

**Illegal dumping and crime prevention:  
A case study of Ash Road, Liverpool Council**

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**Abstract**

Illegal waste disposal is an increasingly significant and costly problem. This paper considers a specific hot-spot for illegal dumping in Sydney, Australia from criminological perspectives. We contribute to the developing criminological literature that considers environmental harms as a crime. This draws upon the symbolic aspect of criminal law, contributing to the notion of environmental harms as wrongs worthy of sanction, and facilitates analysis through the prism of criminological literature. We apply theories of crime prevention to the site and argue that these techniques of crime prevention would be cheaper and more effective long-term than current council responses of simply reacting to dumping after it has occurred.

**Introduction**

Illegal waste disposal is an increasingly significant and costly problem. There is a developing literature in criminology that analyses environmental harms as crimes. This draws upon the symbolic aspect of criminal law, contributing to the notion of environmental harms as wrongs worthy of sanction, and facilitates analysis through the prism of criminological literature. This paper contributes to the developing literature of environmental harms in criminology through a case study of Ash Road, Prestons, a reserve in Sydney, Australia that is a hot-spot for illegal dumping. We

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highlight the costs and harms associated with illegal dumping and then apply theories of crime prevention to Ash Road. We argue that these techniques of crime prevention would be cheaper and more effective long-term than current council responses of simply reacting to dumping after it has occurred.

We begin by situating illegal dumping in the developing literature of environmental harms in criminology and then demonstrate how ideas of crime prevention have the potential to assist in councils in responding to illegal dumping in the future, through an analysis of Ash Road, Prestons.

### **Criminology and illegal dumping**

The term ‘environmental criminology’ has two distinct meanings in criminology. Traditionally the term has been used to denote place-based criminology and its concern with situational crime prevention through environmental design.<sup>3</sup> More recently, the term has also been used to denote environmental crimes or harms, research and scholarship which engages with a wide range of issues such as illegal transport and dumping of toxic waste, the proliferation of e-waste generated by the disposal of computers and mobile phones, local and trans-border pollution, illegal trade in flora and fauna, and illegal fishing and logging.<sup>4</sup> Analysis can be local, regional, national and/or global, concerned with short and long-term, direct and indirect consequences of environmentally sensitive social practices. This type of criminology may involve monitoring, assessment, enforcement and education of best practice methods of protection and regulation.

Some green criminologists adopt a strict legal approach to provide the definition of crime: ‘an environmental crime is an unauthorised act or omission that violates the law and is therefore subject to criminal prosecution and criminal sanctions.’<sup>5</sup> However, many other writers have argued that criminology is concerned with harm, and ought to include those activities which may be legal and legitimate, but which have a negative impact on people and environments.<sup>6</sup> This branch of environmental criminology is thus concerned with eco-justice conceptions of harm, including considerations of transgressions against environments, non-human species and humans.<sup>7</sup> Whilst the broader concept of environmental harm is very important, this paper is focussed on illegal waste disposal that violates current laws and is consistent with the narrow, legalistic definition of crime.

<sup>3</sup> Christopher Martin, ‘Crime and Control in Australian Urban Space’ (2000) 12(1) *Current Issues in Criminal Justice* 79.

<sup>4</sup> Samantha Bricknell, *Environmental Crime in Australia* (2010); Rob White, *Crimes against Nature: Environmental Criminology and Ecological Justice* (2008).

<sup>5</sup> Yingyi Situ and David Emmons, *Environmental Crime: The Criminal Justice System’s Role in Protecting the Environment* (2000) p 3.

<sup>6</sup> Rob White, *Environmental Crime: A Reader* (2009). Michael Lynch and Paul Stretsky, ‘The Meaning of Green: Contrasting Criminological Perspectives’ (2003) 7 *Theoretical Criminology* 217-238. This approach has also been fruitfully adopted in the notion of state crime. See for example, Penny Green and Tony Ward, *State Crime: Governments, Violence and Corruption*, London: Pluto Press, 2004.

<sup>7</sup> Rob White, *Crimes Against Nature: Environmental Criminology and Ecological Justice* (2008).

Although these are analytically distinct and separate areas of research, this paper combines both forms of ‘environmental criminology’ through an analysis of illegal dumping as harm, and a reliance upon crime prevention techniques to propose ways in which illegal dumping at a specific site may be reduced. For the purposes of clarity, we will use the term ‘green criminology’ to refer to harms to the environment, and we will be specific about which crime prevention techniques we are referring to.

Illegal waste disposal incorporates the ‘trade in, and transport and dumping of, waste’.<sup>8</sup> Waste includes everything from demolition site refuse to sewage, from hazardous substances to electronic waste. Waste management has become of growing global concern with the rise of a consumerist market. Australia is one of the highest producers of waste per capita in the world. Waste generation per person has increased from 1.23 tonnes in 1996-97 to 1.62 tonnes in 2002-03.<sup>9</sup> Over 17 million tonnes of this waste was disposed of at landfills.<sup>10</sup> This increase in waste together with the corporatisation of waste administration has led to increased burdens being placed on its lawful disposal. In turn, this has led to increasing issues of illegal waste disposal.

The *Protection of the Environment Operations Act 1997 (NSW)*<sup>11</sup> governs the management of waste in NSW by setting out the offences, defences and maximum penalties relating to illegal dumping and providing tools to regulate waste.<sup>12</sup> The dictionary of the Act defines ‘waste’ very broadly,<sup>13</sup> and Chapter 5 describes the environment protection offences, which include ‘disposal of waste-harm to the environment’,<sup>14</sup> ‘unlawful transporting or depositing of waste’,<sup>15</sup> use of land as a waste facility without lawful authority,<sup>16</sup> and false or misleading information about waste.<sup>17</sup> There is a myriad of different federal, state and local government agencies with various responsibilities for ‘waste’. The ways in which ‘waste’ is defined has implications for the involvement of these agencies. For example, the Environmental Protection Authority has an overarching responsibility for waste, but the Department of Health will be involved with ‘clinical waste’, and there will be federal (and potentially international) involvement with regard to ‘radioactive waste’. Then of course there are local councils who have to deal with waste that is basically harmful, regardless of how it is labelled. An intriguing question that would warrant significant research in and of itself, that is beyond the scope of this paper, is what is the

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<sup>8</sup> Samantha Bricknell, *Environmental Crime in Australia* (2010) p 24.

<sup>9</sup> Australian Bureau of Statistics *Australia's Environment: Issues and Trends* (2006).

<sup>10</sup> *Ibid.*

<sup>11</sup> Henceforth the *Protection of the Environment Operations Act 1997 (NSW)* will be termed ‘the Act’.

<sup>12</sup> Other legislation in NSW also contributes to the regulation of waste such as the *Environmental Planning and Assessment Act 1979 (NSW)* and the *Local Government Act 1993 (NSW)*.

<sup>13</sup> ‘Waste’ is defined in the dictionary in the Act.

<sup>14</sup> Section 115 of the Act.

<sup>15</sup> Section 143 of the Act.

<sup>16</sup> Section 144 of the Act.

<sup>17</sup> Section 144AA of the Act covers false or misleading information about waste sale, disposal, storage, transport, handling, deposit, transfer, processing, recycling, recovery, re-use or use.

relationship between the EPA and local councils, and how can they better collaborate in preventing and responding to illegal dumping.

This article focuses on local council responsibility, particularly because it is primarily Liverpool Council that regulates and responds to illegal dumping in Ash Road. Local Councils are given regulatory powers and responsibilities under the Act.<sup>18</sup> Councils can appoint 'authorised officers' to act on their behalf in investigating environmental problems relating to activities regulated by the Act. These officers have a range of investigatory powers to require information and records,<sup>19</sup> enter and search premises<sup>20</sup> and question and identify people.<sup>21</sup>

Enforcement officers can select from a range of enforcement actions to discipline offenders. Officers can issue infringement notices which come in the form of on the spot fines.<sup>22</sup> Officers can also issue clean-up notices to individuals reasonably suspected of causing illegal dumping or occupiers of premises at which illegal dumping occurs or has occurred. The clean-up action required under a clean-up notice must be reasonable.<sup>23</sup> Non-compliance with a clean-up notice, without reasonable excuse, is an offence subject to a \$250,000 fine for an individual and \$1 million in the case of a corporation.<sup>24</sup> A local council can also institute proceedings in the Land and Environment Court for offences against the Act. Section 104 of the Act 'enables councils to recover the costs associated with monitoring and follow-up action, taken as a result of issuing clean up notice or prevention notice for illegal dumping or taking voluntary clean up.'<sup>25</sup>

In a recently published report on Environmental Crime in Australia, the Australian Institute of Criminology noted that despite being one of the most highly regulated areas of environmental control in Australia, 'there is no formal analysis of the extent of illegal polluting and waste disposal activities occurring in the country.'<sup>26</sup> The Institute drew upon types of offences recounted in regulatory agency reports and one-off research studies to construct a limited depiction of illegal dumping in Australia. The lack of available statistics regarding illegal dumping can be explained by the tendency to regard the problem as local and non-criminal. Despite (or perhaps because of) the raft of legislation and regulations at state and federal levels, illegal dumping is regarded primarily as a local council problem, rather than a state problem.

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<sup>18</sup> Section 6 of the Act.

<sup>19</sup> The Act Part 7.3.

<sup>20</sup> The Act Part 7.4.

<sup>21</sup> The Act Part 7.5.

<sup>22</sup> The maximum penalty that can be imposed by way of penalty notice for s 143 is \$750 for an individual and \$1500 for a corporation. The maximum penalty that can be imposed by way of penalty notice for s 144 is \$1500 for an individual and \$5000 for a corporation.

<sup>23</sup> The Act s 91(1).

<sup>24</sup> The Act s 91(5).

<sup>25</sup> Department of Environment and Conservation, *Illegal Dumping, Handbook for Local Government* (2008) 27.

<sup>26</sup> Samantha Bricknell, *Environmental Crime in Australia* (2010) p 43.

This tends to exclude the recording of illegal dumping by state agencies such as the NSW Bureau of Crime Statistics. Moreover, illegal dumping is primarily regulated by non-police agencies – reiterating the perception that this is not a criminal justice issue. The prohibited acts and consequences are not specified by the criminal legislation and not prosecuted in the criminal courts, although as detailed above, sanctions are available. In addition, harms caused by illegal dumping are unlikely to be regarded by the community as ‘criminal’. This is in part because of potential time gaps between the offence and consequences – it may be many years for the effects of illegal dumping to become apparent. In addition, as we discuss below, there may be a tendency in the community to regard dumping of waste as a right, based on past practices. The tendency not to regard and regulate illegal dumping as a crime is not a problem specific to environmental crime. Corporate offences also tend not to be regulated, recorded and regarded as criminal, and yet can be some of the most harmful types of offences to the community.<sup>27</sup> The tendency to regard and regulate environmental harms and corporate offences as non-criminal reinforces and reflects community perceptions. Green criminology has challenged this perception of corporate offending and environmental harms by emphasising their harmful consequences, a traditional strategy for justifying criminal sanctions.<sup>28</sup>

From the limited information available, NSW local governments spend approximately \$10 million a year removing illegally dumped materials from unlicensed premises.<sup>29</sup> On average, urban councils spend \$319,000 annually dealing with illegal dumping with larger councils facing costs of up to \$400,000.<sup>30</sup> In 2009, Liverpool Council spent \$500,000 on removing illegally dumped waste.<sup>31</sup> Western Sydney suburbs are particularly susceptible to the issue of unlawful waste disposal, with 11,000 tonnes of waste illegally dumped in the region each year.<sup>32</sup> Furthermore, environmental harm is not immediately obvious; destruction of ecology or manifestation of health problems such as asbestosis may take years.<sup>33</sup> Illegal dumping causes instances of harm through pollution, contamination of the water table and soil, soil erosion, health problems associated with toxic emissions and can increase risks of bushfire. Given these harmful consequences, there are good arguments for regarding and regulating illegal dumping as criminal.

### **The hotspot: Ash Road, Prestons**

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<sup>27</sup> Penny Green and Tony Ward have also made similar arguments with regard to state crime in *State Crime: Governments, Violence and Corruption* (2004).

<sup>28</sup> See for example, Frank Pearce, *Crimes of the Powerful* (1976) and Joel Feinberg, *Harm to Others: The Moral Limits of the Criminal Law* (1984).

<sup>29</sup> Department of Environment and Climate Change NSW, *Illegal Dumping, Handbook for Local Government*, (2008) p 8.

<sup>30</sup> *Ibid* p 8.

<sup>31</sup> *Ibid*.

<sup>32</sup> *Ibid* p 9.

<sup>33</sup> *Ibid*.

Given the direct and indirect costs to the community it is worth considering strategies to prevent or reduce illegal dumping. Most existing and proposed measures by NSW councils tend to deal with the results of illegal dumping rather than its causes.<sup>34</sup> More than half of council expenditure allocated to illegal dumping is spent on clean up operations.<sup>35</sup> In this paper, we draw upon criminology literature of crime prevention to propose proactive solutions that focus on enforcement, education and physical alteration of the environment. Crime prevention has been defined as ‘the total of all private initiatives and state policies, other than the enforcement of criminal law, aimed at the reduction of damage caused by acts defined as criminal by the state.’<sup>36</sup> Notions of crime prevention have been highly influential in the last few decades, accompanied by the contestation of constituent components of ‘community’, ‘crime’ and ‘prevention’ and concomitant interventional approaches.<sup>37</sup> Crime prevention literature provides a broad range of strategies. To be effective, these strategies must be tailored to specific local circumstances. We apply the ideas of opportunity reduction through environmental design and situational crime prevention to the problem of illegal dumping in Ash Road, Preston.

Ash Road, Prestons is located in the industrial region of Prestons, off the sealed, single-lane Jemma Road. Ash Road is a no through road, and therefore has a single entry and exit point. When travelling south along Ash road there are two very distinct features on either side of the road: on the right hand side there are fenced off commercial blocks and on the left hand side there is a dirt section with a few trees and shrubbery behind which (approx 5-10 metres behind the dirt section) is a reserve. For approximately the first 150 metres the road is sealed and tarred but thereafter turns into an unsealed dirt/gravel road. This is significant because the only access to certain commercial blocks is via a dirt road.

At least once a week Liverpool Council receives reports of waste illegally dumped on a small reserve off Ash Road. The hotspot starts approximately 130 metres up Ash Road on the left hand side between the tarred road and the reserve. The material found is clumped and covers approximately 15-20 metres. At times material is dumped in the middle of the dirt road thereby blocking the entrance of 17/2 Ash Road.

Approximately 10 metres after the road surface changes there is an unguarded gap between the shrubberies. The dumpers have used this particular gap to their advantage to gain access to the open space behind it and dump waste. It is sufficiently wide to allow a vehicle to pass through. For vehicles to enter through this gap to the hotspot they would have to overcome a mound. However the gradient is small enough to

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<sup>34</sup> Ibid p 15

<sup>35</sup> Ibid.

<sup>36</sup> Jan Van Dijk and J de Waard, ‘A Two Dimensional Typology of Crime Prevention Projects: With a Bibliography’, (1990) *Criminal Justice Abstracts* 483.

<sup>37</sup> Alan Sutton, Adrian Cherney and Rob White, *Crime Prevention: Principles, Policies and Practices* (2008) and Rob White, ‘Situating Crime Prevention: Models, Methods and Political Perspective’ (1996) 5 *Crime Prevention Studies* 97.

allow easy access for all vehicles. The waste is generally dumped between the hours of 9.00 pm and midnight and consists primarily of building and construction waste.

### **Opportunity reduction**

Crime prevention through environmental design and situational prevention concentrates on reducing crime by taking away opportunities.<sup>38</sup> Opportunity reduction measures ‘involve the management, design or manipulation of the immediate environment in as systematic and permanent way as possible.... so as to increase the effort and risks of crime and reduce the rewards as perceived by a wide range of offenders’.<sup>39</sup> Opportunities of avoiding detection are central to the commission of environmental crime.

Strategies of opportunity reduction are based on the assumption that potential offenders are rational actors whose capacity and motivation may be influenced by manipulating environments in which potential ‘targets’ are located. That is, there is an underlying belief that a significant proportion of crime is committed on the basis of a calculus that the rewards of commission outweigh the risks of detection/punishment. Opportunity reduction seeks to reverse this calculus, so that risks outweigh rewards.

An analysis of the costs associated with waste disposal indicates that illegal dumping is an economically rational decision. The closest landfills to Ash Road are Brandown Waste Facility and Glenfield Waste Facility. These Facilities accept general solid waste, tyre waste and asbestos waste.<sup>40</sup> They are about a 10 minute drive from Ash Road. The economic cost associated with removal of waste is of great consequence. The cost of dumping material depends on the type and quantity of waste. From the material identified, costs range from garden organics at \$107.20 per tonne, mixed construction and demolition material at \$200 per tonne and plastics from \$250 per tonne.<sup>41</sup> If asbestos waste is found mixed with other types of waste, individuals will be charged at the more onerous special waste charge at approximately \$300 per tonne.<sup>42</sup> People who generate waste as part of their work are subject to high disposal costs. Legal disposal of waste is expensive, whilst illegal dumping is essentially free.<sup>43</sup> This also attracts organised crime to waste. People and businesses that accumulate large quantities of waste on a regular basis are subject to high disposal costs.

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<sup>38</sup> Pat O’Malley and Adam Sutton, *Crime Prevention in Australia: issues in policy and research* (1997), p 3.

<sup>39</sup> Ron Clarke, *Situational Crime Prevention: Successful Case Studies* (1992) p 4.

<sup>40</sup> Defined under Schedule One of the Act.

<sup>41</sup> WSN Environmental Solutions, *Lucas Heights Facility*, (2010), WSN Environmental Solutions <[http://wasteservice.nsw.gov.au/dir138/wsn.nsf/Content/Facilities\\_Lucas+Heights+Facility](http://wasteservice.nsw.gov.au/dir138/wsn.nsf/Content/Facilities_Lucas+Heights+Facility)> accessed at 10 May 2010.

<sup>42</sup> Ibid.

<sup>43</sup> For example, in Great Britain, the Environmental Audit Commission asserted that businesses can save 1 million pounds a year by illegally dumping demolition and excavation wastes. Environmental Audit Commission, *Environmental Crime: flytipping, fly-posting, litter, graffiti and noise* (2004) p 16-17.

Individuals in the Liverpool region are less likely to earn in the high-income bracket and more likely to earn in the low-income bracket. 14.4% of individuals earn more than \$1,000 per week compared with 21.7% of individuals in the Sydney statistical division.<sup>44</sup> 42.2% of individuals earn less than \$400 per week compared with 38.1% of individuals in the Sydney statistical division.<sup>45</sup> Mortgage repayment rates are equal to the Sydney division; yet their reduced income means individuals have less disposal income.<sup>46</sup> Given the costs of legal waste disposal, it is currently a rational decision to dispose of waste illegally, especially given a perception that offenders are unlikely to be caught, and if caught, the fines are minimal compared to the costs of legal waste disposal.

### *Environmental design*

The notion that offending can be reduced or even eliminated through planning and architecture has long been embedded in western thinking. It has informed slum clearance programmes and designs for European cities from the 18th century onwards.<sup>47</sup> Key theorists in this respect include Jane Jacobs and Oscar Newman,<sup>48</sup> both of whom were reacting against the tendency of modernist planning and architecture to allow emphasis on function and economic efficiency to override the 'human element'.

Oscar Newman developed the concept of defensible space to describe 'a residential environment whose physical characteristics—building layout and site plan—function to allow inhabitants themselves to become key agents in ensuring their own security'.<sup>49</sup> Therefore, by embracing the concept of defensible space, one can restructure the layout of the community to increase feelings of ownership and control thus reducing the likelihood of crime and disorder.<sup>50</sup>

When undertaking research about criminal activity in New York, Newman came to the conclusion that areas that are most vulnerable to crime display common characteristics.<sup>51</sup> These were unassigned open spaces that were unprotected, uncared for, and provide opportunities for residents and outsiders to engage in illegitimate activities (image and milieu); lack of territoriality and boundary definition discouraged the legitimate residents from claiming space and taking control of the site (lack of ownership and control); and lack of opportunities for natural surveillance and

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<sup>44</sup> Australian Bureau of Statistics, *Census of Population and Housing* (2006). <<http://www.abs.gov.au/websitedbs/d3310114.nsf/Home/census>> accessed at 11 May 2010.

<sup>45</sup> Ibid.

<sup>46</sup> Ibid.

<sup>47</sup> Pat O'Malley and Adam Sutton, *Crime Prevention in Australia : Issues in policy and research* (1997).

<sup>48</sup> Jane Jacobs, *The Death and Life of Great American Cities* (1961); Oscar Newman, *Design Guidelines for Creating Defensible Space* (1976).

<sup>49</sup> Oscar Newman, *Design Guidelines for Creating Defensible Space* (1976) p 4.

<sup>50</sup> Rob White and Santina Perrone, *Crime, Criminality and Criminal Justice* (2010) p 585.

<sup>51</sup> Randall Atlas, *21st Century Security and CPTED* (2008) p 57.



supervision (natural surveillance). These three characteristics are present at the Ash Road site and can thus be used to explain why the site is a 'hotspot' for illegal dumping and why it continues to attract criminal activity. Once these issues have been identified, one can develop crime prevention techniques suitable to the area to try and minimise instances of illegal dumping.

### *Image and Milieu*

Ash Road is owned by the government and under the control of Liverpool Council. It is evident that there has been little upkeep of the land. There is a lack of pride: the road is not fully tarred, the plants and shrubbery appear to be dying and have not been well maintained or pruned, the site is situated on a no-through road and therefore gives an impression of being abandoned. There has been little, if any, attempt to make the land aesthetically appealing or to remove rubbish. This is understandable given that the hotspot lies in a relatively quiet area, away from the public eye in an industrial setting. The limited resources available to the council would make the aesthetics and maintenance of this particular area a matter of low priority. The reserve gives an appearance of abandonment and lack of care that is self-fulfilling.

### *Lack of ownership or control*

Under the defensible space theory, where one erects real and symbolic barriers and improves the opportunities of surveillance, the land is effectively brought under a sense of control and ownership thereby reducing the likelihood of disorder and crime.<sup>52</sup> Given that Ash Road is a public space and a right-of-way for public use, the area lacks any form of territoriality and boundary definition. The very nature of the site permits and necessitates public entry in order for businesses to operate, and it is difficult to identify illegitimate users as there is a flow of people in and out of the area.

Lack of upkeep in the grass re-growth and the absence of any kerbing or guttering system along the street allow for vehicle access to the open dirt site where material is regularly dumped. Any attempts by the council to mark boundary and ownership through vegetation have been compromised by the gap that now appears in the shrubbery. The gap is significant because it allows vehicle access onto the public land behind the vegetation. The lack of territoriality and ownership which the hotspot possesses, demonstrates why the area is vulnerable to criminal activity. It gives potential offenders the perception that they are free to operate and use the land whichever way they please.

This is to be contrasted with the ways in which control and ownership are exerted on the commercial lots opposite the hotspot. Both commercial complexes have erected fencing around their properties and have gated entry and exits points therefore

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<sup>52</sup> Richard Schneider, *Crime Prevention and the Built Environment* (2007) p 16.

creating a perception that the site is under the control of particular individual or corporation. It is therefore not surprising to note that these areas have not been subject to any acts of illegal dumping.

### *Lack of natural surveillance opportunities*

The hotspot lies in a particular area that lacks any sense of community which natural surveillance often requires. Natural surveillance aims to reduce instances of crime by increasing the perception that people can be seen. It occurs by designing physical features, activities and people movements in such a way as to maximise visibility and foster positive social interactions. Potential offenders thus feel as though they are subject to increased scrutiny, accompanied by reduced escape routes.<sup>53</sup> Any architectural design that increases the likelihood a potential offender will be, or might be, seen is natural surveillance.

Illegal dumping has been identified by Liverpool Council as an activity that occurs at night, usually between the hours of 9.00 pm and midnight. Natural surveillance becomes particularly difficult for both the council and local businesses in the area as they operate under normal business hours. Therefore the area is effectively abandoned and free from control during the hours that the crime occurs. The perceived risk of detection and apprehension is low because Ash Road is poorly lit and visibility is therefore minimal.

### ***Situational crime prevention***

Ideas of environmental design highlight why Ash Road is a hotspot for illegal dumping. We will now consider some of the approaches suggested by situational crime prevention that could be adopted by the council. Situational crime prevention is well suited to addressing illegal dumping concerns because it is aimed at specific crimes in specific circumstances. Illegal dumping is a situation specific crime, as each 'hotspot' identified is unique not only in its environment but also in its perceived offender. Given that each hotspot is different, the prevention techniques established need to be specific as opposed to general, particularly when addressing ways to manipulate the physical environment to minimise crime.

Clarke, a pioneer of the situational approach, condensed it to five basic techniques; increasing the efforts, increasing the risks, and reducing rewards for crime; removing the excuses; and reducing the provocations.<sup>54</sup> Clarke suggested that the aims of situational prevention are achieved by a range of core activities. We will focus on the first of these three techniques in this section, and consider reducing the excuses and provocations under the heading of secondary crime prevention below.

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<sup>53</sup> Jane Jacobs, *The Death and Life of Great American Cities* (1961).

<sup>54</sup> Ron Clarke, *Situational Crime Prevention: Successful Case Studies* (1992).

### *Increasing the effort*

The idea of increasing effort is to make it more difficult to commit an offence. Techniques include target hardening of vulnerable property, controlling access to vulnerable property and places, deflecting offenders away from vulnerable property, places and people and controlling facilitators which aid the commission of offences.

Target hardening techniques aim to strengthen defences by impeding access to targets.<sup>55</sup> Examples of techniques that can be employed by Liverpool Council on Ash Road include barriers and mounds. The aim of these devices is to make the target more resistant to acts of illegal dumping and make it more time consuming for offenders to overcome obstacles.<sup>56</sup> Liverpool City Council could erect a security gate at the entrance onto Ash Road off Jemma Road, that is, at the entrance to the cul-de-sac. This gate would need to have some kind of access card, pin or security guard, which restricts access to authorised vehicles, including councils rangers, and permanent employees and occupants of the two businesses on Ash Road. However, use of a security guard would raise issues as to who is responsible for payment of this service. Moreover, having a gate at the entrance to Ash Road could be inconvenient and disruptive for the existing businesses in the industrial area. There is a constant flux of strangers entering and exiting the area for the purpose of business operations. A proposed solution would be to leave the gate open during regular business hours and closed during the evening. This would allow business operations to operate normally throughout the day, but prevent access during the evening, the time at which illegal dumping occurs most frequently. In addition, during business hours Ash Road could be protected by the natural surveillance of the workers in the area.

The gate would have to be used in conjunction with other techniques, such as hedging to block access onto the flat dirt area next to the road. Given that there is no guttering; vehicles could easily avoid any gate placed across the road by driving through the dirt onto the open space. Therefore a gated entry plus fencing could be used so that there is a single secured and guarded exit and entry point onto the premises. This would probably be the best technique as a notion widely shared by police is that controlled-access through a single entry and exit point is the best crime prevention technique.<sup>57</sup> However, the use of gates to close off the area would exemplify one of the criticisms of some forms of situational crime prevention – that they achieve reduced crime rates in specific areas through exclusivity. Here, a gate would effectively exclude others from using the reserve. A counter argument is that at the moment the reserve is not used except for illegal dumping and has two years worth of accumulated garbage.

Earth mounds could be erected to make entry more difficult. This technique would be used along the street to make access onto the dumping site more difficult. Given the

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<sup>55</sup> Ibid p 34.

<sup>56</sup> Ibid.

<sup>57</sup> Richard Schneider, *Crime Prevention and the Built Environment* (2007) p 190.

material most often dumped is construction waste it can be assumed that the dumpers are driving trucks. Therefore the effectiveness of this solution would be difficult to measure. If this is true, it may be possible for such vehicles to overcome mounds and hence they may not act as a sufficient deterrent.

Liverpool Council can establish defensible space by planting hedges or berms or using edging shrubbery along the roadside to show a defined property line and to separate the road from the reserve. Alternatively the Council could plant ground covering over the entire dirt space depending on the conditions required to grow such vegetation. The hedge, shrubbery or berm strategy would likely give the best result because it acts as both a psychological and physical barrier between public and private<sup>58</sup> and would discourage potential offenders from cutting through the area onto the open dirt area. It is recommend that a waist-high thorny shrubbery be planted on Ash Road because the height makes access more difficult, and thorns raise issues of physical injury and damage to vehicles.

The height of the plant is relevant because access onto the property is usually via vehicle, and therefore low-lying shrubs could easily be run-over and trampled by motor vehicles. If the vegetation line is higher it makes it more difficult for trespassers to drive through the shrubbery but also makes it difficult for dumpers to park on the road and simply throw their material over the vegetation. The use of thorny shrubs would also be recommended because it can deter climbing and send a clear message to offenders that the area is off-limits.

#### *Increasing the risks whether real or perceived*

A second strategy nominated by Clarke is to increase the risks associated with offending, whether real or perceived. Clark nominated strategies such as screening and surveillance. Surveillance can be natural and/or formal, and minimises the instances of crime by increasing the guardianship present in the area. Therefore, it is necessary to implement surveillance and capable guardians, as they are very powerful tools in reducing the perceived and actual vulnerability of a site.<sup>59</sup> A central idea is that people are less likely to contravene rules if they believe that they are being watched. This draws on Foucault's ideas about disciplinary bodies and the panopticon.<sup>60</sup> Structural design can create an impression of invisible omnipresence and a sense of being watched, by not making it clear whether people are being watched at any particular time. Accordingly, we behave at all time as though we are under surveillance.

At Ash Road, surveillance could be aided by lighting and CCTV cameras. Lighting is a fundamental facilitator of surveillance and can be used as a tool to mark territory.<sup>61</sup>

<sup>58</sup> Randall Atlas, *21st Century Security and CPTED* (2008) p 235.

<sup>59</sup> Richard Schneider, *Crime Prevention and the Built Environment* (2007) p 199.

<sup>60</sup> Michel Foucault, *Discipline and Punish: The Birth of the Prison* (1977).

<sup>61</sup> Richard Schneider, *Crime Prevention and the Built Environment* (2007) p 199.

Improved lighting is entirely consistent with situational crime prevention concepts as increased visibility should both reduce opportunities for crime and increase the probability of an offender being caught.<sup>62</sup> Therefore it is widely accepted that this solution can reduce both crime and fear of crime. Whilst lighting does not stop physical entry on the premises it can create a psychological deterrent to criminals, as there is an increased perception of security.<sup>63</sup> As previously mentioned, most instances of dumping occur under the cover of darkness. Thus lighting would be a suitable technique because it increases the visibility in the area thereby acting as a deterrent by increasing the perception that offenders are under surveillance. The success of lighting in reducing instances of illegal dumping can be seen in the City of Canada Bay Council, which installed solar lighting in a hotspot. The council reported that illegal dumpers were deterred from the area therefore reducing the amount of waste disposal in the area and resulting in fewer complaints.<sup>64</sup>

Installing CCTV would also have the same effect as lighting. It would be used as a deterrence tool to increase perceived dangers and create a real risk to offenders that they will be caught. It would therefore be suggested that the best way to increase the perceived risk is by using both dummy cameras and real cameras, placed in an area where the offender can see them giving the perception of wide spread surveillance.<sup>65</sup> The use of both real and fake cameras would reduce the costs for council in installation. Whilst cameras may act as a deterrence tool, they do not necessarily act as a means of catching the offender. The image quality presented by the cameras as well as techniques used by offenders to conceal their identity, suggest that cameras may not be the appropriate tool to bring offenders to justice.<sup>66</sup> However, illegal dumping will usually involve the use of vehicles, making it easier to track offenders via their vehicles. Given the identified time at which illegal dumping occurs in the relevant hot spot, cameras would need to operate as part of a wider package of crime prevention techniques to be most effective.

In addition, the council may facilitate natural surveillance by changing the use of the space. Currently, the reserve is only used for illegal dumping. The council might invest money in cleaning up the area, providing seats and vegetation to encourage workers to use the space during the daytime. This would foster surveillance, and create a sense of territoriality.

Surveillance could also extend beyond the target site to a focus on waste generally under existing powers in the *Environmental Planning and Assessment Act 1979 (NSW)*. Under this Act, Local Councils can require those applying for development

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<sup>62</sup> Stephen Atkins, Sohail Husain and Angele Storey, *The Influence of Street Lighting on Crime and Fear of Crime* (1991) p 1.

<sup>63</sup> Randall Atlas, *21st Century Security and CPTED* (2008) p 383.

<sup>64</sup> Department of Environment and Conservation, *Illegal Dumping, Handbook for Local Government* (2008) p 37.

<sup>65</sup> *Ibid* p 42.

<sup>66</sup> Richard Schneider, *Crime Prevention and the Built Environment* (2007) p 202.

consent to prepare waste management plans, which can require applicants to submit waste disposal receipts to council to demonstrate compliance.<sup>67</sup> To ensure compliance with environmental planning legislation, council officers should carry out regular audits. Councils can issue penalty notices for breaches of environmental planning legislation.<sup>68</sup> Focusing proactively on development applications and requiring receipts of lawful disposal increases the risks that offender will be caught, and has the advantage of being part of a pre-existing regulatory scheme. This approach also need not be too onerous for councils. Instead, councils should place the onus on developers to legally remove waste and provide proof that they have done so.

Surveillance could also extend to the DNA tagging of waste at construction sites to easily track offenders. This too, would greatly increase the risks of being caught. DNA testing is already utilised in relation to logging, fishing and endangered species.<sup>69</sup>

### *Reducing benefits*

A third strategy of situational crime prevention is the removal of rewards. Clarke cites examples such as the use of screens, cameras and reduced cash-handling in banks to combat bank robbery; and of boom gates and other access controls to reduce theft in car parks.

A primary approach here is to increase the costs of illegal dumping and potentially reduce the expense in terms of time and money of legal waste disposal. As noted at the beginning of this article, waste is becoming an increasing problem in society, and there are arguments about how much councils can and should assist with legal disposal. I will leave aside these issues and focus instead on reducing the benefits associated with illegal dumping. At the moment, illegal dumping is an economically rational decision, partly due to the low risk of being caught, but also the very low penalties associated with enforcement.

The legislation specifies various measures that local councils can take in response to unlawful waste disposal. The offences are constructed in three tiers ranged in terms of seriousness – with Tier one the most serious and Tier three the least serious. Tier one offences require proof of willingness or negligence in the commission of an illegal act and evidence of environmental harm or likely harm, for prosecution to proceed. Tier two offences may be prosecuted, and are treated as strict liability offences, whilst Tier three offences are dealt with through the issuance of a penalty notice.

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<sup>67</sup> *Environmental Planning and Assessment Act 1979 (NSW)* s 76A.

<sup>68</sup> *Environmental Planning and Assessment Act 1979 (NSW)* s 27A; *Environmental Planning and Assessment Regulation 2000 (NSW)* cl 284; Schedule 5.

<sup>69</sup> Rob White, 'Environmental Crime' in Alison Wakefield and Jenny Fleming (eds) *Sage Dictionary of Policing*, (2009) pp 105-107.

The complexity of the legislation has been recognised as having the potential of encouraging officials to use the easiest option.<sup>70</sup> In line with council responses generally, Liverpool Council has demonstrated a reluctance to prosecute offenders and a preference for penalty or clean-up notices.<sup>71</sup> This is ostensibly a rational response by Liverpool Council. Local councils are able to recover the administrative costs of preparing and giving notices.<sup>72</sup> Further, money received from the issuing of penalty notices goes to the State Debt Recovery Office, but a portion is then returned to the council in the form of revenue. On the other hand, a council will not receive any of the money from fines issued in court. Given that the council spends approximately \$500,000 a year on the clean up of unlawfully disposed waste a year, they prefer to receive the money from offenders which goes toward clean up procedures rather than to state coffers. However, it is suggested that if offenders were prosecuted and fined more heavily, they would be less likely to commit the offence in future, and the penalties would have a general deterrent effect. High penalties attached to illegal dumping would have a preventative effect that is currently lacking in council responses.

To consider crime prevention techniques of reducing benefits, it is necessary to differentiate between offender types. Three loose classes of offenders have been recognised by Liverpool Council. These are, first, renovators who dispose of waste unlawfully in order to avoid the costs associated with illegal waste disposal; second, sole traders who dispose of waste unlawfully as part of their ongoing business to avoid the costs associated with lawful waste disposal; and third, imposter or charlatan waste disposal companies who engage in the unlawful act intentionally with a view to profit.

Renovators tend to be one-off, situational offenders. Penalty and clean up notices are designed to deal with one-off breaches that can be remedied easily and therefore these tend to be effective when dealing with one-off offenders such as renovators. The criminal act is normally a one-off and if caught, renovators are generally deterred by a clean-up or penalty notice. They are also the most likely to be deterred by the increased risks and efforts detailed above.

Sole traders are routine offenders, who dispose of waste illegally as an informal part of their otherwise legitimate business. The penalties are currently not sufficiently high for sole traders to reduce the likelihood of repeat offending. This is because they are treated under the Act as an individual rather than a company, and are subject to the same, lesser, fines as individuals. They are thus less likely to be deterred by a clean-up or penalty notice, especially if the business is profitable and the instances of getting caught are slim. Sole traders who work in the construction industry deal with

<sup>70</sup> Duncan Chappell and Jennifer Norberry, 'Deterring Polluters: The Search for Effective Strategies' (1990) 13(1) *University of New South Wales Law Journal* 97.

<sup>71</sup> Department of Environment and Conservation, *Illegal Dumping, Handbook for Local Government* (2008), p 9.

<sup>72</sup> The Act s 94(1).

construction waste on a daily basis. Disposing of that waste unlawfully, in order to minimise costs associated with lawful waste disposal, and maximise profits for the business, becomes an ongoing practice. The cost of paying a fine that is designed to deter an individual, is unlikely to deter a sole trader. Even after paying the fine, a sole trader is likely to have saved money overall. The legislation needs to be changed to differentiate between individuals and sole traders, or create an offence with greater penalties proscribing waste unlawfully disposed of ‘in the course of business’. This would catch sole traders and corporations but not individual householders. Sole traders would also be effectively responded to through council follow-ups on development application waste plans and auditing proof of legal disposal.

Imposter or charlatan waste disposal companies are environmental offenders who repeatedly commit crime as part of their illegitimate businesses. These types of offenders will not be deterred by fines set for individuals, as this would instead be regarded as part of an ongoing cost of the business. Prosecutions should be actively pursued against these types of offenders, and involvement across local government borders is required as these types of businesses are not limited to local areas. In terms of long-term responses to these types of offenders, local councils need to reduce the huge profits associated with an illegal industry. This will take structural reforms that are beyond the reach of this paper.

### *Displacement*

A dilemma in any place-based crime prevention, is that an offender who is foiled from one target may be displaced to another, more vulnerable one.<sup>73</sup> The concerns over displacement are particularly relevant to the crime of illegal dumping given the widespread nature of the activity. There are multiple hotspots identified by each and every council, including Liverpool, which therefore suggests that the act can easily be moved from one target to another. In the same way it is highly likely that unlawful waste disposal would simply move to a new piece of land. However, whether displacement actually occurs is a matter of debate. There is considerable evidence that offenders are not programmed to switch from one target to another after their first is thwarted.<sup>74</sup> This suggests that people may stop their criminal activity rather than attempt to find a new location to dump material. Given that evidence in this area is not completely clear, we would suggest that in order to minimise illegal dumping in general, solutions would need to be established over several hotspots so that unlawful waste disposal is made more difficult than lawful waste disposal. Many of our proposals in this paper would contribute to reducing the likelihood of displacement.

### **Secondary crime prevention**

The latter section has been concerned with primary crime prevention – the reduction

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<sup>73</sup> Richard Schneider, *Crime Prevention and the Built Environment* (2007) p 34.

<sup>74</sup> See for example Jerry Ratcliffe and Toni Makkai, ‘Diffusion of Benefits: Evaluating a Policing Operation’ *Trends and Issues in Crime and Justice* (2004).



of opportunities to commit crime. This section is focused on secondary crime prevention, where the aim is to change the people who are likely to commit offences by using education and reform.<sup>75</sup> Clarke's ideas of reducing provocations and removing excuses is generally considered under the heading of situational crime prevention, but to avoid repetition, we will focus on the ways in which these ideas can be used by Liverpool Council to reduce opportunities *and* change people's perceptions of illegal dumping.

Waste operations rangers at Liverpool Council have identified a pattern in offenders: that they are between the ages of 35-55 and primarily involved in the construction/demolition industry. This accords with statistics that construction is one of the most common industries within Liverpool and a significant proportion of people are between the relevant ages. This also accords with research from the Department of the Environment and Conservation NSW that confirms that small business operators are the most likely source of illegal dumped construction and demolition waste.<sup>76</sup>

Individuals falling within the 35-55 year age bracket grew up in a legal and social context that allowed for the burning of rubbish on private property, free disposal of waste at landfill sites and a lack of governmental regulation. The availability of free waste disposal in landfill sites encouraged the lawful disposal of waste and was a common feature during the childhood years of the relevant offender. These practices meant that there was less need to dump illegally. Similarly, the incineration of household waste was widely practiced. The reason for this was that it was seen as a right for landowners to use their property as they wished, as well as being more convenient and cost effective. This encouraged a perception that individuals were free to deal with their private waste in any way they saw fit. However, the changing nature of household waste required the control of such practices, which in turn led to the introduction of environmental legislation throughout the 1970s and 1980s.<sup>77</sup> Increasingly, packaging became plastic based which if burned release a number of harmful vapours. Depending on the type of additives incorporated within different plastics, poisons include the emission of the carcinogenic agent Dixon, found in organochlor based substances like PVC and polystyrene polymers. This releases styrene gas and is absorbed through the skin and lungs.<sup>78</sup> Legislation including the prohibition of burning of household waste and levies applicable to landfills, impacted

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<sup>75</sup> Paul Brantingham and Frederic Faust, 'A conceptual model of crime prevention' (1976) 22 *Crime and Delinquency* pp 130-146.

<sup>76</sup>Department of Environment and Conservation NSW, *Crackdown on Illegal Dumping: Handbook for Local Councils* (2008) p 14.

<sup>77</sup> Legislation implemented during this time include the *Environmentally Hazardous Chemicals Act 1985 (NSW)*, *Coastal Protection Act 1979 (NSW)*, *Environmental Planning and Assessment Act 1979 (NSW)*, *Land and Environment Court Act 1979 (NSW)*, *Marine Pollution Act 1987 (NSW)*.

<sup>78</sup> Women in Europe for a Common Future, *Dangerous Health Effects of Home Burning of Plastics and Waste*, WECF <[www.wecf.eu/cms/download/2004-2005/homeburning\\_plastics.pdf](http://www.wecf.eu/cms/download/2004-2005/homeburning_plastics.pdf)> accessed at 17 May 2010.

the manner in which an individual functioned in society.<sup>79</sup> It was these changes in control that encouraged otherwise law-abiding citizens to resort to alternate practices. Legislation has been implemented in the life-time of these citizens converting what were once lawful activities into unlawful offences. Dumpers, especially renovators and sole traders may well regard their actions as justifiable based on early life experiences.

Another important issue is the high level of immigration in the area of Liverpool. This is relevant because it affects the historical backgrounds of residents. 37.8% of Liverpool residents were born overseas, with the two highest migrant populations comprised of Fijians and Vietnamese. Although statistics are not available regarding the ethnicity of offenders, this high percentage could suggest another historical and social context that explains illegal dumping. The cultural barriers that are faced upon migration to Australia can be used to explain reasons for illegal dumping. These barriers include firstly, less rigid legislative framework in country of origin, which may cause immigrants to view Australia's environmental laws as harsh, unnecessary and an arbitrary restriction. Therefore they dispose of waste based on the pre-existing attitudes of their country of origin.<sup>80</sup> Secondly, lack of community pride may contribute to illegal dumping. New immigrants may feel isolated and lack any connection with their new country, thus the issue of waste beyond their own personal property may be regarded as someone else's responsibility.<sup>81</sup> Thirdly, low prioritisation of the environment may result in dumping. There are numerous challenges and strains applicable upon settling in a new country and culture, therefore the issues pertaining to the environment are a matter of low priority.<sup>82</sup> Finally, lack of understanding about procedures may be a contributing factor. Despite immigrants knowing the responsibilities of rubbish disposal in their homeland, they lack awareness of Australia's procedures.<sup>83</sup>

Secondary crime prevention needs to disrupt the way people regard illegal dumping and to strengthen moral condemnation through educative practices. This effectively removes the excuse and justification for the relevant criminal behaviour and makes people aware of their social responsibilities.<sup>84</sup> It has been argued that the prime incentives for environmental crime are 'greed' and 'ignorance'.<sup>85</sup> Ignorance can be overcome by informing the public of the harmful consequences of illegal dumping to the community including the costs of clean-up and pollution effects. This may not

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<sup>79</sup> *Strata Schemes Management Regulation 2005* (NSW) Sch 1, Cl 15 and *Local Government Act 1993* (NSW) s 496.

<sup>80</sup> Department of Environment and Conservation NSW, *Crackdown on Illegal Dumping: Handbook for Local Councils* (March 2008) p 61.

<sup>81</sup> Department of Environment and Conservation (NSW), *An assessment of attitudes and behaviour amongst multi unit dwelling residents in relation to illegal dumping*, (2004) pp 44-58.

<sup>82</sup> *Ibid.*

<sup>83</sup> *Ibid.*

<sup>84</sup> *Ibid.*

<sup>85</sup> Paul Grabosky, 'Eco-criminality: Preventing and controlling crimes against the environment' (2003) 41 *International Annals of Criminology* pp 225-242.

only deter would-be offenders, but also encourage the community to engage in protection of public spaces – thereby increasing the likelihood of natural surveillance. The notion of criminality is one of the major ways in which morality is communicated, providing condemnation, classification, and the languages, idioms, and vocabularies with which to do so.<sup>86</sup> Emphasising criminal aspects conveys a different way of thinking about, and responding to, illegal dumping.

Currently, education accounts for approximately 6% of local government costs concerning illegal dumping.<sup>87</sup> This is a problem because illegal dumping should be dealt with proactively rather than addressed on a reactive basis. Relevant procedures that residents need to be informed about include the location of landfills, the materials that are or are not accepted at such landfills and the costs associated with waste disposal. Additionally, Liverpool Council provides residents with a number of key waste services to target the issue of illegal dumping.<sup>88</sup> For households, these include free collections of waste including metal, whitegoods and general materials.<sup>89</sup>

These must be effectively communicated in order to prove successful. It is necessary to know the relevant target audience, as certain social factors affecting the success of educative tools may be more prevalent in one area.<sup>90</sup> Educative tools must be appropriately focused to meet the linguistic and cultural diversity present in Liverpool City. 37.8% of residents were born overseas, with 33.6% coming from non-English speaking backgrounds. This may have varying significance as 62.9% admit to speaking English proficiently compared with 17.5% of residents who report their inability to speak English.<sup>91</sup> Additionally, 47.1% speak English at home, with Arabic and Vietnamese representing the highest proportion of non-English speaking languages at home at 7.7% and 4% respectively.<sup>92</sup> Given 147 languages are spoken in Liverpool, educative tools have been translated into those most widely used in the community to ensure the best success.<sup>93</sup>

The 2006 Australian Bureau of Statistics revealed that 32.9% of residents in Liverpool did not have access to the Internet.<sup>94</sup> Whilst there are no more recent statistics available, lack of Internet access would still affect a significant portion of the community given the socio-economic factors identified above. This means that

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<sup>86</sup> David Garland, *Punishment and Modern Society* (1990) pp 252-253.

<sup>87</sup> Department of Environment and Conservation NSW, *Crackdown on Illegal Dumping: Handbook for Local Councils* (March 2008) p 61.

<sup>88</sup> Government of NSW *Liverpool City Council* (2010) <<http://www.liverpool.nsw.gov.au/home.htm>> accessed at 10 May 2010

<sup>89</sup> *Ibid.*

<sup>90</sup> Department of Environment and Conservation NSW, *Crackdown on Illegal Dumping: Handbook for Local Councils* (2008) p 61.

<sup>91</sup> *Ibid.*

<sup>92</sup> *Ibid.*

<sup>93</sup> *Ibid.*

<sup>94</sup> *Ibid.*

educative tools must not be limited to the Internet and must freely be available in public arenas and regularly delivered to individual households.

Signs near dumping hotspots are used to educate people about the penalties applicable to dumping and the correct and available procedures to dispose of waste lawfully.<sup>95</sup> Whilst some councils reported that signs were very successful in deterring offenders, others reported that signs were vandalised within a few days of being put up.<sup>96</sup> Signs are used by Liverpool Council because they are cost effective, they increase the perceived risk of being caught, encourage multiple reports of dumped material and provide instructions on the proper procedures and the effects of environmental harm.<sup>97</sup> It should also be noted that in May 2010, Liverpool Council erected a single sign at Ash Road notifying dumpers that their activity is criminal and could attract large fines. Whilst this initiative is a good start by the Council in attempting to reduce instances of illegal dumping, it has not proved sufficient in deterring offenders. The rate of dumping in the area has remained steady despite the presence of this sign. One deficiency in this strategy is that signs on their own often prove insufficient because it is likely that ‘only law abiding, nuisance dumpers and those justifying the action of dumping as socially acceptable in that location will take any notice of signs’.<sup>98</sup> However they have not proved a successful deterrent mechanism to sole traders and imposter providers who are unlikely to pay attention to the signs or cease criminal behaviour.

Posters placed in strategic positions around public areas, such as shopping centres and community centres, and postcards delivered to letterboxes in the relevant area would be of use to notify residents of the appropriate behaviour when disposing of waste.<sup>99</sup> Of particular importance is the need to inform residents of the risks of accepting ‘door knocking’ waste service providers who take waste for a reduced price. This is relevant because residents, as the owner of the waste, may be held culpable under legislation, should the imposter dispose of waste incorrectly. Given the linguistic and cultural diversity of Liverpool, these educative tools must be multilingual to influence the greatest number of people. Similarly, individuals engaging the services of sole traders should be aware of the identified trend that such people are more inclined to dump waste illegally. The instances of illegal dumping could be reduced if residents ask to be provided with appropriate receipts in accordance with procedure. The purpose of this would be to make residents more accountable for their waste, to change the existing attitude that it is someone else’s problem and place illegal dumping on the community agenda. This is important if the correct social norms are to be produced which inform behaviour.

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<sup>95</sup> Ibid p 71.

<sup>96</sup> Ibid.

<sup>97</sup> Ibid NSW, *Crackdown on Illegal Dumping: Handbook for Local Councils* (March 2008) 64.

<sup>98</sup> Ibid p 71.

<sup>99</sup> Ibid p 64.

Liverpool City Council sends residents a number of letters informing them of waste collection services and warnings when waste has been dumped outside their property.<sup>100</sup> Unless they are personalised, there is a possibility that these letters will be disregarded as junk mail. The purpose of this educative tool is primarily to illustrate the council's awareness and response to dumped material, thus increasing the perceived risk of being caught.<sup>101</sup> It applies pressure to the offender to remove dumped material and has been utilised successfully in a number of councils. Leichhardt Council reported a high percentage of removal after the distribution of such letters and takes a 'no blame approach.'<sup>102</sup> This response would be useful for reducing instances of dumping of household waste, but is unlikely to combat the construction and industrial waste given the pre-meditation of the act.

Liverpool runs a number of key waste seminars, including those targeted at reducing household waste and construction and demolition waste.<sup>103</sup> Whilst these are useful in raising the general knowledge of procedure in the community, it is unlikely that those who are engaging in relevant criminal acts will be in attendance. Whilst they would increase the knowledge available on illegal dumping on a general level, they may fall short of targeting offenders or potential offenders.

Dumping in the relevant area is primarily comprised of construction and demolition waste. As identified in a survey of the construction industry by the Department of Environment and Climate Change, 66% of those interviewed had not been asked by authorities to provide details about their waste management.<sup>104</sup> Whilst there was a high percentage (66%) that requested waste disposal receipts from subcontractor waste transporters, only 24% conducted audits. 64% believed that it was very unlikely that waste transporters would be caught illegally dumping and 58% thought it unlikely that the owner of the waste would be caught.<sup>105</sup> As identified above however, Liverpool Council does not conduct audits, and therefore the perceived risk of being caught is slim. Therefore, it is necessary to increase the information available to this industry, coupled with regular site inspections and audits of waste receipts if illegal dumping is to be reduced on a long-term basis. Given development applications are necessary for proposed work, information should be provided with these forms, outlining the correct disposal procedures relevant to the industry. The purpose of these information packs is to remove the excuse from offenders and instruct them on appropriate behaviour. This is especially important considering Council does not provide a collection service for construction waste. Whilst Council may not run the

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<sup>100</sup> Government of NSW *Liverpool City Council* (2010) <<http://www.liverpool.nsw.gov.au/home.htm>> accessed at 10 May 2010.

<sup>101</sup> Department of Environment and Conservation NSW, *Crackdown on Illegal Dumping: Handbook for Local Councils* (2008) p 65.

<sup>102</sup> Ibid.

<sup>103</sup> Government of NSW *Liverpool City Council* (2010) <<http://www.liverpool.nsw.gov.au/home.htm>> accessed at 10 May 2010.

<sup>104</sup> Department of Environment and Conservation NSW, *Crackdown on Illegal Dumping: Handbook for Local Councils* (2008) p 70.

<sup>105</sup> Ibid.

service, by providing the industry with a guide outlining what waste is accepted at local landfills and additionally the location of recycling or reuse facilities, it will remove the frustrations that provoke small business operators to dispose of their waste illegally.<sup>106</sup> As identified above, the council operates on a reactive basis to illegal dumped construction material and only audits waste receipts after there has been a complaint. Random inspections must be made if there is to be an increase in the perceived risk of being caught.

The primary aim of education is to increase information available to the public, emphasising the harmful consequences of illegal dumping, highlighting the council's willingness to prosecute, and expressing the legal alternatives. Greater public advertising will, in combination with the above educative tools, raise the level of knowledge about the issue of illegal dumping and make it a community problem to be addressed. Whilst these tools do not directly address criminal acts in the relevant hotspot, they will, by addressing attitudes in the community and increasing the level of education available, indirectly reduce instances of illegal dumping by challenging the social norms applicable to the disposal of waste. Individuals must accept responsibility for illegal dumping, rather than see it merely as council's responsibility.

Prevention campaigns are sporadic and specific in nature, failing to inundate the whole community with sufficient material for long-term success. Kogarah's 'Dumping. It's Dumb' campaign was initially successful seeing the removal of 61% of dumped rubbish in and around multi-unit dwellings.<sup>107</sup> However, as soon as the media publicity subsides and time sees the change of residents, instances of illegal dumping will again increase. If more money were spent on education in the short-term, this would reduce the clean-up costs in the future.

A good reputation is crucial for business success in the construction and demolition industry. A re-integrative shaming approach based on a republican response to crime may prove successful when dealing with businesses engaging in illegal dumping.<sup>108</sup> This concept sees offenders publicly shamed for their crime, but reintegrated back into the community to avoid the undesirable stigmatisation created by public labelling.<sup>109</sup> Advertisements showing photographs of waste dumped and those responsible will influence a business' standing in the community and encourage operators to behave lawfully. Giving offenders the opportunity to recognise their wrongdoing, apologise and repent through the removal of waste and payment of costs for damage caused, sees shaming as a useful means to combat crime without permanently removing the offender from society. This would serve an educative and deterrent effect for the community.

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<sup>106</sup> Ibid p 56.

<sup>107</sup> Ibid p 67.

<sup>108</sup> Rob White and Santina Perrone, *Crime, Criminality and Criminal Justice* (2010) p 81.

<sup>109</sup> Ibid.

## **Conclusion**

Illegal dumping is an increasing and significant problem for the community. Analysing and responding to illegal dumping as a crime has an educative advantage in terms of disrupting community ideas about waste disposal, thus developing the potential for natural surveillance and reducing the likelihood of this type of offence being committed due to ignorance. Thinking of illegal dumping as a crime also encourages the application of crime prevention approaches. Throughout this paper we have highlighted various strategies that could be undertaken by Liverpool Council to reduce illegal dumping at Ash Road specifically, and more generally. The council would be best placed if it adopted a combination of primary and secondary techniques. Environmental design and situational crime prevention would reduce opportunities for illegal dumping by increasing risks and efforts, and reducing rewards. This would need to be accompanied by education emphasising the harm to the community, the notion of illegal dumping as a crime, council capacity to respond and regulate in a serious manner, whilst also providing information about legal alternatives. The development of the notion of illegal dumping as a crime could in itself be preventative, as it may contribute to discouraging opportunistic, but otherwise law-abiding potential offenders, whilst simultaneously developing community awareness and concern. These techniques would need to be monitored to assess their efficacy. Some approaches may appear expensive, but if they reduce illegal dumping they will save the council money in the long-term whilst having a positive impact on the environment.