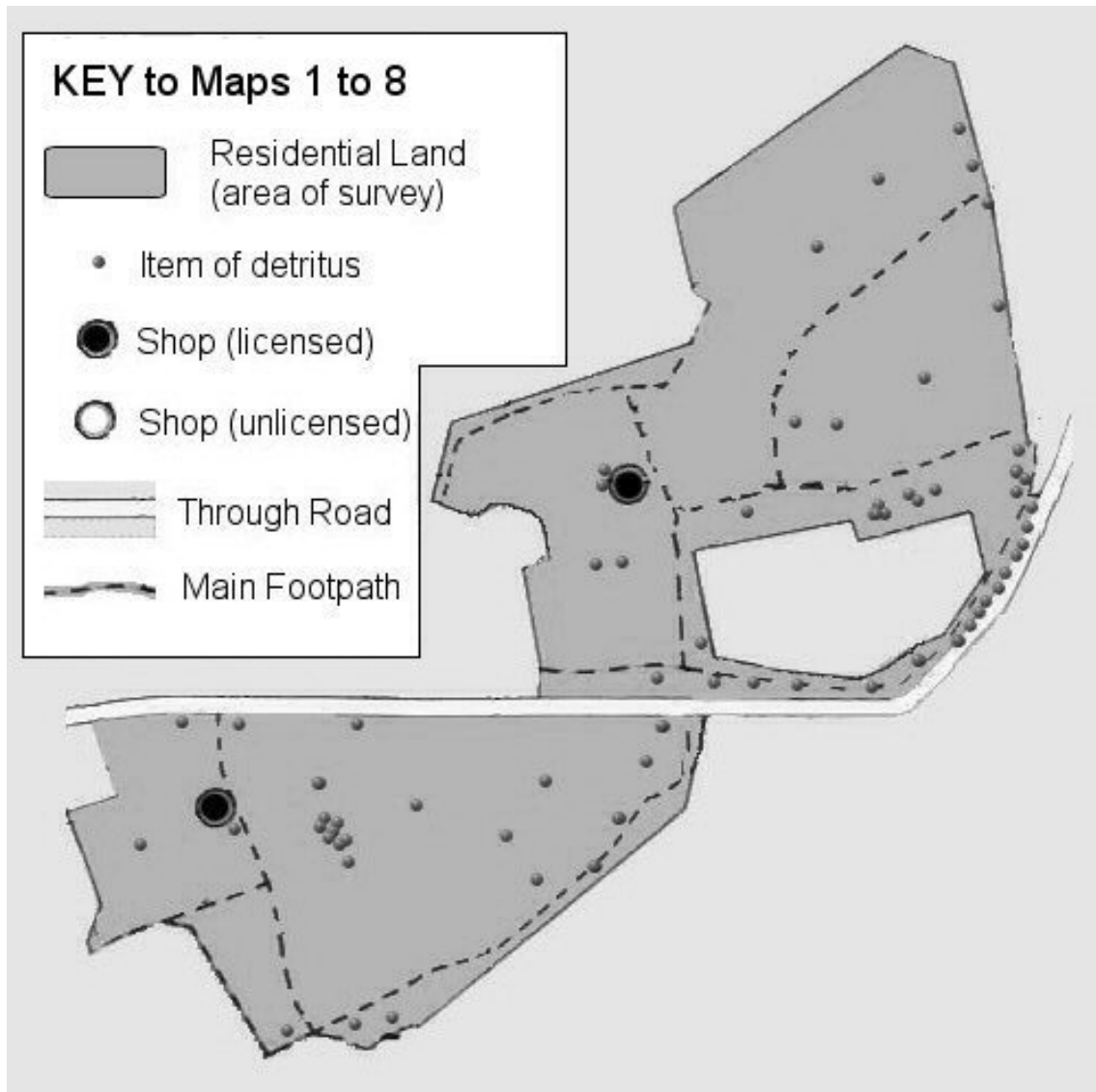
Spatial Relationships between Shops and Alcohol-related Incivilities

The locations of items of alcohol-related detritus which had been plotted on the town's development map in the field (see *Selection of Study Area*) were later digitised as Maps 1 to 8 (below), which correspond to each of the eight Neighbourhoods that made up the Study Area. On each of these maps the extent of the residential area (housing) is indicated by darker shading. Within this environment the locations of every item of detritus is denoted by a small spherical marker. When more than one item was found in the same location and recorded on a single photograph this is indicated by spheres which over-lap one another. Convenience stores are indicated on each map by larger disc shapes, with black discs representing licensed shops, white discs unlicensed.

These maps also show the presence of any main (i.e. through) roads and major footpaths within each Neighbourhood. (It should be noted that most housing was accessed by small cul-de-sacs or car parks and that traditional 'streets' with roads were almost non-existent in these Neighbourhoods.) The main roads and major paths usually also represented boundaries between addresses (i.e. street names) or housing styles and often marked out the boundaries of census Data Zones (not shown for reasons of anonymity). (Note that when describing these maps the geographical terms North, South, East and West will be used for orientation purposes, even though these may not be a reflection of the true co-ordinates, North etc., owing to rotations being made while drawing these maps).

The features described above are illustrated by Map1 which shows the distribution of the 67 items alcohol-related detritus photographed in Neighbourhood A. This Neighbourhood had an estimated population between 1,550 and 2,300, and comprised the 23rd, 26th and 27th most deprived of the 30 Data Zones in the Study Area. It should be noted however that this latter Zone (the 27th most deprived, located towards the North of Map 1), extended into some newer private housing development not included in the survey (see also Appendix 4), hence the estimate population range given above.

Map 1: Neighbourhood A Detritus and Convenience Stores

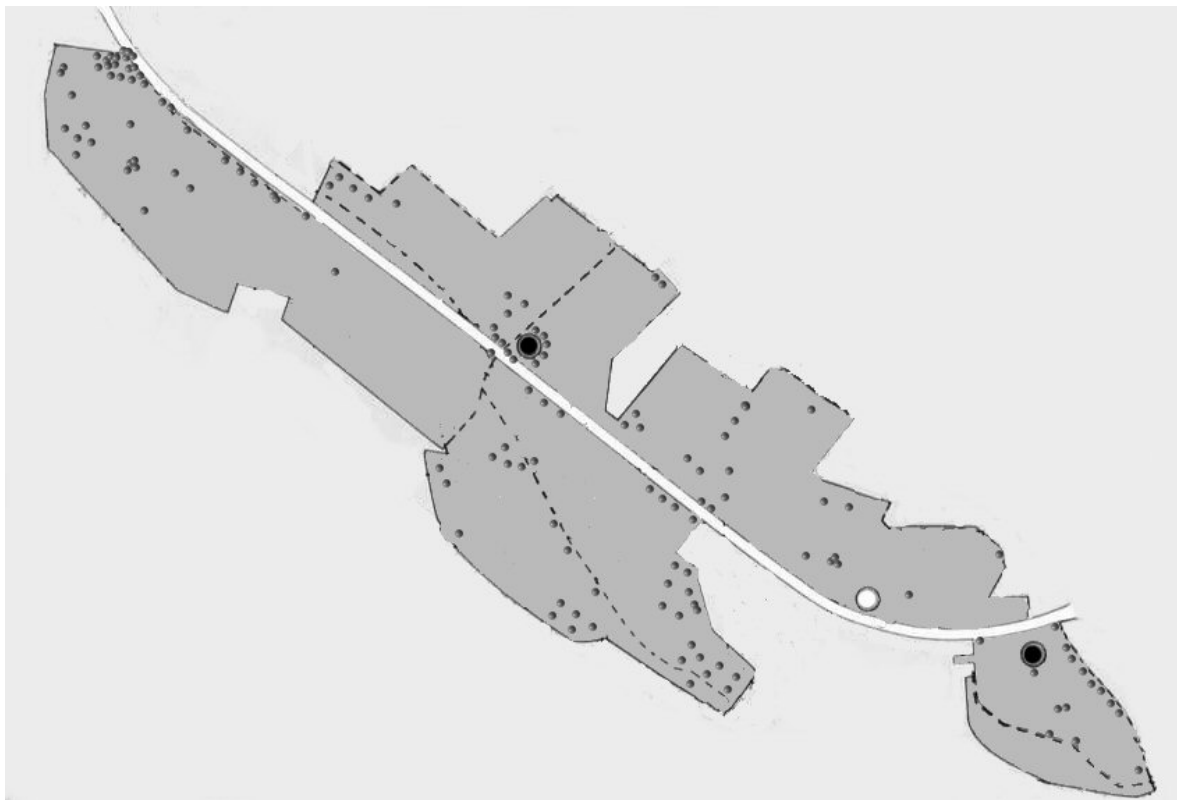


In this relatively less deprived Neighbourhood there were two convenience stores, Shop #1 and Shop #2, one sited in each of the two housing areas which made up this residential area, located on either side of a main road. Only three items of alcohol-related detritus were photographed immediately outside these shops, although it should be noted that on the day of the survey the researcher (AF) witnessed the shopkeeper at Shop #1 (which served the Northern half of this community) picking up items on his forecourt with a mechanical 'litter-picker'. The only concentration of alcohol-related detritus in this Neighbourhood was located well away from these premises, in extreme East of Map 1. This cluster of detritus was on the edge of the residential area, strewn along a fence and at a footbridge near to a bus stop on the main road at the point where this highway leaves the town heading towards the nearest city. The other apparent cluster (seven over-

lapping spheres) indicated in the centre of the Southern housing area of Map 1 consisted of only a single photograph / location, a concrete 'honeycomb' wall, which had seven intact bottles of Glen's vodka resting in / on it.

Map 2 shows the distribution of the 154 items of alcohol-related detritus photographed in Neighbourhood B (estimated population, between 2,230 and 3,200). This neighbourhood comprised the 17th, 10th, 6th and 5th most deprived of the 30 Data Zones in the Study Area. However this latter Zone (5th most deprived) extended into Neighbourhood C (to the Southeast of Map 2) and, on visual inspection at least, it was the smaller portion of this Data Zone located outwith this Map (i.e. in Neighbourhood C) which accounted for its relatively elevated level of deprivation overall (here it appeared more like an extension of the 17th.)

Map 2: Neighbourhood B Detritus and Convenience Stores



There were three convenience stores (Shop #3, Shop #4 and Shop #5) operating in this Neighbourhood at the time of this research. One of these, Shop #4 was unlicensed and, unusually in this sample, was located on the main road along which this Neighbourhood had been developed, perhaps explaining why it alone in the sample sold petrol. No items of alcohol-related detritus were photographed

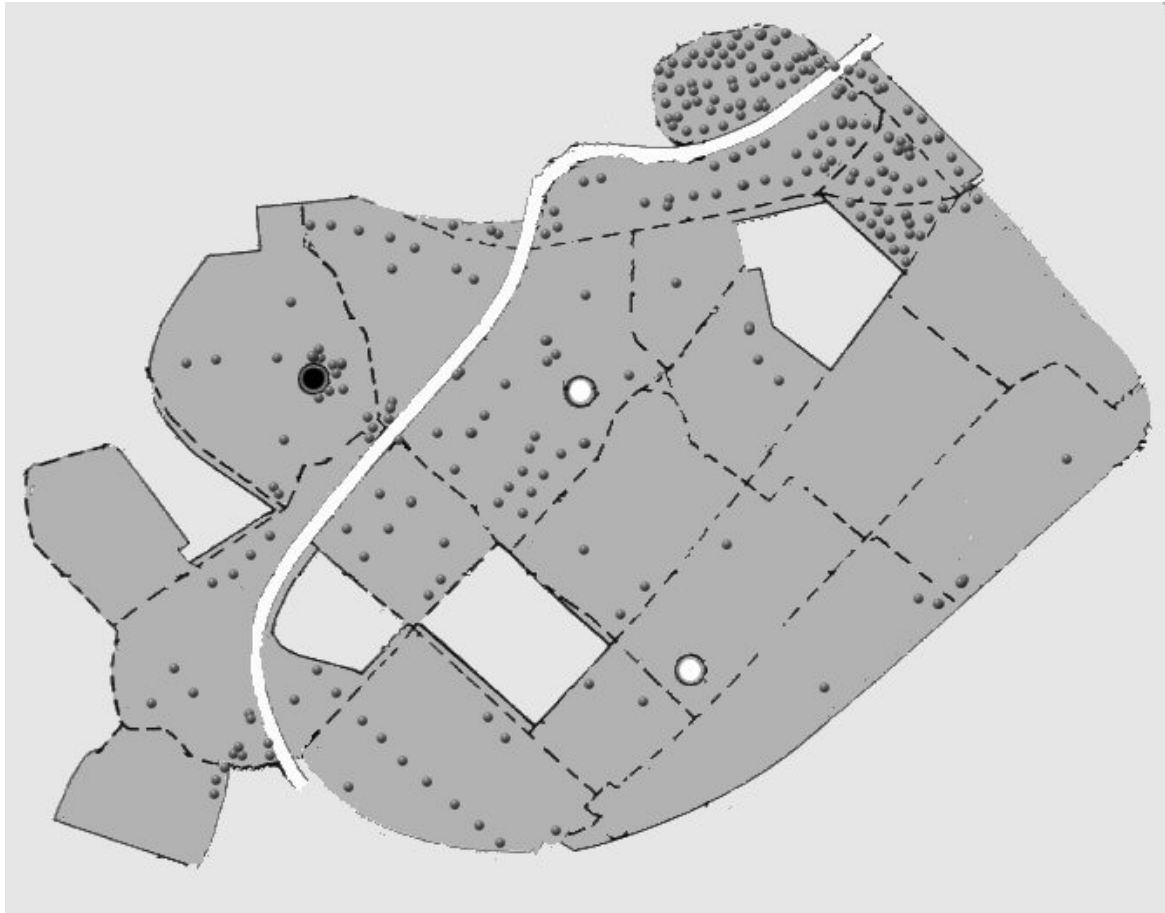
immediately outside this shop and only one item outside Shop #5, which was licensed (situated in the Southeast corner of Map 2). However, five items were photographed directly outside Shop #3 and there was also a concentration of alcohol-related detritus nearby this convenience store, at an underpass on the main road (near the centre of Map 2). This would concur with the store-front observations at this licensed shop (see Table 3). This concentration aside, most other clusters in this Neighbourhood were located around the edges of the residential area, for example at an underpass near the bus stop on the main road where this highway (not the same road as in Map 1) leaves this Neighbourhood in the direction of the nearest city (extreme Northwest of Map 2).

According to the developer's map used in the *Selection of Study Area*, there had been an on-trade outlet situated within this Neighbourhood (in the centre South of Map 2), however this appeared to have been demolished. Nevertheless there was a concentration of alcohol-related detritus in what appeared to have been its car park. Another of the five on-trade premises indicated on this 1983 developer's map (located in Neighbourhood D) was found to be lying derelict at the time of this survey, leaving only three such premises still operating within the Study Area (one each in Neighbourhood's C, D and E). No new on-trade outlets had opened. This low number of on-trade outlets, while interesting in itself, was at this point not deemed sufficient enough to be able analyse their role any further in this research (e.g. the impact of the on-trade on the distribution of alcohol-related detritus).

Map 3 shows the distribution of the 258 items of alcohol-related detritus photographed in Neighbourhood C (estimated population, between 3,150 and 5,040). This relatively mixed neighbourhood comprised the 8th, 12th, 20th, 24th, and 29th most deprived Data Zones in the Study Area (the latter of which included some private housing development not included in the survey, located to the West of Map 3), as well as a small part of the 5th most deprived Zone (which was shared with Neighbourhood B, see above), located across the main road in the North of Map 3. This small sub-area of Neighbourhood C had a particularly high concentration of alcohol-related detritus (including Plate 8). This high concentration of items continued, to an extent, into the area directly across this

road (which corresponded to the 8th most deprived Data Zone) and, as is shown by Map 3, was quite distant from any local convenience stores.

Map 3: Neighbourhood C Detritus and Convenience Stores



Neighbourhood C also had relatively mixed shopping provision, with only one licensed convenience store, Shop #6, but two unlicensed stores, Shop #7 and Shop #8 (i.e. half the unlicensed premises in the Study Area), as well as large tracts of residential area with no shops nearby. These shop-free tracts included both the sub-areas with a large amount of alcohol-related detritus and other sub-areas with almost none (to the East and West of Map 3). There was also an on-trade alcohol outlet, a pub, located midway between the two unlicensed stores, also in an area with almost no alcohol-related detritus.

As was the case at Shop #4 (the unlicensed store in Neighbourhood B, see Map 2), the two unlicensed stores in this Neighbourhood also had no alcohol-related detritus directly outside them. In contrast, eight items were photographed directly outside the one licensed store, Shop #6 (not including another item inside the

phone booth sited on the shop's forecourt), and also a similar number of items which were located at an underpass on the nearby main road. This was a situation very similar to that witnessed at Shop #3 (a licensed store in Neighbourhood B, see Map 2). Apart from these clusters however, the distribution of alcohol-related detritus within this mixed Neighbourhood appeared to be related to more to local variations in relative deprivation than shop proximity.

Map 4 shows the distribution of the 579 items of alcohol-related detritus photographed in Neighbourhood D (estimated population, between 4,780 and 5,720). This relatively deprived neighbourhood comprised the 13th, 11th, 9th, 7th, 4th, 3rd, 2nd and 1st most deprived Data Zones in the Study Area (the latter of which, located at the North end of Map 4, scored much more highly on the SIMD than anywhere else in the town). A small part of the 9th most deprived Data Zone (located to the West of Map 4) extended into Neighbourhood E, although in this other Neighbourhood it did not appear to be as deprived (see below).

Neighbourhood D had four convenience stores, Shop #9, Shop #10, Shop #11 (unlicensed) and Shop #12. There was also a pub, located in the extreme South of Map 4. In this relatively deprived Neighbourhood, Data Zone deprivation appeared to be less important in comparison to shopping provision than elsewhere. Near two of these four stores, Shop #10 and Shop #14 there were large concentrations of detritus, mainly in bushes beside paths (including Plate 10). Interestingly neither of these stores had any detritus in their forecourts or otherwise directly outside these premises. Yet curiously the unlicensed store in this Neighbourhood, Shop #13, did have five items of alcohol-related detritus directly outside. This phenomenon may be explicable by a comment made by the interviewee from Shop #14 (Neighbourhood F) "Sometimes you can get about 25, 30 of them [folk who hang about outside shops] just wandering about all night long, moving from shop to shop" (see also *Interviews with Shop Servers*). That is drinkers may consume alcohol in the vicinity of shop X which was purchased at shop Y, perhaps including outlets outwith the Study Area. Interestingly then that Neighbourhood D was also very much the closest in the survey to the town's two major superstores, both of which were situated directly across the main road from

the residential area, to the South and East of Map 4 (i.e. at points near to the two largest clusters of alcohol-related detritus).

Map 4: Neighbourhood D Detritus and Convenience Stores



Curiously the amount of alcohol-related detritus found in the town's pocket of absolute deprivation (located at the North end of Map 4) was not particularly great compared with other less deprived parts of this Neighbourhood, and this despite a licensed store, Shop #9, being sited in the middle of this sub-area (two items of detritus were photographed directly outside this store). Interestingly, this part of Neighbourhood D was also the most distant from the two superstores. However, it

should be noted that some of the brand-identifiable detritus found within this most deprived Data Zone could not be photographed owing to its proximity to house windows (e.g. for ethical reasons) and also the sheer amount of general litter and dumped objects (e.g. car-parts and furniture) lying in this sub-area must have inevitably camouflaged many alcohol-related items. This is illustrated by Plate 18, in which an intact bottle of MD 20/20 is the only visible brand identifiable alcohol-related item amongst a pile of litter (and a car wheel / tyre) lying, for some distance more than is indicated in Plate 18, at the side of public steps, directly in front of house windows (which made both further investigation of this physical incivility and photography of other alcohol-related items in this pile, one several similar accumulations in this sub-area, impossible for obvious reasons).

Plate 18: Alcohol-related Detritus Hidden among General Litter



In effect this means that the total number of items recorded for the most deprived Data Zone ($n = 55$, see also Chart 1, below) is an under-estimate, as for the same reason is the total detritus score for Neighbourhood D. This Neighbourhood total may also have been reduced by landscaping work which was taking place in the area immediately Southwest of the pocket of absolute deprivation (delimited by a

square of major paths on Map 4, which corresponds to the 7th most deprived Data Zone) and also because the days during which the survey was conducted in this Neighbourhood appeared to coincide with a great deal of Local Authority cleansing department activity (i.e. 'bin days'). However despite all these unique limitations the amount of alcohol-related detritus in this Neighbourhood remains unusually large compared with elsewhere in the Study Area).

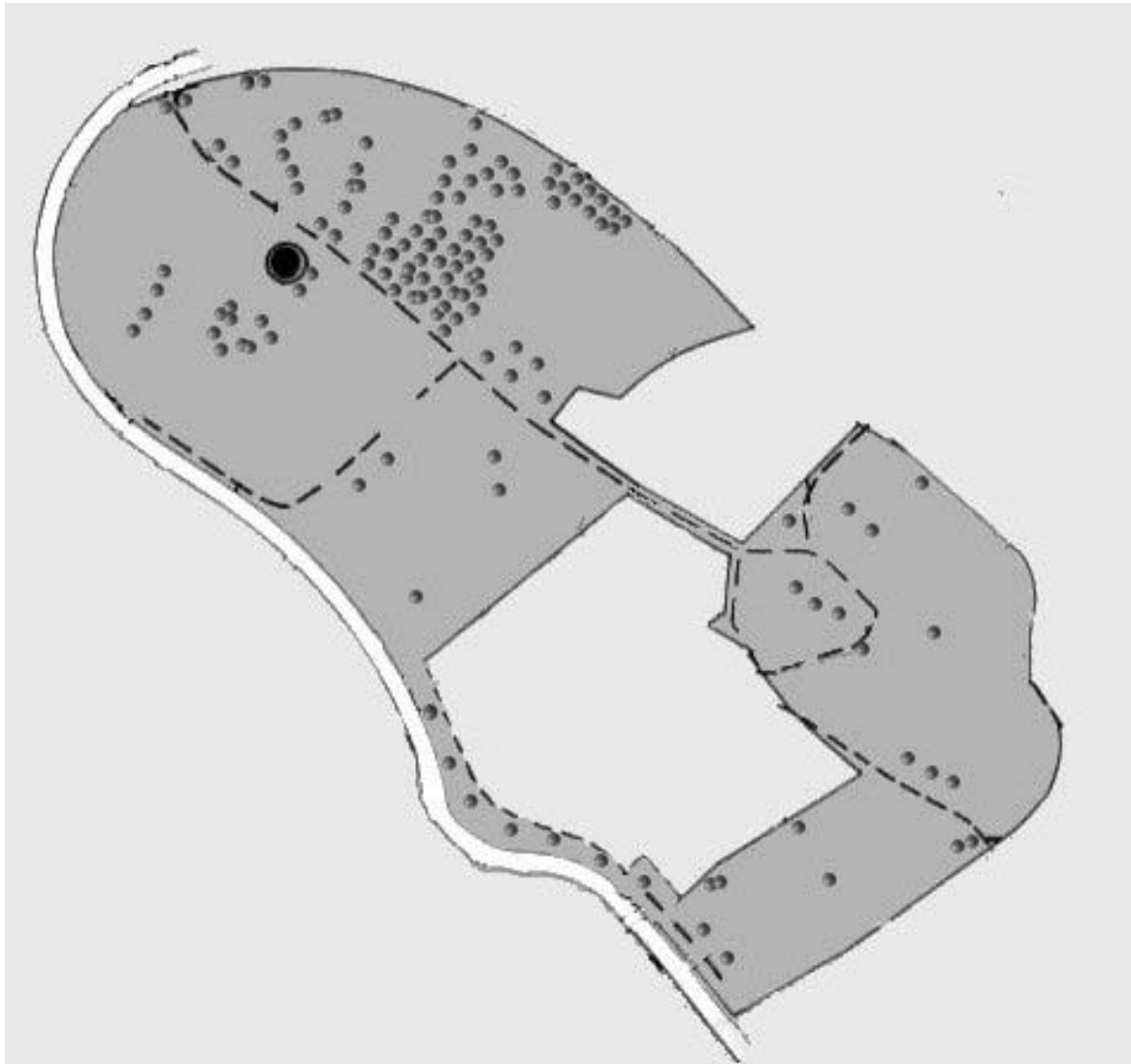
Although marginally the largest of the eight Neighbourhoods, size alone would not seem to account for this residential area yielding 41.2% of all items of alcohol-related detritus in this research, with it having between only 20.1 and 24.1% of the Study Area's population. This equates to a rate of between 101 and 121 items per 1,000 of the population, compared with a maximum possible rate of 59 for the rest of the Study Area (no other Neighbourhood had a rate greater than 69 – the maximum possible score for the Neighbourhood with the next most deprived Data Zones, Neighbourhood B).

Another possible explanation for the relative excess of alcohol-related detritus in Neighbourhood D may be that it had the most licensed convenience stores, three. However, Neighbourhoods A, B and F all had two licensed stores each, but much less detritus, with the rate per off-sales outlet in Neighbourhood D being 193, compared with only 34, 77 and 46 in these other Neighbourhoods respectively (with the relatively more deprived Neighbourhood B again having the higher rate). Alternative, more plausible explanations for the over abundance of alcohol-related detritus items in this Neighbourhood may be its relatively greater level of deprivation and perhaps also its proximity to the town's two superstores. Both these possibilities will be analysed further at the end of this section.

Map 5 shows the distribution of the 137 items of alcohol-related detritus photographed in Neighbourhood E (estimated population, between 1,670 and 3,390). This relatively less deprived neighbourhood comprised the 22nd, 25th and 30th most deprived Data Zones in the Study Area (though this latter Data Zone extended into an area of private housing development not included in the survey to the Northeast of Map 5). A small part of the 9th most deprived Data Zone extended into this Neighbourhood (located to the East of Map 5) although in this

did not seem to be deprived (as it was in Neighbourhood D, see above) and appeared more like a continuation of the housing which made up the 25th most deprived Data Zone (lying to the South of Map 5).

Map 5: Neighbourhood E Detritus and Convenience stores

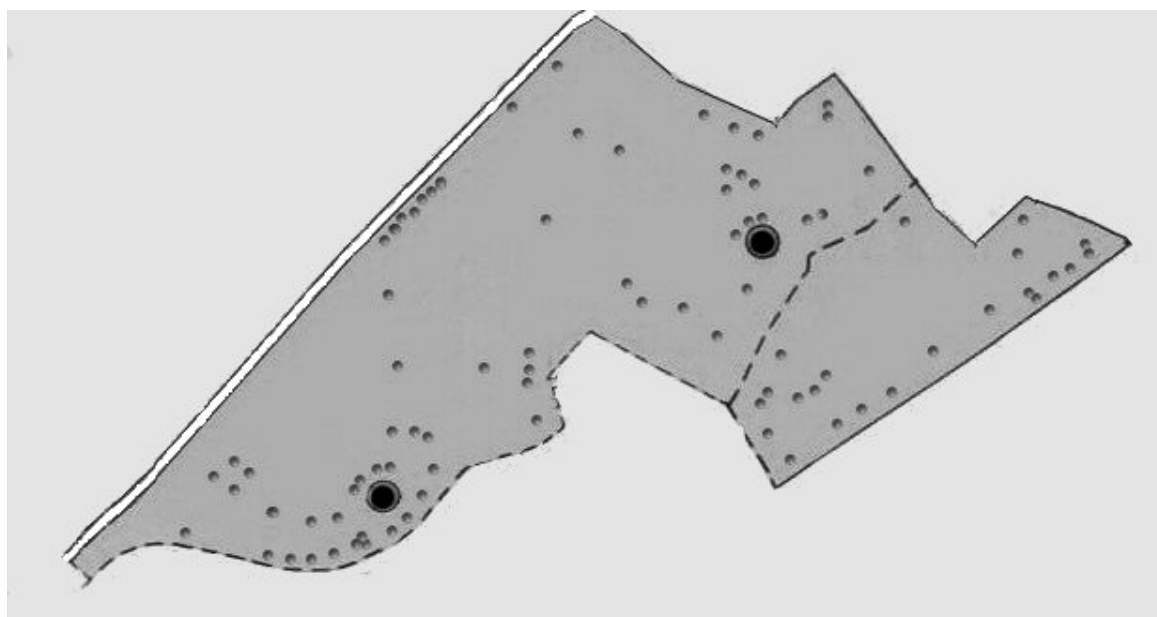


There was only one convenience store in Neighbourhood E, Shop # 15, which was located next to a pub. Although there were only two items of alcohol-related detritus directly outside this store, there was a large concentration items lying in bushes nearby and also one other at an underpass a little further away on the edge of the housing area.

Neighbourhood F (population, circa 1,950) comprised the 14th and 15th most deprived Data Zones in the Study Area. In this self contained, very average and

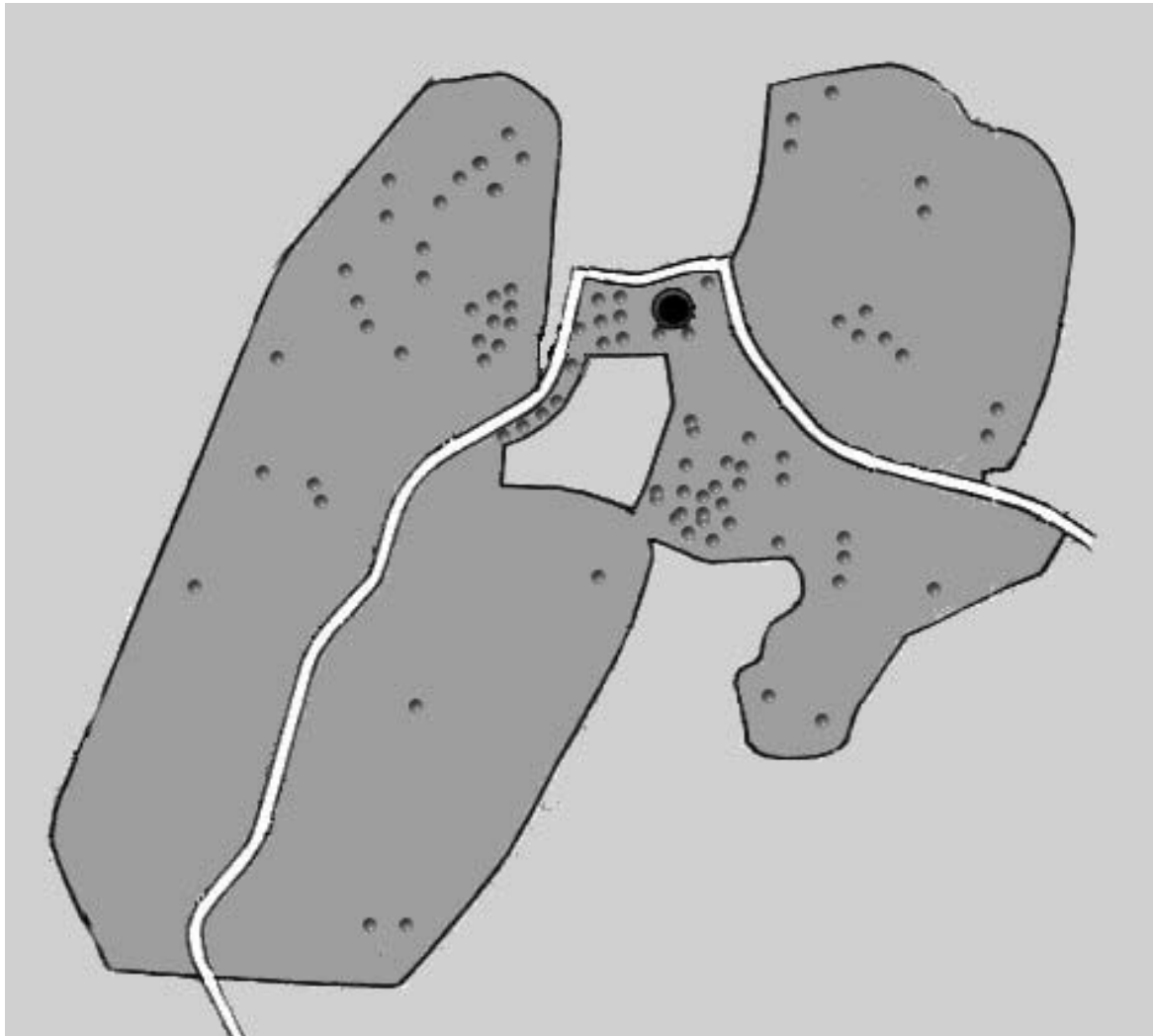
homogenous Neighbourhood there were two convenience stores, Shop #14 and Shop #15. The 89 identified items of alcohol-related detritus were not particularly concentrated near these stores, which had four and three items directly outside respectively, but tended to be located around the edges of the housing area.

Map 6: Neighbourhood F Detritus and Convenience stores



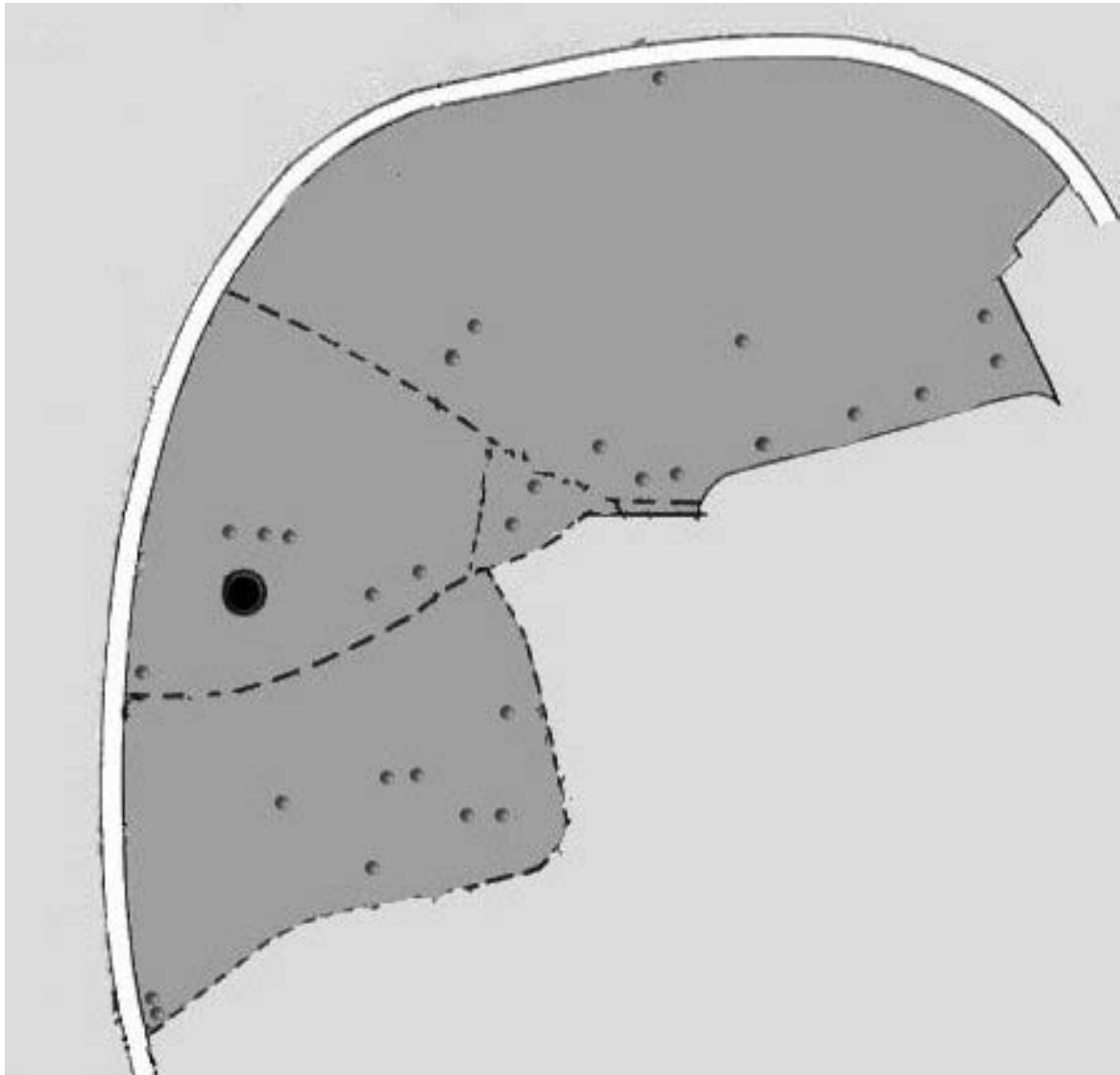
In Neighbourhood G (population, circa 2,270) 93 items of alcohol-related detritus were photographed. Like Neighbourhood F, this was another self-contained, very average and homogenous area, comprising the 19th, 18th and 16th most deprived Data Zones. In this Neighbourhood there was one convenience store, Shop #16, which unusually was located on a through road (though this was more winding and appear to exist more for local access only in comparison to the main road which Shop #4, in Neighbourhood B was sited next to, see Map 2). Two items of alcohol-related detritus were found directly outside this store and there were two concentrations nearby, one beside the main road, the other in nearby housing. Other parts of this Neighbourhood were almost devoid of any detritus.

Map 7: Neighbourhood G Detritus and Convenience Stores



The final map, Map 8, shows the distribution of alcohol-related detritus in Neighbourhood H (population, circa 1,770). This relatively less deprived Neighbourhood comprised the 28th and 21st most deprived Data Zones in the Study Area. Neighbourhood H had surprisingly few items of alcohol-related detritus, only 29 in total, none of which were close by the one convenience store, Shop #17. This is only a rate of 16 items per thousand population, compared with a rate of 63 for the rest of the Study Area (no other Neighbourhood had a rate less than 29 – minimum possible in the another relatively less deprived Neighbourhood, A). This would seem to correspond with earlier observations (see *Observations of Neighbourhood Convenience Stores*) and also statements made by this store's interviewee who commented on how this was 'good' area which had improved much recently, including in improvements terms of alcohol-related incivilities (see *Interviews with Shop Servers*).

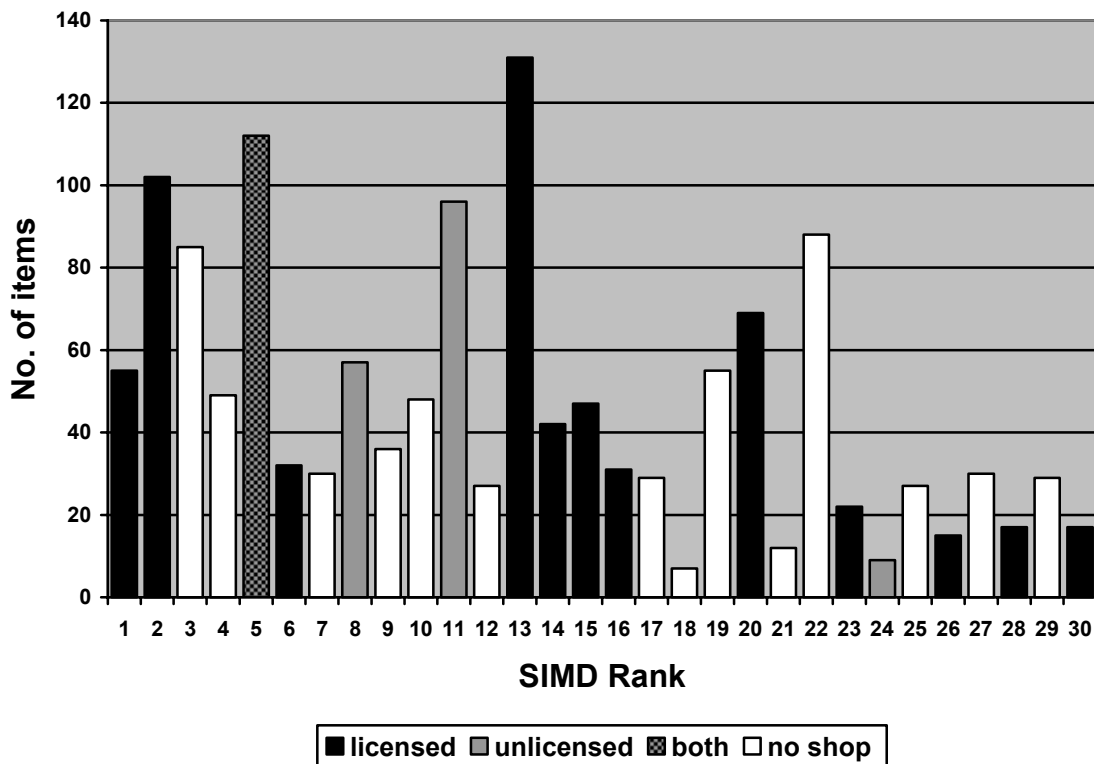
Map 8: Neighbourhood H Detritus and Convenience Stores



Interestingly, while surveying this Neighbourhood, the researcher (ND) was stopped and spoken to by a local resident, who corroborated what the community's shop interviewee had said about the improvements in the area. The resident put this down to local community activities (e.g. Neighbourhood Watch) and in particular that they had hired their own street cleaner for two days per week over and above what the Local Authority cleansing department achieved. The resident pointed out a nearby locus where outdoor drinkers tended to deposit alcohol empties at the weekend and said that the local community intended dealing with this by installing CCTV and removing bushes (the surface where alcohol-related detritus was most commonly found in this research, see *Survey of Alcohol-related Detritus*, e.g. Plate 10) by extending a children's play area.

On the whole then, plotting the position of alcohol-related detritus relative to licensed convenience stores appeared to give varied results by Neighbourhood. In some Neighbourhoods there appeared to be little relationship between off-sales provision and this form of alcohol-related incivility (e.g. Neighbourhood A, see Map 1), while elsewhere some concentrations of detritus were apparent besides or nearby to shops (e.g. Neighbourhood D, see Map 4). In comparing between maps, it appeared that more items of alcohol-related detritus were located in relatively more deprived Neighbourhoods (e.g. Neighbourhood D). Similarly, from inspection of individual maps it appeared that there was less detritus within the less deprived sub-areas within the same community (e.g. Neighbourhood C, see Map 3). Chart 1 investigates this further by entering the number of items of alcohol-related detritus found within each of the 30 Data Zones of the Study Area into a deprivation ranked bar-chart, which also indicates the level of shopping provision in each Zone (i.e. by the shading of each bar).

Chart 1: Alcohol-related detritus, area deprivation and convenience stores



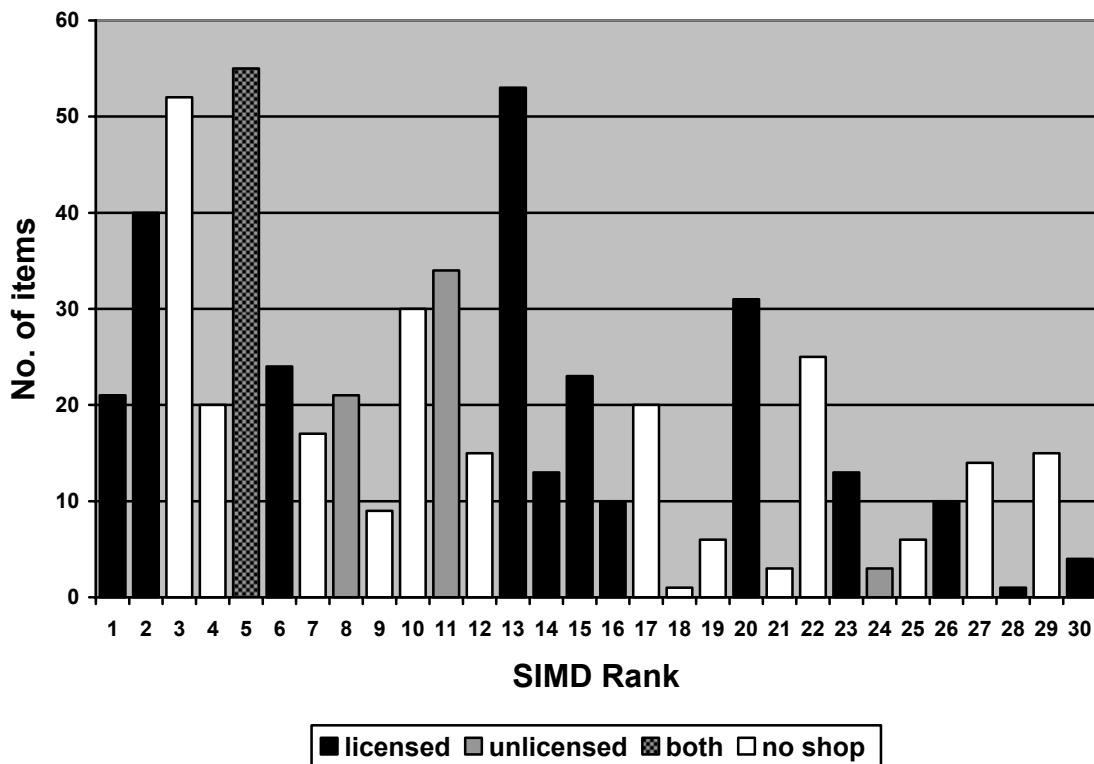
From Chart 1 it is apparent that there is a relationship between this form of alcohol-related incivility and local (small area) deprivation (i.e. at census Data Zone level according to the SIMD). Interestingly, such a relationship did not appear to exist between the amount of this detritus and local shop provision. Data Zones with a licensed convenience store had a mean of 53.2 items of detritus, while those with no off-sales provision locally had a mean of 42.0, a non-significant difference. In contrast Zones in the relatively more deprived half of the Study Area (Zones 1 to 15) had a mean of 63.3 items per Zone compared with a mean of only 30.5 for Zones inside the less deprived half ($t = 3.14$: $p = 0.004$). This was confirmed by a regression equation in which controlling for Data Zone population, deprivation rank (only) predicted the number of items of alcohol-related detritus found (overall equation, adjusted R-square= 0.224: $F = 5.179$: $p = 0.012$, Data Zone rank on its own, $t = 3.049$: $p = 0.005$).

Curiously from Chart 1, it also seems to be the case that in the more deprived half of the Study Area, Data Zones with shops appear to, as might be expected, have more items of alcohol-related detritus, yet in the less deprived half of the Study Area (ranked 16th to 30th) Data Zones with shops actually appear to have less items (e.g. the Zones ranked 23rd, 26th, 28th and 30th), the opposite from what might have been expected. Furthermore, from Chart 1, this appeared to be true for all shops regardless of their licensing status, with for example the Zone ranked 11th, which contained the unlicensed shop at the centre of Neighbourhood D (see Map 4), having a relatively large amount of alcohol-related detritus. In contrast to this, the Zone ranked 24th, which also had an unlicensed shop, located in the South of Neighbourhood C (see Map 3), had particularly few items.

The above Chart includes all items of alcohol-related detritus and takes no account of their hazardous potential (see *Survey of Alcohol-related Detritus*). For example the total for the Data Zone which had the most items of detritus (ranked 13th most deprived, located to the South of Neighbourhood D in Map 4), included twelve plastic Smirnoff miniatures (10 in a single cluster / photograph). To account for this relative level of hazard factor between types of alcohol-related detritus, the above analyses were repeated for glass items only.

Chart 2 shows the distribution of alcohol-related glass detritus across the 30 Data Zones in the Study Area ranked by relative deprivation. On first inspection this Chart would appear to indicate an even sharper divide between the relatively deprived and non-deprived halves of the study area, but an unclear difference between Zones which had an off-sales alcohol outlet and those which did not. This was confirmed statistically with deprived Data Zones having a mean of 28.5 items of glassware compared with a mean of only 10.8 among Zones in the less deprived half ($t = 3.89$: $p = 0.001$). There was no statistical difference between Zones which had a licensed convenience store, where a mean of 22.9 items of brand-identifiable glassware were photographed, and those which did not, where the mean was 17.1. As with the data shown in Chart 1, this pattern was confirmed in a regression equation, in which, controlling for Data Zone population, the amount of alcohol-related glassware lying in residential areas could be predicted by Data Zone deprivation rank alone (overall equation, adjusted R-square = 0.315: $F = 7.663$: $p = 0.002$; Data Zone rank on its own, $t = 3.800$: $p = 0.001$).

Chart 2: Glass detritus, area deprivation and convenience stores



As a final test for a relationship between the presence or absence of (licensed) convenience stores and the alcohol-related detritus within the Study Area, it was decided to compare the products and brands observed inside the shops (see *Observations of Neighbourhood Convenience Stores*) with those found lying in the residential areas which they served. Table 5 compares the most prominently observed alcohol products inside the 13 licensed convenience stores with the incidence of photographed items of alcohol-related detritus (see also Appendix 5).

In this table, the left-hand column lists the 13 types of alcohol product noted by observers during in-shop observations in rank order of how often a brand of each product was assessed as being amongst the three most prominent on display (see Appendix 2). The right-hand column rank orders these products by how often each was photographed outside in the residential area. This includes seven additional alcohol products photographed outside but for which no brands of this product were noted as being amongst the three most prominently on display during the in-store observations, specifically super-lager, ale, miniatures, stout and sparkling wine (also note that no brands of shots were photographed outside).

Table 5: Products Observed in Shops and Alcohol-related Detritus

Alcohol Products (rank ordered)		Prominent in-shop observations	Alcohol Products (rank ordered)		Detritus items photographed
1	Lager	25 (21.6%)	1	Lager	578 (41.1%)
2	Tonic Wine	18 (15.5%)	2	Tonic Wine	494 (35.1%)
3	Vodka	16 (13.8%)	3	Vodka	88 (6.3%)
4	Fruit Beverage	11 (9.5%)	4	Alcopops	46 (3.3%)
5	Strong Cider	10 (8.6%)	4	Cider	46 (3.3%)
6	Cider	8 (6.9%)	6	White Cider	43 (3.1%)
			7	Super Lager	29 (2.1%)
7	Alcopops	7 (6.0%)	8	Fruit Beverage	18 (1.3%)
7	Perry/Pear Cider	7 (6.0%)	9	Miniatures	12 (0.9%)
			9	Whisky	12 (0.9%)
			11	Ale	11 (0.8%)
9	Wine	5 (4.3%)	12	NRG Drink	8 (0.6%)
10	NRG Drink	4 (3.5%)	13	Perry/Pear Cider	5 (0.4%)
11	Whisky	3 (2.6%)	13	Wine	5 (0.4%)
			15	Sherry	3 (0.2%)
			16	Stout	2 (0.1%)
			16	Liqueurs	2 (0.1%)
12	Rum	1 (0.9%)	18	Rum	1 (0.1%)
12	Shots	1 (0.9%)			
			18	Sparkling Wine	1 (0.1%)

According to Table 5, the same two products were the most often recorded in both of these data sets, specifically lager and tonic wine. Vodka was third ranked in both, although it was photographed much less often than lager or tonic wine, which taken together accounted for an astonishing three-quarters of alcohol-related detritus. These findings are interesting in that it was known that tonic wine was not stocked in the two major superstores in the town and therefore it would seem likely that much of this product's detritus originated from the licensed local convenience stores. However the same could not be said about lager. As an additional check, the above breakdown was repeated for brand names as is shown by Table 6. In this table, only brands noted by observers during in-shop

observation more than once ($n = 16$) are listed, in rank order, in the left-hand columns and only brands photographed as detritus lying in the residential areas at least ten times are listed, in rank order in the right-hand columns.

Table 6: Brands Observed in Shops and Alcohol-related Detritus

Alcohol Brands (rank ordered)		Prominent in-shop observations	Alcohol Brands (rank ordered)		Detritus items photographed
1	Buckfast	18 (15.5%)	1	Buckfast	498 (35.1%)
2	Glen's	15 (12.9%)	2	Stella Artois	133 (9.5%)
3	Tennent's	13 (11.2%)	3	Tennent's	130 (9.3%)
	Miller	1 (0.9%)	4	Miller	91 (6.5%)
4	MD 20 / 20	11 (9.5%)	5	Glen's	78 (5.6%)
	Budweiser	1 (0.9%)	6	Budweiser	77 (5.6%)
	Carling	1 (0.9%)	7	Carling	57 (4.1%)
5	Lambrini	7 (6.0%)	8	Strongbow	49 (3.5%)
	Smirnoff	1 (0.9%)	9	Smirnoff	39 (2.8%)
6	Stella Artois	5 (4.3%)	10	Grolsch	18 (1.3%)
7	Red Square	4 (3.5%)	11	MD 20/20	17 (1.2%)
	Carlsberg	1 (0.9%)	12	Carlsberg	14 (1.0%)
	Merrydown	1 (0.9%)	13	Merrydown	13 (0.9%)
	Bacardi	1 (0.9%)	14	Bacardi	12 (0.9%)
	Becks	0 (-)	15	Becks	10 (0.7%)
	Tesco	0 (-)	15	Tesco	10 (0.7%)
8	Strongbow	4 (3.5%)		WKD	9 (0.6%)
9	Magners	3 (2.6%)		Red Square	7 (0.5%)
9	Pulse	3 (2.6%)		Polaris	4 (0.3%)
9	Reef	3 (2.6%)		Reef	4 (0.3%)
9	WKD	3 (2.6%)		Magners	3 (0.2%)
13	Bells	2 (1.7%)		Lambrini	2 (0.1%)
13	Bulmers	2 (1.7%)		Pulse	1 (0.1%)
13	Grolsch	2 (1.7%)		Bells	0 (-)
13	Polaris	2 (1.7%)		Bulmers	0 (-)

Note that some brands can exist as more than one alcohol product (e.g. Smirnoff can be alcopops $n = 14$, vodka $n = 13$ or miniatures $n = 12$, and Tennent's either

lager $n = 107$, super-lager $n = 22$ or Ale $n = 1$). Appendix 5, provides a comprehensive breakdown of the 19 alcohol products and 82 brands identified among the 1,406 items of alcohol-related detritus photographed.

Table 6 would appear to differ from Table 5 in that the alcohol brands noted by observers as being highly visible inside the licensed grocers located in the Study Area varied greatly from the brands most often photographed in the survey of alcohol-related detritus lying within the communities which they served. In particular, it was noteworthy that although the brands which previous studies (including recent work undertaken within a few kilometres of the town in which the present study was conducted, Galloway et al, 2006, see *Background*) had identified as being popular among (young) street drinkers (e.g. Lambrini, MD 20/20 or Red Square) were observed in the local licensed convenience stores, they were relatively infrequently found to be lying among the alcohol-related detritus littering the residential areas in which these shops were sited. For example only two items of Lambrini perry were photographed (Kopparberg pear cider, $n = 3$, was the most often photographed brand in this product range).

In contrast a great many premium lager brands were photographed as alcohol-related detritus in these residential areas (e.g. Miller, Budweiser and Carling) which were not amongst the most often prominently displayed brands as observed inside these shops. Along with Stella Artois, the second most commonly photographed of all drinks brands detritus, these premium lagers have been more commonly identified by previous research as being popular with on-trade consumers, that is in pubs and nightclubs (again including research conducted recently only a few kilometres from this town, Forsyth et al, 2005; Forsyth 2006, see *Background*). In short some of the brands which comprised much of the alcohol-related detritus found in the residential neighbourhoods in this research would appear to be those more often associated with on-trade (or adult) consumption, rather than outdoor (or under-age) consumption. There was however one brand which was the exception to this apparent anomaly, namely Buckfast tonic wine.

Of 1,406 items of brand-identified alcohol-related detritus (bottles, cans, caps, plastic containers etc.) photographed, among the brands previously identified in

research as being 'street' drinks only Buckfast tonic wine items were very frequently found in these residential areas. This one brand's remains comprised 35.1% ($n = 494$) of all detritus, 54.0% ($n = 318$) of all glassware and 58.9% ($n = 232$) of broken glass photographed in the survey. Alternatively this latter figure (for broken glass) means that 73.0% of Buckfast bottles were smashed, compared with only 60.1% for all other brands' glass bottles combined (chi-square = 10.9: $p = 0.001$). (Note - this masks differences between less commonly photographed brands, with for example 12/22 Miller lager bottles being found in an intact condition compared with only 4/17 MD 20/20 bottles).

Though the high incidence of Buckfast detritus was perhaps the most striking feature of Table 6, two other brands were also of interest. Firstly the Glen's vodka brand appeared to be particularly salient when alcohol content (ABV) is considered. Although it was not always possible to establish from the photographs taken whether the remains of this brand were from 'full' (70cl), half or quarter bottles, the fact that this brand accounted for 77.2% of 'hard' spirits detritus (excluding plastic 'miniatures', $n = 12$) was striking (i.e. considering one 'full' bottle of spirits equates to around the same amount of alcohol as 14 bottles of lager, such as Budweiser, Miller or Carling – all of which involved similar numbers of individual items of detritus as those identified as Glen's vodka). It was also curious that midway through the research this brand began to receive media attention because some bottles bearing the name Glen's were in fact counterfeit (e.g. see Clark, 2007; Scott, 2007).

Secondly, one brand appears on Table 6 which can be safely assumed not have originated from any of the licensed convenience stores observed, namely Tesco (there were also items of detritus photographed bearing the names ASDA, $n = 8$, and Spar, $n = 3$, neither of which should have been sold by any of the stores within the Study Area). This suggests that outlets outside the study area may (also) be responsible for much of the alcohol-related detritus found in the Neighbourhoods surveyed, including the large superstores which the interviewees had indicated were selling large amounts of alcohol products to the residents of the communities which these local shops served. The reach of the superstores was also apparent during fieldwork by the presence of abandoned supermarket

trolleys throughout the Study Area, which could themselves be associated with alcohol-related detritus, as is shown by Plate 19. During the detritus survey one researcher (AF) came across a corral of these trolleys being collected by building workers in the Neighbourhood D, (in the 9th most deprived Data Zone which was being landscaped at the time of this research), the Neighbourhood which was closest to the town's two superstores.

Plate 19: Alcohol-related Detritus in Supermarket Trolley



Only a small proportion of the two superstores shelves displaying alcohol products stocked their own brands. Although not formally recorded (i.e. by using the Shop Observation Schedule, see Appendix 1, which was tailored for local convenience stores), the research team made several visits to both these superstores during the course of the research. During these visits it was apparent that neither superstore stocked Buckfast tonic wine and Glen's vodka only appeared to be being sold in full bottles (70cl) bottles, whereas the local off-sales

seemed to stock the brand in many sizes. However both these superstores did stock a wide range of premium lagers.

Taking the Buckfast and Glen's brands as products strongly associated with local off-sales (see Table 6) and comparing these with the most often photographed premium lager brands, Stella Artois, Budweiser, Miller and Carling, reveals some interesting contrast within Neighbourhood D, the part of the Study area which had by the far the most alcohol-related detritus and which was also the nearest to both the superstores. Table 7 compares the alcohol brands most prominently displayed in the licensed convenience stores observed (i.e. Buckfast and Glen's in the top section of this Table), and those which were less so (i.e. premium lagers in the bottom section), with their incidence in Neighbourhood D (the part of the Study Area closest to both superstores) relative to their incidence across all other Neighbourhoods combined.

Table 7: Neighbour D and Brands of Alcohol-related Detritus

Brand of Alcohol Detritus	Neighbourhood D	Elsewhere	Chi-square $p =$
Buckfast tonic wine	188 (32.5%)	306 (37.0%)	0.084*
Glen's vodka	23 (4.0%)	55 (6.7%)	0.031
Stella Artois lager	67 (11.6%)	66 (8.0%)	0.023
Miller lager	27 (4.7%)	64 (7.7%)	0.022
Budweiser lager	35 (6.1%)	42 (5.1%)	0.429
Carling lager	39 (6.7%)	18 (2.2%)	0.000
Total alcohol-related detritus	579 (41.2%)	827 (58.8%)	

Note * Buckfast difference by Fisher's Exact Test $p = 0.047$

Form Table 7, there would appear to be some evidence of less detritus in Neighbourhood D being generated by the products most strongly associated in this research with the local convenience stores (despite their being more licensed shops within the Neighbourhood). The picture for other commonly photographed brands (premium lagers) is less clear. Stella Artois and Carling detritus was significantly more likely to be found in Neighbourhood D (by chi-square). In

contrast Miller, which unlike the other three lager brands, a majority of items of detritus was identified in canned form (see Appendix 5), was significantly less likely to be found in this Neighbourhood. In some respects this not what might have been expected to have been found in this the most deprived part of the Study Area. By definition one might expect bottles of premium lagers (i.e. more expensive 'aspirational' beverages) to be more commonly found in the more affluent Neighbourhoods, as opposed to say canned lager or economy vodka brands (e.g. see ASA, 2005; Casswell, 2004). One explanation for this anomaly may be that local proximity to the superstores, and their deep price discounts, has made bottled premium lagers more accessible to this less advantaged community, while other communities, more affluent but more distant from the superstores, are proportionally more likely to encounter alcohol-related detritus originating from smaller outlets. This together with the other findings of this report highlight the need for future research investigating alcohol-related incivilities in the community to account for the potential the role that the major supermarkets may play in fostering in these, regardless of whether or not there are any superstores in the locality.

Conclusions

Discussion

In the UK to date there has been a paucity of research examining the relationship between off-sales premises and alcohol-related problems in the community, with current policy being reliant mainly on anecdotal evidence ('Daniels Report', 2004; Scottish Federation of Grocers, 2005). The current research has piloted three complimentary approaches to investigate this gap in our knowledge, specifically field observation, (staff) interview and a survey of the physical environment using visual methodology (photography). In doing so the research focused on off-trade alcohol outlets operating within residential areas (in contrast to much recent alcohol-related disorder research which has been somewhat restricted to city centre on-trade premises operating in the Night-time Economy).

Although at first glance the findings of this research would appear to implicate local convenience stores as being the source of much alcohol-related incivilities within residential neighbourhoods, it should first be considered that these premises do not exist in a vacuum, and that the problems reported here are part of a wider alcohol marketplace including the on-trade and the major supermarket chains. Indeed in many ways these majors' superstores may be seen as the drivers for change across the drinks market, something which has implications for both the on-trade and more traditional small off-sales premises (see also Human Factors Analysts Limited, 2007; Withrington, 2007)

From the point-of-view of the small local convenience store, the major supermarkets represent a clear threat to business. As the major superstores take an increasing share of the basic groceries market (i.e. they are increasingly the venue for the weekly shopping) licensed products appear to be making up an increasing proportion of local convenience stores sales (see also, Scottish Federation of Grocers, 2005; Human Factors Analysts Limited, 2007). Further to this, it has been suggested that the way in which alcohol is purchased at these two types of off-trade outlets differs, in that superstore purchases are more likely to involve impulse buying during the weekly shopping trip (perhaps at the expense of other items on limited family budgets), while purchases at smaller off-sales are more likely to be a result of prior intention to buy alcohol products (Human Factors Analysts Limited, 2007, p35). We would suggest that this scenario favours, on the one hand, relatively more sales of priced-ramped multi-packs (e.g. of premium lager bottles) from superstores and, on the other hand, more one off purchases of specific products (e.g. tonic wine for immediate consumption) from local licensed convenience stores.

Superstores were also seen by interviewees in this research as being able to offer the largest discounts on alcohol prices (e.g. one interviewee stated that local shopkeepers themselves bought stock from the supermarkets as these were cheaper than the cash and carry). At the same time these superstores were able to impose more rigorous age-ID checks, while local stores risked offending regular customers (local families) sensibilities if they followed suit (see also Human Factors Analysts Limited, 2007). Also, only the superstores have

dedicated security staff to help enforce refusals of service and remove / deter other nuisance customers, perhaps pushing these problems towards smaller outlets. Additionally, neither of the two superstores located in the town in which this research was conducted stocked Buckfast tonic wine, another factor which may have added to the net effect of pushing nuisance customers (e.g. drunkards or under-18s), alcohol-related anti-social behaviour (e.g. 'shoulder tapping' loiterers or street drinkers) and crime (e.g. vandalism or robbery) away from these superstores in the direction of the local licensed convenience stores and thus into residential communities.

Although small in scale, this research would appear to suggest that staff in local off licenses face considerable problems with violence and other crime, in comparison to similar unlicensed shops, and perhaps also those working in superstores (see also Human Factors Analysts Limited, 2007). This elevated risk has previously been identified among on-trade servers (e.g. of workplace homicide, Hewitt et al, 2002). Although it might be easy for some stakeholders to accuse certain local licensed shops of being the source of anti-social behaviour in communities ('Daniels Report, 2004), it is undoubtedly the case that these shops (and their staff) are themselves likely to be victims of crime and the anti-social behaviours of a proportion of their customers, including alcohol-related incivilities (e.g. detritus), which may in turn deter other, more law-abiding, customers (see also Association of Convenience Stores et al, 2004, p7)

Perhaps owing to their low staffing numbers and their isolated locations some of shops in this study (or their individual employees) had taken a variety of steps to reduce such problems (e.g. security measures or refusal of service policies). In particular all the shop servers interviewed on licensed premises were at pains to stress the steps they had taken to combat under-age alcohol purchase. However, perhaps reflecting current media, political or cultural norms, less mention was made of steps to prevent sales to customers who were already intoxicated. This chimes with previous research reporting that off-sales outlets are more likely to sell to intoxicated persons than to minors (Freisthler et al, 2003). Nevertheless, this does not mean that under-18s do not obtain alcohol originating from these shops. In fact more restrictive ID policies targeting young people, especially those

operated by the on-trade, may actually encourage more harmful patterns of outdoor off-trade consumption (see also Galloway et al, 2007; Human Factors Analysts Limited, 2007; Kennedy, 2007).

This research supports the view that sales via third parties (agents) is the main conduit whereby under-agers get hold of off-trade alcohol, rather than it being the case that off-sales are more likely to (routinely) serve under-18s directly (Anderson & Sawyer, 1999; Human Factors Analysts Limited, 2007; Scottish Federation of Grocers, 2005). As such it is suggested that legislation targeting individual shops or servers, such as test-purchasing (e.g. see MacGregor, 2007), may be of little benefit, as underage consumers will simply get older friends or family, even 'strangers', to buy alcohol for them to consume well away from the store, and perhaps even as was indicated in this research, encouraging them to purchase products not commonly associated with young people (e.g. 'hard' spirits), or in more hidden locations. The same is also likely to be true of strictly enforced ID polices, such the use of any future national identity card in this way, as was reportedly recently put forward by Buckfast's Scottish manager:

“By introducing an ID card we can make the issue of under age drinking black and white” (Jim Wilson, quoted in Mann, 2007).

On the plus side, although they did not have the material resources that the large superstores had (e.g. security staff), off-sales operating in the community were empowered by their local informal connections and knowledge of who is what age and who also might be likely to buy for someone under-18, with other regular customers being able to function as “an extra pair of eyes” in this regard. Potentially troublesome customers were felt to be less likely to misbehave within the shop if they knew the retailer personally and risked being excluded from the only alcohol outlet in the area where they resided. Nevertheless, ultimately most problems caused by the sale of alcohol off-trade are likely to remain out of sight from the retailer.

The above issue also highlights a limitation to this research, in that it is difficult to relate alcohol-related incivility to specific outlets or even retail sectors, such as local shops, superstores or the on-trade. (A similar situation exists when trying to

relate city centre alcohol-related disorder to specific premises, e.g. pubs or nightclubs, see Forsyth et al 2005). In their report, *The relationship between off-sales and problem drinking in Scotland*, Human Factors Analysts Limited (2007, p3) state that “it is difficult to ascertain the time between purchase and consumption for most off-sales purchases... it is difficult to monitor whether alcohol is consumed immediately or stockpiled”. However the prevalence of fridges and other chillers stocked with certain drinks (e.g. Buckfast tonic wine) would imply that some immediate consumption, perhaps outdoors, does take place, arguably with the retailer’s collusion (see also Galloway et al, 2006).

In mapping the location of alcohol-related detritus against off-sales provision, this research supports the view that outdoor drinking tends to take place away from the point of alcohol purchase (Human Factors Analysts Limited, 2007). From the relative proportions of some of the brands photographed in the *Survey of Alcohol-related Detritus*, this research also implies that different products’ consumers may choose different outdoor locations for consumption. Research into this topic has found that purposive outdoor drinkers, particularly younger drinkers, tend to frequent parks, woodlands, canal / river banks, city centre civic squares, transport nodes, industrial areas, graveyards and other locations that are either hidden or anonymous, rather than choosing to do so in their own residential neighbourhood (Brain & Parker, 1997; Forsyth & Barnard, 2000; Galloway et al, 2006).

In these previous research studies, popular products for outdoor consumption included white ciders (e.g. Pulse or Frosty Jack), perry (e.g. Lambrini), alcoholic NRG drinks (e.g. Red Square) and Fruit Flavoured Alcoholic Beverages (e.g. MD 20/20). In the present research it was striking that these products / brands were, as expected, very prominently displayed in the off-sales observed, but they were not prominent among the alcohol-related detritus surveyed (in comparison to say Buckfast tonic wine, Glen’s Vodka and various premium lagers). As the *Survey of Alcohol-related Detritus* was limited to residential environments, this implies that those who drink and deposit alcohol-related products within residential communities are a distinct population (e.g. older), less concerned about being seen drinking in public and perhaps also more mobile (i.e. going somewhere).

Another feature of outdoor drinking, usually (though not exclusively involving over-18s) is consuming alcohol purchased at off-sales outlets for the purpose of becoming intoxicated prior to entering on-trade licensed premises (e.g. see Engineer et al, 2003; McKinney & Coyle, 2005; Moriarty & Gilmore, 2006), especially nightclubs, a practice known as 'front-loading' (also known as 'pre-loading') (e.g. see, Forsyth 2006, Galloway et al, 2007; Human Factors Analysts Limited, 2007). It was interesting that many of those drinks identified in abundance during the *Survey of Alcohol-related Detritus* tended to be those commonly consumed on-trade, particularly inside nightclubs or the club-like 'super-pubs' frequented by young adults (see Forsyth et al, 2005; Forsyth 2006), specifically premium lagers, alcopops and vodka. This may imply that some of those who drink alcohol outdoors in residential areas are 'front-loading' (a possibility which requires further investigation).

One alcoholic beverage which has been identified by previous research with both outdoor drinkers and 'front-loaders' is Buckfast tonic wine (e.g. Forsyth, 2006; Galloway et al, 2007). In the present study, perhaps the most striking of all this research's findings was that this one brand was the most evident in all three stages of the project, despite the three different methods these employed. It was the most prominently displayed brand in the off-sales stores observed, their best selling brand (of any type of product, not just alcohol) according to interviewed shop servers, and represented (by far) the dominant brand found among the items photographed in the *Survey of Alcohol-related Detritus*, especially where broken glass was concerned. Given its high incidence among the alcohol detritus surveyed, it would appear that Buckfast tonic wine is particularly likely to be consumed in an anti-social fashion. It was also noteworthy that every instance of drug-related litter, found in the survey of detritus, was photographed lying beside Buckfast bottles or their remains.

Buckfast accounts for only around half of one per cent of all alcohol sales in Scotland (according to Jim Wilson, for distributors J Chandler & Company, quoted in MacMillan, 2005, and also in Mann, 2007, figure also attributed to Tony Joyce Managing Director of Chandler & Co., quoted in Wilson, 1999), which begs the question why it should account for over one third of the alcohol-related detritus

(and most of the broken glass) found in this research. This product is not cheap (around £5.00 per bottle), which contradicts the view that price / promotion is the driver for off-sales purchase (Human Factors Analysts Limited, 2007). The beverage is also little advertised (something the distributors are quick to point out, e.g. Jim Wilson quoted in Mann, 2007) however its prevalence on the street has undoubtedly made it a familiar visual stimuli to very young children.

The Buckfast brand also maintains a high news media profile in Scotland, one which has proven to be controversial. For example during the time period over which this research was conducted, the tendency towards very conspicuous public consumption by this product's drinkers was highlighted by the news media's reporting of the so-called 'Buckfast Challenge', on the YouTube website (<http://www.youtube.com/>), where youths broadcast themselves on the internet attempting to consume a whole bottle of this tonic wine in one go (e.g. Ferguson, 2007; Mann, 2007; *Metro*, 2007). Other news media stories, at this time, focusing directly on this brand and its high profile in Scottish counterculture included those concerning unofficial branded Buckfast t-shirts (Findlay, 2007), Buckfast flavoured black-pudding (McLeod, 2007), Buckfast flavoured sorbet (Smith, 2007) and a restaurant serving a Buckfast (and Irn-Bru, see also Plate 12) flavoured desert (Murray, 2007). One recent story even made the association between this tonic wine and illegal drugs (i.e. cannabis, see also Plates 13 & 14), by highlighting a dedicated off-sales chain which was selling Buckfast 'gift-packs' (see Figure 3 below) in which a bottle of this beverage was packaged along with a packet of cigarettes and a pack of cigarette papers (Silvester, 2007).

Figure 3: Buckfast 'Gift-pack' in dedicated Off-sales Shop



Over the past few years in Scotland a great many more serious news stories have also focused upon Buckfast tonic wine in relation to 'binge drinking' (e.g. Heald, 2006), anti-social behaviour (e.g. Warren, 1994), street drinking (e.g. *Evening Times*, 1993) and under-age consumption (e.g. Alexander, 2004). The Scottish media has also regularly associated the Buckfast brand with crime including violence (e.g. *Daily Record*, 2000; McLeod, 2004; *Evening Times*, 2006), addiction-related theft (e.g. *Daily Record*, 2001; *Falkirk Herald*, 2001a), off-sales raids (e.g. *Daily Record*, 2007), armed robbery (e.g. *Falkirk Herald*, 2001b), road-traffic fatalities involving either drivers (e.g. *Evening Times*, 2003), passengers (Scotsman, 2007) or pedestrians (e.g. Watson, 2007), and in the extreme homicides, including cases where the intoxicating influence this brand of tonic wine was blamed for the killing (e.g. Barclay, 1997; Britten, 1996; *Daily Record*, 1996; Daniels, 1995; *The Herald*, 1998; Laing & McIlwraith, 1997), where there was a fatal dispute over a Buckfast bottle's ownership (e.g. McWhinnie, 2007) or where a Buckfast bottle was used as the deadly weapon (e.g. *Daily Record*,

2003). Buckfast bottles have also been reported in the Scottish press as being used as weapons in non-fatal 'glassings' (e.g. Herbert, 2004), including cases where shop servers were the victims of such assaults (*Falkirk Herald*, 2005; *Hamilton Advertiser*, 2006).

The controversy generated by this coverage, about the alleged effects of drinking this tonic wine (which is 15% ABV, caffeinated and containing three phosphates), has led to calls for it to be banned (e.g. Drury, 1992; McMillan, 2005). This has in turn led to counterclaims by the drink's manufacturers and consumers that theirs is no different from any other alcohol product and that anti-social users will simply switch to another alcoholic drink, without changing their behaviour (e.g. *Evening Times*, 2005; Murray, 2004). Nevertheless, there have also been some reports of local actions being taken against the product, such as steps by shopkeepers to limit its availability (e.g. *Falkirk Herald*, 1995; McDonald, 2003; *Evening News*, 2007, Musson, 2007), including customer rationing policies similar to that employed by Shop #14 in this research (e.g. Ferguson, 2005; Coventry, 2006).

On the evidence of this research, there would appear to be some justification for special concerns being raised about this brand / product. Specifically, we believe that given the sheer extent of hazardous alcohol-related detritus which it generates, there is a case for an intervention tackling the way in which it is packaged. It was striking from this research that not only were this product's bottles the majority of all the discarded glassware photographed, but also that these were more likely to be found in a smashed condition than those of other alcohol brands. This may have been because of Buckfast's screw-cap construction, which seemed to produce the most hazardous of all detritus photographed (i.e. comprising 96 of the 135 photographs, 71.1%, where broken glass was brand-identified by still being attached to a cap e.g. see Plate 4, notably most of the rest of this category comprised 22 Glen's vodka bottle's remains, 16.3%). This risk could be eliminated by an alternative bottle top (e.g. a cork). The disproportionate amount of broken glass resulting from the remains of Buckfast bottles may (also) have been due to a greater propensity towards intentional smashing by its consumers. For example, the bottle pictured in Plate 20 had a rock from a wall lying over its remains. (Many unidentified bottles

resembling Buckfast appeared to have been systematically dismembered, e.g. by having their labels peeled off, see also Plates 2 and 3). This possibility requires further investigation.

Plate 20: An Apparently Intentionally Smashed Buckfast Bottle



Intentional smashing of alcohol products' bottles by outdoor drinkers has also been identified as a public safety concern in recent research carried out by Human Factors Analysts Limited (2007). As such there would appear to be a strong case for manufacturing some drinks in plastic containers (i.e. those commonly found amongst alcohol-related detritus in public space). There have already been calls for this to be done with Buckfast tonic wine because of the type of problems explored in this research (e.g. BBC News, 2006a; Gough 1994). There have even been calls for this to be done specifically in relation to Buckfast bottles because of their alleged common usage of as weapons in street assaults (e.g. Robertson, 2003). This latter concern was also identified by previous research involving one of this report's authors (AF), which explored patterns of outdoor drinking among young adults (Galloway et al, 2007), as is illustrated by the following exchange which took place during a focus group conducted in a

public park in a smaller town about 20 kilometres from where the present project was undertaken.

Interviewer: “*See if they sold it (Buckfast) in plastic bottles would you like that better?*”

Participant 6: “*Aye it would be..it would be better but it wouldnae be for bottling cunts...[mimes hitting fieldworker (AF) over head with (Buckfast) bottle]*” (Galloway et al, 2007, pp 89 – 90)

To date the manufacturers of Buckfast have been resistant to selling their product in plastic bottles for the Scottish market, claiming that for over a decade they had struggled to find a form a of plastic which would retain the drink’s “unique qualities” (Macaskill & Nutt, 2006). Meantime other wine has been produced in plastic bottles. One major supermarket chain (which did not have a superstore located in the town in which this research was conducted) has recently begun selling its own label table wine in plastic bottles, in an attempt to foster a ‘greener image’ (e.g. Benjamin, 2007; Ellis, 2007). There are many pros and cons of a switch from glassware to plastics (and between plastics), including environmental advantages, however the public safety rewards of extending such a move to other alcoholic beverages also needs consideration (e.g. see Wine Anorak http://www.wineanorak.com/wine_in_pet_bottles.htm for discussion, accessed 2007).

There is no doubt that discarded glass bottles in residential communities represent a health and safety concern. Returning to the view expressed by *Crime Stoppers*, that “drug dealers don’t care” where their empties as discarded (i.e. needles and syringes, see Figure 1), this may or may not be true of illegal drug dealers (we suspect that illegal drug dealers do in fact care, as among other cares, they will be wary of this attracting police attention to their activities), however can this allegation (also) be levelled alcohol dealers? This research uncovered scant evidence, if any, that illegal drug litter is an everyday danger to children within residential areas. What little evidence there was, included no needles and syringes, or other risky ‘sharps’, apart from the Buckfast bottles which the drug litter photographed was always found in association with.

In this research we found a large amount of hazardous alcohol-related detritus (i.e. broken glass and other sharp edges), often lying in semi-hidden in locations where children were playing nearby (e.g. see Plate 9). In contrast to the widespread publicity (and research attention) received by drug-related litter (e.g. BBC News, 2002; DEFRA, 2005b; O'Somachain, 2004; Gunn, 1999; Hauck, 2004; Nyiri et al, 2004; Philipp, 1993; Wyatt et al, 1994), the threat posed by alcohol-related detritus only receives scant media attention, for example in local newspapers when a child is injured (e.g. Barber, 2007) or when this issue is coupled with other concerns such as under-age, anti-social or Buckfast consumption (e.g. *Evening Times*, 2007). On the evidence of this research, and given that the greatest risk from alcohol-related detritus may be faced by non-drinkers (i.e. children) this is a hazard which clearly deserves to receive more publicity than that of drug-related litter. To take a well known if extreme example, the high profile killing Damilola Taylor was as result of broken beer bottle (i.e. not a discarded needle and syringe), which the prosecution alleged was fetched by his attackers from where it had been discarded in order to stab him with (by fatally twisting this alcohol-related detritus into his leg), while the defence claimed that he simply fell on this discarded glassware (e.g. BBC News 2006b; *Evening News*, 2002).

Where the issue of drug use was found in this research was when the matter was raised by shop servers (though curiously their experiences of drug users / addicts were not always negative). Of particular interest however was an observed incident where a shop server refused service to a customer who attempted to purchase the ingredients for the manufacture of crack cocaine from his store. Although he was not formally interviewed, on another occasion that the shopkeeper concerned spoke to the research team, he explained that he could not participate further as an attempt had just been made by local residents to burn down his shop. In considering these two incidents the question has to be asked of how high up the list of daily priorities the finer points of alcohol licensing procedures may be in the minds shopkeepers in such a position (i.e. how prominently their proof of age signage is displayed as opposed to more immediate concerns about the presence of local arsonists and crack dealers).

The licensed convenience store where the above incidents occurred, Shop #9, was located in the most deprived part of the study area. It was noteworthy that this research found a clear relationship between the extent of alcohol-related incivility (e.g. detritus, especially that of the more hazardous kind, i.e. glass) and local area deprivation, especially given that (other than a small area around Shop #9) the Study Area was not particularly deprived, with Data Zone deprivation clustering around the national average according to the Scottish Index of Multiple Deprivation 2006. We suspect that the geography of alcohol-related detritus is little different to that of other incivilities, in that had we say mapped the locations of discarded tobacco products or fast food detritus the same patterning both within and between Neighbourhoods would have been found.

This research found that in some Neighbourhoods there were concentrations of alcohol-related detritus where there were no licensed outlets nearby (e.g. see Map 3), while in others there were no concentrations of alcohol-related detritus despite the presence of a licensed shop (e.g. Map 8). This echoes the findings of Block & Block (1995) who in their classic Chicago study “Space, Place and Crime: Hot spot areas and hot places of liquor-related crime” found that mapping of police incidents produced concentrations of crime (hot spots) which were overlain by (concentrations of) taverns or liquors stores, but also ‘hot spots’ which were not near to any alcohol outlet and concentrations of outlets which were crime-free.

The link between area deprivation and alcohol-related problems has been demonstrated previously by Pollack et al (2005), whose research found that more deprived areas contained more alcohol outlets, despite consumption being higher in less deprived areas. Research by Gruenewald and Remer (2006) found that an increase in outlets was associated with more anti-social behaviours, but particularly so in deprived areas. This latter finding chimes with those of the current project, in that we found that there only appeared to be any evidence of a spatial relationship between off-sales and alcohol-related detritus in the more deprived half of the Study Area.

As such it can be concluded that the environmental impact of an off-sales outlet would appear to be more a function of local area deprivation than of the marketing

practices of shopkeepers or irresponsible sales by shop servers. In contrast to the views of some stakeholders, these individuals are themselves in the front-line of dealing with alcohol-related incivility and on the evidence of this research, many of those working in local convenience stores are personally taking steps to minimise these harms to the communities which they serve.

Limitations and Future Research

This exploratory research project (small grant) was limited in that it took place only within social housing areas in a very average Scottish town (in socio-economic terms). Despite the high degree of socio-economic homogeneity within the Study Area, it was nevertheless noteworthy that a distinct alcohol-related problems-to-deprivation gradient was apparent. This raises further questions about the precise nature of the relationship between alcohol-related incivilities and the geography of socio-economic disadvantage. For example, how great would this gradient be between the most deprived and affluent areas of the country? Also, would this gradient be linear? In the latter respect it was interesting that the one geographical pocket of absolute deprivation covered by the alcohol-related detritus survey did not seem to contain a particularly large amount of such items. On the other hand, the off-sales premise located in this sub-area appeared to be experiencing much more severe incivilities (both physical and social) than any of the 12 others in the Study Area. Future research of this nature should examine the situation in other (larger) more deprived areas, as well as affluent areas (of which there were none within the Study Area of this project).

Similarly, as this research only took place within one mid-sized town, future research of this nature should be conducted across the urban-rural spectrum. This research was also limited to eight social housing schemes (estates) within this town. Future research of this type could (also) examine off-trade outlets located outside residential areas (e.g. town centres or retail parks). As well as measuring the extent and nature of alcohol-related detritus in these urban environments (e.g. town centres), future research of this type should also assess the extent and nature of this incivility at locations nearby, but not actually within, residential areas, for example in parks, school playgrounds, woodland, canal or

river banks, transport nodes, graveyards and city centres (i.e. including areas known to be frequented by outdoor drinkers). During fieldwork it was noticeable that there were (often large) accumulations of alcohol-related detritus in the land between the eight Neighbourhoods surveyed. This is illustrated by Plate 21, which shows a small section of an outspread accumulation of alcohol-related detritus not included in the survey because it lay just outside the Study Area (residential land), with the wall to the right of the photograph representing the boundary of the housing area which made up Neighbourhood D.

Plate 21: Alcohol-related Detritus Lying Outside Residential Area



Only local community convenience stores were included in this research. There were no dedicated off-sales in the town studied and the roles of these latter premises and their staff remains to be investigated. In the town studied there were two large supermarket superstores. These premises did appear to impact upon alcohol-related problems within the Study Area (despite being located

outside it), though to an unverifiable extent, and the reasons behind this also warrant further investigation

It was not possible to relate any items of alcohol-related detritus to specific outlets, including those which bore supermarket own brand names. With the exception of the supermarket own brands, it was not even possible to do this between licensed trade sectors, although the tonic wine detritus observed was unlikely to have come from the superstores located within the town in which this research took place. Future research might address this issue by utilising some form of tagging procedure of alcohol products. This has already been done in attempts to determine the source of under-age / outdoor drinkers' alcohol, by either marking drinks containers with invisible ink (e.g. Ferguson, 2006) or monitoring the movements of colour-coded carry-out bags (Brown, 2004).

The life-span of the alcohol-related detritus photographed during this research was unknown. Some items may have been deposited that day (e.g. see Plate 8), while others may have been lying for months. It may also be the case that some items are more prone to being cleared up (e.g. bottles as opposed to caps) or that others take longer to deteriorate into an condition which makes them non-brand identifiable (i.e. cans may remain intact longer than glass, see Plate 1). As well as affecting the proportion of brands photographed, and entered into the data set for this project, this factor also impacts upon the degree of risk that different items of detritus represent over time. For example, during the survey of Neighbourhood A the digital camera ran out of memory, late afternoon, while the researcher (AF) was attempting to photograph an intact bottle of Big Beastie alcoholic NRG drink. The following morning the survey began again from the point where this had occurred, only to find that this bottle had moved from the bushes on one side of a paved footpath to those on the other, and that it was now in a smashed condition. (In this one instance only does the item concerned differ in the data coding from how it appears on the photograph taken).

How different alcohol products' bottles smash and disintegrate is another potential avenue for future research. There is clearly a need to manufacture these products in as safe a way as possible, however in this research some brands appeared to

be more prone to producing more hazardous detritus than others, for example the current screw-cap and neck design of Buckfast tonic wine bottles. The possibility that some alcohol products' containers are riskier than others also needs further inquiry, such as research involving the victims of outdoor, or off-sales, alcohol-related broken glass injury, both accidental and intentional. Future research may investigate the nature and extent of alcohol-related detritus injury, by for example constructing a product design to broken glass injury / harm scale, in order to help inform manufacturers and retailers wishing to move towards safer more socially responsible alcohol marketing practices.

Another aspect of the resilience of alcohol-related detritus which needs further investigation was whether the brands which were common amongst this litter were in effect receiving a form of free advertising. To what extent these visual cues impact on potential consumers, such as the young children who were aware of the ubiquitous Buckfast bottles in the Study Area of this research, remains unknown (see Plate 10). As with the negative media coverage given over to this brand (e.g. Mann, 2007), this phenomenon may encourage some types of consumer, but deter others from choosing these products, perhaps further enhancing their reputations as 'suspect' ('Daniels Report', 2004) or 'street drinks' (see Galloway, 2007). It was also interesting that Buckfast made up such a high proportion of all the brands identified, throughout this research, and why this should be so warrants further investigation in itself.

Finally a number of methodological limitations need to be considered. The shop observation schedule was limited by the length of time in which observers could spend within these premises without arousing suspicion or otherwise interfering with business. There are no such limitations to on-trade participant observational study, e.g. see Graham, 2000; Forsyth et al, 2005; Forsyth, 2006). On the other hand, researchers were able to observe outside the shop for some time without such concerns. This method could be developed in two ways. Firstly 'in-store' observations, researching the shops themselves, might be more robust when looking at a single issue. For example to assess compliance with licensing legislation re proof of age signage and the locations where alcohol products are shelved or to monitor any initiatives aimed at reducing 'irresponsible marketing'

(e.g. see Currie, 2007; MacDonell, 2006; Perrett, 2007). Secondly 'store-front' observations, outside the premises, could be made of customers. For example, to assess the extent of under-age purchase (e.g. by 'shoulder tapping' adult agents), to investigate purchases made by intoxicated customers, or to examine where their alcohol is taken (i.e. outdoor consumption) and to further observe the social incivilities and other problems faced by shop servers.

The *Interviews with Shop Servers* were limited by their small number ($n = 8$, i.e. around half the 17 stores in the Study Area) and the time constraints of interviewing people while they are working. Nevertheless there was a striking level of consistency across interviews and many interesting themes relevant for further research were raised. It is felt that a larger scale project such as a quantitative survey would be a good avenue down which to continue this line of investigation. This might address such questions as, just how prevalent are attacks on licensed shops staff, as opposed to equivalent staff working in similar unlicensed shops and how effective future staff training initiatives / legislation might be (e.g. in accordance with section 147(1) of and paragraph 6 of schedule 3 of the *Licensing (Scotland) Act 2005* which currently only excludes those simply serving alcohol in off-sales premises)?

The *Survey of Alcohol-related Detritus* undertaken in this project was to our minds unique and groundbreaking in pioneering this visual methodology (photography) in the assessment of alcohol-related problems. However, as might be expected some difficulties were encountered during this procedure. The research took place in the Scottish summer, during a period of extreme wet weather across the UK (one flash flood affected the town in which this research took place so badly that the research team's transport, both road and rail, was severely disrupted). Not only was this severe wet weather likely to have reduced the number of outdoor drinkers dropping alcohol-related detritus, but it may also have effectively 'cleaned' the streets by washing away detritus (it may be possible that this flood created the piles of litter stacked up against the houses in the deprived pocket of Neighbourhood D, see Plate 18). Three of the four weeks of the detritus survey were conducted during the school holidays and so this and other time of year effects must also be considered (e.g. there were no major sporting events at this

time, events which are known to increase alcohol sales, see Human Factors Analysts Limited, 2007). Additionally the findings may have been affected by the days of the week (Monday through Friday) during which the survey took place, in relation say to when most drinking and / or most street cleaning took place.

Despite these limitations the *Survey of Alcohol-related Detritus* was more successful than anticipated in producing evidence of alcohol-related incivility in residential neighbourhoods. The use of digital cameras in future research of this nature is to be recommended. Overall the main limitation of this project was its modest scale and the pilot nature of the research methods. However, owing to the success of this project, it is clear that future, more ambitious projects, following the model set by this research, could and should be conducted to investigate these and other forms of alcohol-related incivilities (e.g. social incivilities) within residential neighbourhoods and beyond.

Key Implications and Recommendations

- The methods employed in this exploratory study of off licensed premises - shop observation, staff / shop-server interviews and a visual (photography) environmental study - were all successful and could be transferred to other projects of this nature, including studies investigating non-licensed trade premises or other forms of physical incivility (e.g. graffiti).
- The issues uncovered by this research were wide-reaching and were impacted upon by all sectors of the drinks industry / retail trade (e.g. including the on-trade and the major supermarkets). As such it would be unfair to demonise local shops or servers for alcohol-related problems within residential communities. Rather than targeting individual off-sales or shop servers (e.g. with schemes such as test-purchasing) approaches aimed at tackling the wider culture of (public) drinking need to be addressed. Having said that, for their part, off-sales operators need to acknowledge that their role in this should extend beyond issues relating to under-age sales.

- At present there would appear to be too much pressure placed upon shop servers about the issue of under-18s, purchasing alcoholic drinks directly from off-sales, in comparison to other alcohol-related issues (e.g. sale to intoxicated or anti-social customers). This is particularly unfortunate because as one interviewee in this research (who was making strenuous efforts to prevent under-agers from obtaining alcohol from Shop #14) put it - “they will always find a way around it”. Indeed, far from being a “black and white issue”, proof-of-age crackdowns, such as test-purchasing or national ID cards, may only lead to more practices such as the ‘shoulder-tapping’ of adults to act as agents for under-age purchase, which in turn may actually put the young people concerned at a greater level of risk from alcohol-related and other harm.
- Local shopkeepers would appear to be more knowledgeable of the extent and nature of alcohol-related problems in their communities than say the major supermarkets operators. Empowered by this network of informal connections, local shops have the potential to engage in community action (as was the case with Shop #17 in this research) aimed at minimising the harm which off-trade alcohol causes. Local shopkeepers would appear to have the potential to play a prominent role in the future (Scottish) local licensing forums.
- Local shop servers may also be better at assessing any individual alcohol-related problems specific to their own community’s drinking subcultures and be able to respond to these more effectively, than say might be the case from any national initiatives / policy measures, which may not be sufficiently comprehensive or appropriate to all communities across the country. This may include specific interventions to, for example, protect staff, remove undesirable customers or monitor sales of problematic products (such as was evident at Shops #14 and #15 in this research).
- Policies aimed at ‘the polluter pays’ for alcohol-related harm looked doomed to fail when applied to off-sales. Amongst the alcohol-related

debris found lying in the residential communities surveyed in this research were items which could not have come from any of the local shops observed (e.g. supermarket own brand alcohol). Some, perhaps most, outdoor drinkers would appear to consume alcohol products well away from their point-of-purchase, or points-of-purchases, and as such any resultant problems (i.e. physical or social incivilities, such as broken glass or disorder) are unlikely to be traceable to a single alcohol outlet (or even sector of the licensed trade). In this research, there was even a cluster of alcohol-related debris found outside (Shop #11) an unlicensed store.

- Alcohol-related broken glass is clearly a neglected environmental health concern, in comparison to say drug-related litter. Measures to combat this might include alcohol products demonstrated to be prevalent amongst hazardous street debris being manufactured in plastic containers. On the basis of the findings of this research Buckfast tonic wine would seem to be a prime candidate for such a socially responsible action.
- An alcohol-related litter awareness campaign, such as those already undertaken for drug-related litter, may be of benefit (though this may not be as politically correct or financially expedient to potential advertisers as anti-illegal drug measures).
- The sheer scale of brand identifiable alcohol-related debris in residential neighbourhoods would seem to represent a form of free, viral, advertising, and one which is particularly easily noticed by children.
- Care needs to be taken in town planning, architecture and design to reduce features which might encourage alcohol-related incivilities within residential communities, such as the removal of bushes from housing areas or the elimination of partially hidden 'shelters' near off-sales premises.
- Many of the problems highlighted in this research (e.g. broken glass) would appear to place the burden of responsibility with certain drinks'

manufacturers and not individual shop servers. However, the servers interviewed seemed concerned that they may be held personally responsible for these (perhaps explaining why other shops in the Study Area appeared suspicious of the research's motives and refused our invitation to be interviewed). Any 'name and shame' policies would seem better targeted at higher levels of the industry than at individual licensees.

- The problems faced by off-sales shop servers appear to get little public attention, in comparison to say alcohol servers working in the on-trade (perhaps because they are less visible, with the public spending less time in visiting off-trade premises). From this research, it would appear that individuals who work in community off-sales premises are at an elevated risk of being victims of crime, in comparison to say their counterparts working in similar unlicensed convenience stores or in the major (licensed) supermarkets.
- Responsible service and disorder reduction training programmes may be beneficial to those merely serving alcohol in this sector (currently in Scotland this will be mandatory for licensees and those in the on-trade).
- Moves to impose restrictions on offers at off-sales premises (currently proposed in Scotland) need to be carefully considered, as these may have less impact upon the major supermarkets (where there is tendency towards permanent deep price discounting) than on local shops, which although they may be particularly sensitive to such measures, provide many other functions for the less advantaged in the community.
- Although the scale of alcohol-related physical incivility in residential neighbourhoods appears to be large it would be simplistic to relate this to the mere presence of a licensed convenience store locally. Deprivation would seem to be a better predictor of this problem than (over) provision.

Bibliography

References

Academy of Medical Sciences (2004) *Calling Time: The nation's drinking as a major health issue*. London: The Academy of Medical Sciences.

<http://www.acmedsci.ac.uk/images/project/CallingT.pdf>

Alexander, D. (2004) Boy of 6 binges on Buckfast. *Sunday Mail*, February 29th.

Anderson, S. & Sawyer, B. (1999) *An Evaluation of the Teenwise Alcohol Projects*. Crime and Justice Research Findings No. 34. Edinburgh: Scottish Executive.

<http://www.scotland.gov.uk/cru/resfinds/crf34-00.htm>

ASA (2005) *Young People and Alcohol Advertising: An investigation of alcohol advertising prior to Advertising Code changes*. A report by MORI on behalf of Ofcom and the Advertising Standards Authority.

http://www.asa.org.uk/NR/rdonlyres/CC8127C7-D1AE-4092-99B0-335FE2F2A221/0/alcohol_research_2005.pdf

Association of Convenience Stores, British Retail Consortium & the Wine and Spirits Association (2004) *Responsible Retailing of Alcohol: Guidance for the Off-trade*. On-line article.

http://www.thelocalshop.com/Documents/WSA-ACS-BRC%20Joint%20Guide%20to%20Responsible%20Retailing%20of%20Alcohol_FINAL.pdf

Babb, P. (2007) *Violent crime, disorder and criminal damage since the introduction of the Licensing Act of 2003*. Home Office Online Report 16/07.

<http://www.homeoffice.gov.uk/rds/pdfs07/rdsolr1607.pdf>

Barber, S. (2007) Toddler hurt after year of complaints. *Falkirk Herald*, July 26th.

Barclay, H. (1997) Teen Killers Spark New Buckie Storm. June, 18th.

BBC News (2002) Dumped needles pose health threat (on-line article). April 15th.

<http://news.bbc.co.uk/1/hi/health/1929068.stm>

BBC News (2006a) Plastic Buckfast bottles petition (on-line article). May 10th.

http://news.bbc.co.uk/1/hi/scotland/glasgow_and_west/4753439.stm

BBC News (2006b) Fall on glass killed Damilola (on-line article). March 7th.

<http://news.bbc.co.uk/1/hi/england/london/4783930.stm>

BBPA (2007) *Beer Duty Policy: A time for change*. British Beer & Pub Association, 2007 Budget Submission. On-line Article.

www.beerandpub.com/download.asp?id_Doc=2613

Benjamin, A (2007) Supermarket to sell wine in plastic bottles. *The Guardian*, July 26th.

Block, R. L. & Block C.R. (1995) Space, Place and Crime: Hot spot areas and hot places of liquor-related crime. In Eck, J. E. & Weisburd, D. (Eds.), *Crime and Place*, 145 - 184. Monsey, NY: Criminal Justice Press.

Boreham, R. & McManus, S. (2003) *Smoking Drinking & Drug Use among young people in England in 2002*. London: The Stationary Office.

Bottoms, A. E. & Wiles, P. (1997) Environmental criminology. In Maguire, M., Morgan, R. & Reiner, R. (Eds.) *The Oxford Handbook of Criminology*. Oxford: Clarendon Press.

Bradshaw, P. Underage drinking and the illegal purchase of alcohol. Edinburgh: Scottish Executive Social Research.

<http://www.scotland.gov.uk/Resource/Doc/47032/0025168.pdf>

Brain, K. & Parker, H. (1997) *Drinking with Design: Alcopops, designer drinks and youth culture*. London: The Portman Group.

Brantingham, P. J. & Brantingham, P. L. (1981) *Environmental Criminology*. Beverly Hills CA: Sage.

Britten, N. (1996) I'll Love Kids Orphaned by the Buckfast Beast: Sister vow as killer is jailed. *Daily Record*, May 23rd.

Brown, C. (2004) Bags plan targets under-age drinkers. *The Scotsman*, October, 30th.

Casswell, S. (2004) Alcohol Brands in Young Peoples' Everyday Lives: New developments in marketing. *Alcohol & Alcoholism*, 39: 6, 471 - 476.

Celebucki, C. C. & Diskin, K. (2002) A longitudinal study of externally visible cigarette advertising on retail storefronts in Massachusetts before and after the Master Settlement Agreement. *Tobacco Control*, 11 (Supplement 2): ii47 - ii53.

Christaller, W. (1966) [1933] *Central Places in Southern Germany*. (Trans. Baskin, C. W.). Englewood Cliffs NJ: Prentice-Hall.

Clark, L. (2007) Fake Vodka Warning. *Off Licence News*, July 7th.

<http://www.offlicencenews.co.uk/articles/47086/Fake-vodka-warning-issued.aspx>

Cohen, D., Spear, S., Scribner, R., Kissinger, P., Mason, K. & Wildgen, J. (2000). "Broken windows" and the risk of gonorrhoea. *American Journal of Public Health*, 90: 2, 230 - 236.

Coleman, A. (1985). *Utopia on Trial: Vision and reality in planned housing*. London: Hilary Shipman.

Corbett, J., Akhtar, P., Currie, D. & Currie, C. (2005). *The Scottish Schools Adolescent Lifestyle and Substance Use Survey (SALSUS) National Report: Smoking, drinking and drug use amongst 13 and 15 year olds in Scotland in 2004*. Norwich: The Stationary Office.

http://www.drugmisuse.isdscotland.org/publications/local/SALSUS_2004full.pdf

Coventry, L. (2006) Store owner limits Buckfast buyers to one bottle a day. *Evening Times*, March 17th.

Currie, B. (2007) Cut-price alcohol in shops to be outlawed. *Evening Times*, September 5th.

Daily Record (1996) Buckie killer goes on the run. October, 7th.

Daily Record (2000) Buckfast girl caged for 2 years. August, 2nd.

Daily Record (2001) Teen thief's Buckie ban. February, 2nd.

Daily Record (2003) Celtic fan 'died after Buckie bottle attack', June, 18th.

Daily Record (2007) Ned pair in Buckie raid, January, 26th.

Daniels, A. (1995) Buckfast in the dock as killers are jailed for life. *The Herald*, August, 17th,

'Daniels Report' (2004). *Off-sales in the Community*. Edinburgh: Scottish Executive.

<http://www.scotland.gov.uk/Publications/2004/02/18764/31731>

DEFRA (2005a) *Regional and Demographic Statistics on Food Purchases*. York: Department for Environment Food and Rural Affairs, National Statistics Publication.

<http://statistics.defra.gov.uk/esg/statnot/efsuk.pdf>

DEFRA (2005b) Tackling Drug related Litter: Guidance and good practice. London: Department for Environment Food and Rural Affairs.

<http://www.defra.gov.uk/environment/localenv/litter/pdf/drugrelatedlitter.pdf>

Dovey, K., Fitzgerald, J. & Choi, Y. (2001) Safety Becomes Danger: Dilemmas of drug-use in public space. *Health & Place*, 7: 4, 319 – 331.

Drury, P. (1992) Ban the Monks' Brew: Angry parents demand curbs on cheap wine. *Daily Record*, July 13th.

DTLR (2001) *Survey of English Housing: Preliminary Results*. Housing Statistics 7. London: Department of Transport, Local Government and the Regions.

Ellis, J. (2007) Sainsbury's pick Amcor's lightweight PET for wrapped-back wine bottle. *Packaging News*, July 26th.

Engineer, R., Phillips, A., Thompson, J. & Nicholls, J. (2003) *Drunk and Disorderly: A qualitative study of binge drinking among 18 to 24 years olds*. Home Office Research Study No. 262. London: Home Office.

Evening News (2002) Tragic Damilola's glass bottle agony. January 31st.

Evening News (2007) Store to ban Buckfast. November 1st.

Evening Times (1993) Wine Alley Plea: Stop the teeny 'Bucky' drinkers. May 21st.

Evening Times (2003) Fatal Crash Driver Drank Full Bottle of Buckfast: Teenager's best pal died after car hit farm gatepost. July 17th.

Evening Times (2005) Buckfast yobs give Jamieson a hard time. February 17th.

Evening Times (2006) Boy 13, stabbed after Buckfast: session. July 14th.

Evening Times (2007) Drinks den plan will curb litter. March 27th.

Falkirk Herald (1995) Buckfast ban at new off-sales store. October 12th.

Falkirk Herald (2001a) Stole sister's giro to buy Buckie, April 5th.

Falkirk Herald (2001b) Gun was pointed at milk boy after Buckfast binge, August 9th.

Falkirk Herald (2005) Shopkeeper Battered with Buckie Bottle: Teenager saw shopkeeper grappling with his pal and attacked him with a Buckfast bottle, January 13th.

Feighery, E. C., Ribisl, K. M., Schleicher, N., Lee, R. E. & Halvorson, S. (2001) Cigarette Advertising and Promotional Strategies in Retail Outlets: results of a statewide survey in California. *Tobacco Control*, 10: 2, 184 - 188.

Ferguson, B. (2006) Invisible ink to cut off booze supply to underage drinkers. *The Scotsman*, November, 20th.

Ferguson, J. (2005) Buckie Rations: Store introduces two-bottle limit. *Daily Record*, May 7th.

Ferguson, J. (2007) Warning: Latest YouTube craze of downing a whole bottle of Buckfast in one will seriously damage your health. *Daily Record*, August 27th.

Findlay, R. (2007) Tonic wine earns Barra boys a fast Buck. *Daily Record*. August 5th.

Finney, A. (2004). *Violence in the Night-time Economy: Key findings from the research*. Home Office Findings 214. London: Home Office.
<http://www.homeoffice.gov.uk/rds/pdfs04/r214.pdf>

Flowerdew, R., Graham, E. & Feng, Z. (2004) *The production of an updated set of data zones to incorporate 2001 census geography and data*. Report to the Scottish Executive by the School of Geography & Geosciences, University of St Andrews.

<http://www.scotland.gov.uk/Resource/Doc/47210/0027016.pdf>

Forsyth, A. J. M. (2006) *Assessing the relationships between late night drinks marketing and alcohol-related disorder in public space*. London: Alcohol Education Research Council.

<http://www.aerc.org.uk/documents/pdf/finalReports/045%20late%20night%20drinking.pdf>

Forsyth, A. J. M., Barnard, M. & McKeganey, N. P. (1997) Alcopop Supernova: Are alcoholic lemonades (alcopops) responsible for under-age drunkenness? *International Journal of Health Education*, 35: 2, 53 – 58.

Forsyth, A. J. M. & Barnard, M. (2000) Preferred Drinking Locations of Scottish Adolescents, *Health and Place*, 6: 2, 105 - 115.

Forsyth, A. J. M., Cloonan, M. & Barr, J. (2005) *Factors associated with alcohol-related problems within licensed premises*. Glasgow: Greater Glasgow NHS Board.

Freisther, B., Gruenewald, P. J., Treno, A. J. & Lee J. (2003) Evaluating alcohol access and the alcohol environment in neighbourhood areas. *Alcoholism: Clinical & Experimental Research*, 27: 3, 477 - 484.

Galloway, J., Forsyth, A. J. M. & Shewan, D. (2007) *Young People's Street Drinking Behaviour: Investigating the influence of marketing & subculture*. London: Alcohol Education Research Council.

http://www.aerc.org.uk/documents/pdf/finalReports/044Steet_Drinking.pdf

Godfrey, C. (2007) *Price, tax and alcohol problems*. Presentation given at 'Scotch on the Rocks: How do we solve Scotland's drinks problem?' conference held at the Roxburghe Hotel, Charlotte Square, Edinburgh Scotland, May 11th.

Gough, J. (1994) Bottle up Buckie in Plastic: Safety plea to combat litter peril. *Evening Times*, December 2nd.

Graham K (2000) *Safer Bars: Training manual for observers on the Safer Bars study*. Toronto: Centre for Addiction and Mental Health.

Graham, K., Jelly, J., Purcell, J. (2005) Training bar staff in preventing and managing aggression in licensed premises. *Journal of Substance Use*, 10: 1, 48 – 61.

Gruenewald, P. J. & Remer, L. (2006) Changes in outlet densities affect violence rates. *Alcoholism: Clinical and Experimental Research*, 30: 7, 1184 – 1193.

Gunn, A. (1999) Discarded Needles Risk Tiny. (Letter) *The Courier-Mail*, February 2nd.

Hamilton Advertiser (2006) Shopkeeper held up by thug with Buckfast bottle. November 23rd.

Harcourt, B. & Ludwig, J. (2005) Broken Windows: New Evidence from New York City and a Five-City Social Experiment. *University of Chicago Law Review*, 73: 721, 271 – 320.

<http://lawreview.uchicago.edu/issues/archive/v73/winter/14.Harcourt.pdf>

Hauck (2004) *Project Orinoco: Engaging the community with drug Litter campaigns*. Debrief presentation prepared for ENCAMS the charity which runs Keep Britain Tidy campaign. Teddington Middlesex: Hauck.

<http://www.defra.gov.uk/environment/localenv/litter/pdf/druglitter-community.pdf>

Heald, C. (2006) Binge drinking - the Benedictine connection. BBC News on-line. September 26th.

<http://news.bbc.co.uk/1/hi/magazine/5381360.stm>

Henriksen, L., Feighery, E. C., Schleicher, N. C., Haladjian, H. H. & Fortmann, S. P. (2004) Reaching Youth at the Point of Sale: Cigarette marketing is more prevalent in stores where adolescents shop frequently. *Tobacco Control*, 13: 3, 315 - 318.

Herald, The (1998) Young football hopeful killed friend after Buckfast binge. February, 19th.

Herbert, D. (2004) Buckfast Bozo: Gambler cut himself to claim payout. *Daily Record*, April 23rd.

Hetherington, P. (2004) Time to be called on happy hours. *The Guardian*, Regional Affairs Editor, July 10th.

Hewitt, J. B., Levin, P. F. & Misner, S. T. (2002) Workplace homicides in Chicago. *American Association of Occupational Health Nurses Journal*, 50: 9, 406 – 412.

Home Office (2001) *Crime Reduction Toolkits: Alcohol and Crime*. London: HMSO.

<http://www.crimereduction.gov.uk/toolkits/ar020101.htm>

Home Office (2005) *Respect: Action Plan*. London: HMSO.

<http://www.homeoffice.gov.uk/rds/pdfs04/hosb1004.pdf>

House of Commons (2005) *Anti-Social Behaviour Report*, Home Affairs Select Committee, 5th Report of session 2004-05. London: House of Commons.

<http://www.publications.parliament.uk/pa/cm200405/cmselect/cmhaff/80/80.pdf>

Hughes, K., MacKintosh, A., Hastings, G., Wheeler, C., Watson, J. & Inglis, J.

(1997) Young People, Alcohol and Designer Drinks: A quantitative and qualitative study. *British Medical Journal*, 314: 414 – 418.

Human Factors Analysts Limited (2007) *The relationship between off-sales and problem drinking in Scotland*. Edinburgh: Scottish Executive.
<http://www.scotland.gov.uk/Publications/2007/06/15155717/0>

Jayne, M., Holloway, S. L. & Valentine, G. (2006) Drunk and disorderly, alcohol, urban life and public space. *Progress in Human Geography*, 30: 4, 451 – 468.

Kennedy, M. (2007) ID crackdown makes youth drinking worse says pub boss. *The Guardian*, September 8th.

Kuo, M., Wechsler, H., Greenberg, P. & Lee, H. (2003) The Marketing of Alcohol to College Students: The role of low prices and special promotions. *American Journal of Preventative Medicine*, 25: 3, 304 – 211.

Laing, P. & McIlwraith, G. (1997) Buckfast Beast, 14, Gets Life for Killing Old Lucy: 'Millar was a nutter - always off his head on Buckfast'. *Daily Record*, June 18th.

Lawson, T. (2003). Glasgow city centre 'one of world's safest'. *The Scotsman*, December 6th.

McDonald, C. (2003) Buckie Stops Here: Shop gets license after agreeing not to sell monk's wine. *Daily Record*, January 24th.

MacDonell, H. (2006) MSPs aim to cut Scots' drinking by curbing cheap supermarket offers. *The Scotsman*, July 26th.

MacGregor, A. (2007) *Evaluation of Test Purchasing Pilot for Sales of Alcohol to Under 18s - Final Report*. The Scottish Centre for Social Research for the Scottish Government (on-line report).
<http://www.scotland.gov.uk/Publications/2007/10/16091859/0>

McKinney, A. & Coyle, K. (2005) Patterns of alcohol consumption in a Northern Irish sample. *Substance Use & Misuse*, Research Note, 40: 4, 573 – 579.

McLeod, K. (2004) Buck Inside You Go: Slasher snared after buying tonic wine at shop. *Daily Record*, September 27th.

McLeod, K. (2007) Buckfast Food: Black pudding a real tonic for butcher Billy. *Daily Record*, September 27th.

McMillan, A. (2005) Buckfast sales surge after Jamieson appeal for ban. *The Scotsman*, May 8th.

McWhinnie, A. (2007) Detention for youth who killed boy in row over Buckfast. *The Scotsman*, September 14th.

Macaskill, M. & Nutt, K. (2006) Kerr accused by Buckfast of false claims. *Sunday Times*, November, 26th.

Mann, G. (2007) We Need to get Against Alcohol: Hitting out ... Jim Wilson, Scottish Manager of J. Chandler & Co (Buckfast) Ltd., has called for the introduction of ID cards to help tackle under age drinking. *Airdrie & Coatbridge Advertiser*, November 8th.

Matthews, S., Brasnet, L. & Smith, J. (2006) *Underage Drinking: Findings from the 2004 offending, crime and youth survey*. London: Home Office.
<http://www.homeoffice.gov.uk/rds/pdfs06/r277.pdf>

Maxwell, C., Kinver, A., Phelps, A. (2007) *Scottish Schools Adolescent Lifestyle and Substance Use Survey (SALSUS) National Report: Smoking, Drinking and Drug Use Among 13 and 15 Year Olds In Scotland in 2006*. Leamington Spa: BMRB Social Research.
http://www.drugmisuse.isdscotland.org/publications/local/SALSUS_2006.pdf

Metro (2007) 'Fast Buck' craze can kill warning. January, 23rd.

Moriarty, K. J. & Gilmore, I. T. (2006) Licensing Britain's alcohol epidemic, *Epidemiology & Community Health*, 60: 2, 94.

Murray, P. (2004) Stop Your Whining Liddell: Buckfast firm's blast back at MP's 'vendetta'. *Daily Record*, May 20th.

Murray, P. (2007) The Buckie & Irn-Bru Pudding: Chef Colin's cheeky recipe. *Daily Record*, January 22nd.

Musson, C. (2007) Shop boss bans Buckfast so he can keep his license. *Evening Times*, January 23rd.

'Nicholson Committee Report' (2004). *Review of Liquor Licensing Law in Scotland*. Edinburgh: Scottish Executive.
<http://www.scotland.gov.uk/Publications/2004/03/19132/34937>

Norstrom, T. (1998) Effects on criminal violence of different beverage types and private and public drinking. *Addiction*, 93: 5, 689 – 699.

Nyiri, P., Leung, T. & Zuckerman, M. A. (2004) Sharps discarded in inner city parks and playgrounds – risk of blood-borne virus exposure. *Communicable Disease and Public Health*, 7: 4, 287 – 288.

O'Somachain, E. (2004) Tackling Sharps. *Environmental Health Journal*, May: 154 -155.

Pattoni, L., Emmerson, C., Sudbery, M., MacDonald, R. & Plunkett, M. (2007) *The Relationship Between Off-Sales and Problem Drinking in Scotland: Literature review*. Prepared by Human Factors Analysts Limited for Scottish Executive Social Research. Edinburgh: Scottish Executive.

<http://www.scotland.gov.uk/Publications/2007/03/09092846/0>

Perrett, M. (2007) Scotland Intervention – A step too far? *The Publican*. September 12th.

Philip, R. (1999) Community needlestick accident data and trends in environmental quality. *Public Health*, 107: 5, 363 - 369.

Pollack, C. E., Cubbin, C., Ahn, D. & Winkleby, M. (2005) Neighbourhood Deprivation and Alcohol Consumption: Does the availability of alcohol play a role? *International Journal of Epidemiology*, 34: 4, 772 – 780.

Prime Minister's Strategy Unit (2004). Alcohol Harm Reduction Strategy for England (AHRSE). London: Strategy Unit.

<http://www.cabinetoffice.gov.uk/strategy/downloads/su/alcohol/pdf/CabOffice%20AlcoholHar.pdf>

Raudenbush, S. & Sampson, R. J. (1999) 'Ecometrics': Toward a science of assessing ecological settings, with application to the systematic social observation of neighborhoods. *Sociological Methodology* 29: 41, 1 - 41.

Rhodes, T., Briggs, D., Holloway, G., Jones, S., & Kimber, J. (2007). *Visual Assessment of Injecting Drug Use: A pilot study*. London, National Treatment Agency for Substance Misuse.

http://www.nta.nhs.uk/publications/documents/nta_visual_assessments_injecting_drug_use_2006_rb13.pdf

Richardson, A. & Budd, T. (2003). *Alcohol, Crime and Disorder: A study of young adults*. Home Office Research Study 263. London: Home Office.

<http://www.homeoffice.gov.uk/rds/pdfs2/hors263.pdf>

Robertson, A. (2003) Buckfast Plastic Bottles Plea to Cut Horror Attacks: Top cop's appeal after latest assault in the city highlights dangers of glass. *Evening Times*, August 6th.

Royal Pharmaceutical Society (2007) *RPS e-PIC: References on: Supervised administration of methadone*. London: Royal Pharmaceutical Society of Great Britain.

<http://www.rpsgb.org.uk/pdfs/methadone.pdf>

SBPA (2004) *Evidence Submission to the Scottish Parliament's Local Government and transport Committee Licensing (Scotland) Bill*. Scottish Beer and Pub Association. Edinburgh: Scottish Parliament.

<http://www.scottish.parliament.uk/business/committees/lg/papers-05/lgp05-13.pdf>

Scotsman, The (2007) Driver drunk on Buckfast killed friend in crash. November 1st.

Scott, M. (2007) Double Fraudka: Pirate vodka floods shops. *Sunday Mail*, August 5th.

Scottish Executive (2003) *Homicide in Scotland 2002*. Edinburgh: Scottish Executive.

<http://www.scotland.gov.uk/Resource/Doc/47063/0029245.pdf>

Scottish Executive (2006) *Urban Rural Classification 2005 – 2006*. Edinburgh: Scottish Executive.

<http://www.scotland.gov.uk/Resource/Doc/933/0034463.pdf>

Scottish Federation of Grocers (2005) *Nicholson Report Response Paper 2005*.

<http://www.scotland.gov.uk/Resource/Doc/1097/0002163.pdf>

Scottish Parliament (2005a) 7th Report: Stage 1 Report on the Licensing (Scotland) Bill

<http://www.scottish.parliament.uk/business/committees/lq/reports-05/lgr05-07-vol02-01.htm>

Scottish Parliament (2005b) *Licensing (Scotland) Act 2005*

<http://www.scottish.parliament.uk/business/bills/pdfs/b37s2.pdf>.

Scribner, R., Cohen, D., Kaplan, S. & Allen S. H. (1999) Alcohol Availability and Homicide in New Orleans: Conceptualised considerations for small area analysis of the effect of alcohol outlet density. *Journal of Studies on Alcohol*, 60: 3, 310 - 317.

Silverster, N. (2007) Hard to Swallow: Yes, Haddows sell ribbon-wrapped Buckfast gift pack (complete with 10 fags & Rizla). *Sunday Mail*, September 23rd.

Small, W., Rhodes, T., Wood, E. & Kerr, T. (2007) Public Injecting Settings in Vancouver: Physical environment, social context and risk. *International Journal of Drug Policy*, 18: 1, 27 – 36.

Sooman, A. & MacIntyre, S. (1995) Health perceptions of the local environment in socially contrasting neighbourhoods. *Health & Place*, 1: 1, 15 - 26.

Smith, S. (2007) Electric Scoop: Buckfast sorbet on the menu as posh chefs reinvent monks' wine. *Sunday Mail*, May 27th.

Stow, N. (2005) Police failure on city's underage drinkers slammed. *Edinburgh Evening News*, August 22nd.

Sunday Mail (2005) Neds shut one in ten businesses every year. May 1st.

Taqi-Eddin, K., & Macallair, D. (1999) *Shattering "Broken Windows": An analysis of San Francisco's alternative crime policies*. San Francisco: Justice Policy Institute.

<http://www.prisonpolicy.org/scans/windows.pdf>

Taylor, A., Fleming, A., Rutherford, J. & Goldberg, D. (2004) *Examining the Injecting Practices of Drug Users in Scotland*. Edinburgh: Scottish Executive Effective Interventions Unit.

<http://www.scotland.gov.uk/Resource/Doc/47210/0013525.pdf>

Taylor, R. B., Shumaker, S. A. & Gottfredson, S. D. (1985) Neighborhood-level Links between Physical Features and Local Sentiments: Deterioration, fear of crime, and confidence. *Journal of Architectural Planning and Research*, 2: 4, 261 - 275.

Toomey, A. J., Wagenaar, A. C., Erickson, D. J., Fletcher, L. A., Patrek, W. & Lenk, K. M. (2004) Illegal sales of alcohol to obviously intoxicated patrons at licensed establishments. *Alcohol: Clinical & Experimental Research*, 28: 5, 769 - 774.

Travis, A. (2004). Police blame 11% rise in violent crime on drink and low level thuggery. *The Guardian*, Home Affairs Editor, December 1st.

Trenor, A. J., Gruenewald, P. J. & Johnson, F. W. (2001) Alcohol Availability and Injury: The role of local density. *Alcoholism: Clinical & Experimental Research*, 25: 10, 1467 – 1471,

Wakefield, M. A., Terry-McElrath, Y. M., Chaloupka, F. J., Barker, D. C., Slater, S. J., Clark, P. I. & Giovino, G. A. (2000) *Changes at the point-of-sale for tobacco following the 1999 Tobacco Billboard Ban*. Research Paper Series No. 4. Chicago: University of Illinois.

Warren, C. (1994) Monk and Disorderly: Abbey brew 'ruining kids'. *News of the World*, July 3rd.

Watson, D. (2007) I Bought Buckie for Boy Killed by Hit-Run Joyrider: Man admits booze rap. *Daily Record*, January 17th.

Willner, P., Hart, K., Binmore, J., Cavendish, M. & Dunphy, E. (2000) Alcohol Sales to Underage Adolescents: An unobtrusive observational field study and evaluation of a police intervention. *Addiction*, 95: 9, 1373 – 1388.

Wilson, J. (1999) Fury Over Buckfast Sale Boom: Tragic family demand ban. *Daily Record*, February 20th.

Wilson, J. Q. & Kelling, G. L. (1982) Broken Windows: The Police and Neighborhood Safety. *Atlantic Monthly*, 249: 3, 29 - 38.

Withrington, A. (2007) Supermarkets fail to defend themselves over loss-leading alcohol. *The Publican*, April 19th.

Wyatt, J. P., Robertson, C. E. & Scobie, W. G. (1994) Out of hospital needlestick injuries. *Archives of Disease in Childhood*, 70: 3, 245 - 246.

Appendices

Appendix 1: Shop Observation Schedule

Shop Name _____ Date _____ Observer _____

Shop Interior Checklist

N & approx age of staff _____ F _____ M _____

If licensed **yes no** specify _____

Alcohol Aisle Shelves **yes no** specify _____

Aisle Fridge **yes no** specify _____

Behind till **yes no** specify _____

Restricted Area **yes no** specify _____

Other **yes no** specify _____

Fixed Advertising Alcohol **yes no** specify _____

Other **yes no** specify _____

Temporary Ads Alcohol **yes no** specify _____

Other **yes no** specify _____

DIY Ads Alcohol **yes no** specify _____

Other **yes no** specify _____

Alcohol Offers Low price **yes no** specify _____

Multi-pack **yes no** specify _____

Proof of Age Alcohol **yes no** specify _____

Other **yes no** specify _____

Other Products Tobacco **yes no** specify _____

Newsagents **yes no** specify _____

Provisions **yes no** specify _____

Sweets **yes no** specify _____

Medicines **yes no** specify _____

Security CCTV **yes no** specify _____

Bell	yes	no	specify _____
Mirrors	yes	no	specify _____
Other	yes	no	specify _____

Most prominent brands, if any (circle appropriate option)

Spirits	_____	cans / bottles or small bottles / plastic / packs
Cider	_____	cans / bottles or small bottles / plastic / packs
White / Strong Cider	_____	cans / bottles or small bottles / plastic / packs
Perry / Pear Cider	_____	cans / bottles or small bottles / plastic / packs
Wine	_____	cans / bottles or small bottles / plastic / packs
Fort. Wine / Sherry	_____	cans / bottles or small bottles / plastic / packs
Beer (ale, lager, stout)	_____	cans / bottles or small bottles / plastic / packs
Super Lager	_____	cans / bottles or small bottles / plastic / packs
Alcopop	_____	cans / bottles or small bottles / plastic / packs
Other (e.g. FAB/NRG)	_____	cans / bottles or small bottles / plastic / packs

Rank the 3 most prominent of all brands 1 _____ 2 _____ 3 _____

What %age of shelf space would appear to be taken up with alcohol products? _____%

Shop Exterior Checklist

Licensed status		yes	no	specify _____
Proof of age	Alcohol	yes	no	specify _____
	Other	yes	no	specify _____
Fixed Advertising	Alcohol	yes	no	specify _____
	Other	yes	no	specify _____
Temporary Ads	Alcohol	yes	no	specify _____
	Other	yes	no	specify _____
DIY Ads	Alcohol	yes	no	specify _____
	Other	yes	no	specify _____
Offers	Low price	yes	no	specify _____

	Multi-pack	yes	no	specify _____
	2-4-1 etc.	yes	no	specify _____
	Other	yes	no	specify _____
Rubbish	Alcohol	yes	no	specify _____
	(Blue) bags	yes	no	specify _____
	Other	yes	no	specify _____
Cigarette ends	none	some	lots	specify _____
Spillage	none	some	lots	specify _____
Graffiti	none	some	lots	specify _____
Vandalism	none	some	lots	specify _____
Gum	none	some	lots	specify _____
Other incivilities	none	some	lots	specify _____
Security	CCTV	yes	no	specify _____
	Shutters	yes	no	specify _____
	Barbed wire	yes	no	specify _____
	Alarm	yes	no	specify _____
	Other	yes	no	specify _____
Decoration / landscaping		yes	no	specify _____

Nature of adjacent properties **derelict** **run down** **well kept** **attractive**

Describe shop (site, décor, layout) and staff / customers (age, gender, attitude, activity)

Appendix 2: Shop Server Interview Topic Guide

SHOP

AGE _____ JOB _____ YEARS (here) _____ (other shops) _____

General Info

Why choose shop work

- why this / other shop

Who is the owner

- private, chain

General trade

- busy times – who are customers
- quiet times – who are customers
- number of staff

Shop's main service to the community

Target Market

Product range – what do they sell

- best sellers

Promotions – any cheap pricing, specials

- how often do these change
- are they effective
- how advertised

Sales Targets – owner, parent company

Have [either of the 2 large new supermarkets in the town] effected sales over time

- anything done to combat this

Difficulties in job

Customers - aggressive, shoplifters, under-agers

- what is done when this happens

Anything to avoid these risks

- withdrawn certain products
- removed promotions
- changed shop layout

Ever had any training

- (if yes) what
-

Any On-site security

- CCTV, panic buttons etc

Ever had to deal with problems outside shop

- (if yes) what kind

- how dealt with

Calling emergency service - police, fire, threats

- (if yes) how many times
- what for?

Ever any break-ins

- (if yes give details)

Difficulties in area

General description of area

Local bye-laws (if owner)

Any problems specific to this area

General Environment - vandalism, litter

Only if licensed?

Why - advantages

disadvantages

Any training received to get license

Ever been any conditions set about license

Ever considered being non-licensed

- (if yes / no why)

Only if not licensed?

Why – advantages

disadvantages of no license

Ever applied or considered getting a license

- (if yes / no why)

Any outside pressures or hassle?

From - licensing board (if yes, what)

- The police (if yes, what)

- Local people (if yes, what)

Is this unfair (if yes to any of the above)

Supermarkets

- do they think more attention should be paid to supermarkets
- is the shops future threatened by supermarkets
- what advantages to they offer over supermarkets

Future of local shops

Any other problems in the future for shops,

- both this one and in general?

Anything that they would like to change about the shop to improve it

Anything else to add?

Appendix 3: Items of Alcohol-related Detritus Form

Alcohol Products Checklist **Area:**

#	Location	X	Type	Brand	<i>n</i>
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Notes: # is the number of the photograph

‘Location’ includes street name and site (e.g. in bush, on path etc.)

‘X’ indicates position (of number) plotted on the map of each Neighbourhood

‘Type’ indicates whether item is a glass bottle (broken or intact) a can etc.

‘*n*’ is the number of items of this brand in photograph

Appendix 4: Neighbourhood Profiles

Neighbourhood A to H listed by census Data Zone	Data Zone (Ranked by deprivation)	Number of Items of Detritus	Shops
Neighbourhood A zone 1	27	30 **	-
Neighbourhood A zone 2	26	15	#1
Neighbourhood A zone 3	23	22	#2
Neighbourhood A total		67	2 shops
Neighbourhood B zone 1	10	48	-
Neighbourhood B zone 2	6	32	#3
Neighbourhood B zone 3	17	29	-
Neighbourhood B/C zone	5*	112	#4 (unlicensed), #5
Neighbourhood B total		154	3 shops (1 unlicensed)
Neighbourhood C zone 1	20	69	#6
Neighbourhood C zone 2	29	29 **	-
Neighbourhood C zone 3	24	9	#7 (unlicensed)
Neighbourhood C zone 4	12	27	-
Neighbourhood C zone 5	8	57	#8 (unlicensed)
Neighbourhood C total		258	3 shops (2 unlicensed)
Neighbourhood D zone 1	1	55	#9
Neighbourhood D zone 2	2	102	#10
Neighbourhood D zone 3	7	30	-
Neighbourhood D zone 4	11	96	#11 (unlicensed)
Neighbourhood D zone 5	4	49	-
Neighbourhood D zone 6	3	85	-
Neighbourhood D zone 7	13	131	#12
Neighbourhood D/E zone	9*	36	-
Neighbourhood D total		579	4 shops (1 unlicensed)
Neighbourhood E zone 1	25	27	-
Neighbourhood E zone 2	22	88	-
Neighbourhood E zone 3	30	17 **	#13
Neighbourhood E total		137	1 shop
Neighbourhood F zone 1	14	42	#14
Neighbourhood F zone 2	15	47	#15
Neighbourhood F total		89	2 shops
Neighbourhood G zone 1	19	55	-
Neighbourhood G zone 2	16	31	#16
Neighbourhood G zone 3	18	7	-
Neighbourhood G total		93	1 shop
Neighbourhood H zone 1	28	17	#17
Neighbourhood H zone 2	21	12	-
Neighbourhood H total		29	1 shop
Whole Study Area (A to H)		1,406	17 Shops (4 unlicensed)

Notes: * Output area also overlaps into a smaller part of next neighbourhood.

** Output area includes some non-surveyed (recent, private housing) residential areas.

Shop #s marked in bold provided a staff interview.

All Data Zones had a population between 450 and 1,000 persons (mean = 792).

Appendix 5: Brand Identified Items of Alcohol-related Detritus

Beverage	Intact Glass Bottles	Broken Glass with Label	Broken Glass with Cap	Metal screw or crown Caps only	Metal Cans	Paper Labels only	Plastic Bottles or Caps	Cardboard or Plastic Packaging	TOTAL
BEER:									
Lagers									
Beck's	3	1	0	5	1	0	0	0	10
Kronenbourg 1664	4	1	0	3	0	0	0	0	8
Tennent's	2	0	1	13	88	0	0	3	107
Spar	0	0	0	0	3	0	0	0	3
Red Stripe	0	0	0	0	1	0	0	0	1
Miller	4	5	0	26	54	0	0	2	91
Carling	12	10	0	17	17	0	0	1	57
Budweiser	14	19	2	23	15	3	0	1	77
Grolsch	3	7	0	5	1	0	0	2	18
Peroni	0	0	0	1	0	0	0	0	1
Corona	0	1	0	1	0	0	0	0	2
Tuborg	0	1	0	0	0	0	0	0	1
Stella Artois	16	28	3	54	23	4	0	5	133
ASDA	0	0	0	0	1	0	0	0	1
Tesco	1	0	0	3	1	0	0	0	5

Beverage	Intact Glass Bottles	Broken Glass with Label	Broken Glass with Cap	Screw or Crown Caps only	Metal Cans	Paper Labels only	Plastic Bottles	Cardboard or Plastic Packaging	TOTAL
Lagers (continued)									
Foster's	1	0	0	1	11	0	0	2	15
Rolling Rock	0	6	0	2	0	0	0	0	8
Carlsberg	0	1	0	4	4	0	0	2	11
Cobra	2	0	0	0	0	0	0	0	2
San Miguel	0	2	0	1	2	0	0	0	5
Holsten	1	0	0	0	3	0	0	0	4
Heineken	0	0	0	1	1	0	0	0	2
Amstel	0	0	0	1	0	0	0	0	1
Tyskie	1	1	0	2	0	0	0	0	4
Coors	0	0	0	0	1	0	0	0	1
Kestrel	0	0	0	0	1	0	0	0	1
Brahma	0	0	0	1	0	0	0	0	1
Sol	0	0	0	2	0	0	0	0	2
Saint Omer	0	0	0	6	0	0	0	0	6

Beverage	Intact Glass Bottles	Broken Glass with Label	Broken Glass with Cap	Screw or Crown Caps only	Metal Cans	Paper Labels only	Plastic Bottles	Cardboard or Plastic Packaging	TOTAL
Super-lagers									
Tennent's Super	0	0	0	0	22	0	0	0	22
Kestrel Super	0	0	0	0	2	0	0	0	2
Tesco Strong	0	0	0	0	1	0	0	0	1
Carlsberg Special Brew	0	0	0	0	3	0	0	0	3
Ales									
Tennent's Special	0	0	0	0	1	0	0	0	1
Witchwood	0	0	0	1	0	0	0	0	1
Newcastle Brown	0	0	0	2	0	0	0	0	2
ASDA Bitter	0	0	0	0	5	0	0	0	5
McEwan's	0	0	0	0	2	0	0	0	2
Stouts									
Guinness	1	0	0	0	1	0	0	0	2

Beverage	Intact Glass Bottles	Broken Glass with Label	Broken Glass with Cap	Screw or Crown Caps only	Metal Cans	Paper Labels only	Plastic Bottles	Cardboard or Plastic Packaging	TOTAL
WINES:									
Seven Hills	0	1	0	0	0	0	0	0	1
Blossom Hill	1	0	0	0	0	0	0	0	1
Paul Masson	1	0	0	0	0	0	0	0	1
Jacobs Creek	0	0	1	1	0	0	0	0	2
Sparkling wine									
Beringer	0	0	1	0	0	0	0	0	1
Vermouth									
Martini	0	0	0	1	0	0	0	0	1
Tonic Wine									
Buckfast	86	136	96	168	0	7	0	1	494
Sherry									
QC	1	1	0	0	0	0	0	0	2
Mansion House	0	1	0	0	0	0	0	0	1

Beverage	Intact Glass Bottles	Broken Glass with Label	Broken Glass with Cap	Screw or Crown Caps only	Metal Cans	Paper Labels only	Plastic Bottles	Cardboard or Plastic Packaging	TOTAL
CIDERS:									
Strongbow	0	0	0	0	38	0	2	0	40
Magners	0	2	0	0	0	0	0	0	3
Oakstone	0	0	0	0	0	0	1	0	1
Olde English	0	0	0	1	1	0	0	0	2
Strong / White Cider									
Special VAT	0	0	0	0	2	0	0	0	2
K	0	0	0	0	1	0	0	0	1
Strongbow Super	0	0	0	0	9	0	0	0	9
Scrumpy Jack	0	0	0	0	2	0	0	0	2
Merrydown	2	2	1	8	0	0	0	0	13
Pulse	0	0	0	0	0	0	1	0	1
Polaris	0	0	0	0	0	0	4	0	4
ASDA Strong	0	0	0	0	0	0	1	0	1
Tesco Strong	0	0	0	0	4	0	0	0	4
Frosty Jack	0	0	0	0	0	1	3	0	4
White Lightening	0	0	0	0	0	0	1	0	1

Beverage	Intact Glass Bottles	Broken Glass with Label	Broken Glass with Cap	Screw or Crown Caps only	Metal Cans	Paper Labels	Plastic Bottles	Cardboard Packaging	TOTAL
Strong Ciders (cont.)									
Diamond White	0	0	0	0	1	0	0	0	1
Summerdown	0	0	0	0	1	0	0	0	1
Thatcher's	1	0	0	0	0	0	0	0	1
Pear Cider / Perry									
Kopparberg	1	2	0	0	0	0	0	0	3
Lambrini	0	1	1	0	0	0	0	0	2
SPRITS: Whisky & Bourbon									
Jack Daniel's	0	1	0	0	0	0	0	0	1
Long John	1	0	1	1	0	0	0	0	3
High Commissioner	1	0	1	4	0	0	0	0	6
Whyte & Mackay	0	0	0	1	0	0	0	0	1
Northern Scot	0	0	1	0	0	0	0	0	1
Rums									
Stroh	0	0	0	1	0	0	0	0	1

Beverage	Intact Glass Bottles	Broken Glass with Label	Broken Glass with Cap	Screw or Crown Caps only	Metal Cans	Paper Labels	Plastic Bottles	Cardboard Packaging	TOTAL
Vodkas									
Glen's	15	5	22	35	0	1	0	0	78
Tolstov	0	0	0	1	0	0	0	0	1
ASDA triple distilled	0	1	0	0	0	0	0	0	1
Smirnoff	2	1	2	9	0	0	0	0	13
Spirit miniatures									
Smirnoff	0	0	0	0	0	0	12	0	12
OTHER BEVERAGES: Alcopops									
WKD	2	2	0	4	0	1	0	0	9
VK	0	1	0	0	0	0	0	0	1
Reef	0	1	0	3	0	0	0	0	4
Smirnoff Ice	2	1	0	11	0	0	0	0	14
Bacardi Breezer	2	1	0	9	0	0	0	0	12
TVX	1	0	0	0	0	0	0	0	1
VS	1	3	0	0	0	0	0	0	4
Archers Aqua	1	0	0	0	0	0	0	0	1

Beverage	Intact Glass Bottles	Broken Glass with Label	Broken Glass with Cap	Screw or Crown Caps only	Metal Cans	Paper Labels	Plastic Bottles	Cardboard Packaging	TOTAL
NRG drinks									
Big Beastie	1	0	0	0	0	0	0	0	1
Red Square	1	0	2	4	0	0	0	0	7
Liqueurs									
Sourz	1	0	0	0	0	0	0	0	1
Irish Meadow	0	1	0	0	0	0	0	0	1
Fruit flavoured drinks									
MD 20/20	4	13	0	0	0	0	0	0	17
ESQ	1	0	0	0	0	0	0	0	1
ALL	194	260	135	431	324	18	24	19	1406