Resource Futures

London Borough of Harrow
HRRC Options Analysis

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Executive summary

The London Borough of Harrow has one HRRC at Forward Drive which is also a transfer station for council vehicles and comingled recycling collection vehicles. Background information about the site, including usage and throughputs, is available in Section 2.

Forward Drive receives 7,760 tonnes of residual waste annually from householders and an additional 6,360 tonnes from council vehicles (including street cleansing, trade, bulky waste) and trade waste vehicles. The site also receives 26,016 tonnes of recyclable materials annually, of which 8,592 is brought in by residents and 13,945 is brought in by comingled RCVs.

In the past twelve months the inputs of residual waste and green waste have significantly increased. It is believed to be due to:

- The introduction of a charged for garden waste service within the borough
- HRRC changes introduced in neighbouring authorities
- Lack of clarity in Council's policies regarding trade waste

This review has benchmarked the site and its policies with neighbouring authorities to identify solutions to the problem. Inconsistencies between Harrow's waste policies and those of its neighbours were identified. The increase in residual waste seems to be partly attributable to changes in policy in the other surrounding London Boroughs. This is discussed further in Section 3 – Benchmarking, including a summary of the relevant legislation in Section 3.1.

This review has analysed tonnage and traffic count data for the site, a spatial analysis to identify the size of the catchment and anticipated inputs from cross-border use. This report analyses the expected usage of this site by Harrow households and the residents of neighbouring authorities. The proportion of cross-border households is estimated to be 23%, with the majority (18%) from Brent, as detailed in Section 4.

The report contains several recommendations for improvement at the site, including policy changes such as the introduction of DIY charges or residents permits, and the upgrading of trade waste controls. Details of these can be found in Section 5, while the cumulation of these options is explored in Section 6. A summary of the estimated effects of implementing one or a combination of the policy changes discussed above is estimated in the table below, including the effect on both traffic and tonnages, and cost.

	Estimated Yearly tonnage reduction	Estimated Yearly traffic reduction	% Reduction	Cost (Years 1 and 2)
Current	16,352	410,367	-	-
Single Options				
DIY Charges[1]	1,276	32,011	8%	-£24,730
Upgrading Trade Waste Controls	1,635	41,037	10%	£84,733
Resident Permits	4,512	113,241	28%	£25,285
Combined Options				
Upgrading trade waste controls and DIY charges	2,911	73,048	18%	£60,003
Upgrading trade waste controls and resident permits	6,148	154,277	38%	£110,018
DIY charges and resident permits	5,788	145,252	35%	£555
All Options				

[1] DIY charges have been modelled using 2 scenarios – 50% and 80% reductions in DIY waste. This midpoint of these 2 options has been used for these calculations.

All 3 options	7,423	186,289	45%	£85,288

The policy change expected to have the largest impact is the introduction of resident permits, expected to reduce traffic and tonnages by 28%. This is due to the policy not only limiting the use of the site to non-residents, but also to traders coming from outside the area to take advantage of free disposal. Upgrading trade waste controls is expected to tackle the remaining trade abuse from traders within Harrow, and reduce throughput and traffic by a further 8%. The introduction of DIY waste charges is expected to reduce throughput and traffic by an additional 10%.

Harrow needs to consider how to make the HRRC fit for purpose, i.e. accessible for its residents. The policy changes should be considered as an 'Acceptable Usage Policy', rather than, for example a blanket ban on vans. Introducing policies that effectively manage site misuse will allow Harrow to provide a service for residents and traders whilst maximising recycling.

It is recommended that Harrow introduce a residents permit as it is expected to have a significant impact on reducing the number of visits the site receives per year and the tonnage inputs. However, it would also be beneficial to strengthen trade waste controls and introduce a charge for DIY type waste. By introducing these controls, and reducing throughput, it will be easier for site operatives to maximise recycling and increase the recycling rate.

A further review should be undertaken after 2 years. It is anticipated that implementation of the policies recommended above will reduce both the number of vehicles visiting site, as well as the site throughput. Once this has occurred, it will be possible to make improvements to the site, and possibly make better use of the space available.

Contents

1. Introduction

The London Borough of Harrow is part of the West London Waste Authority, the disposal authority for the London Boroughs of Brent, Ealing, Harrow, Hillingdon, Hounslow and Richmond upon Thames.

Harrow currently has one Household Re-use and Recycling Centre (HRRC) located at Forward Drive, Wealdstone. The site is split level, with the lower level acting as a waste transfer station for council bulky waste, fly tipping and street cleansing vehicles, as well as comingled recycling. The site is heavily used, with approximately 7,892 visits per week from residents and additional vehicle movements from trade waste customers, council vehicles and comingled vehicles. The focus of this report is the inputs to the HRRC.

There are severe congestion issues at the weekend, with queuing on Forward Drive and further beyond, which are causing issues to local residents and businesses and drawing complaints. The number of site visits is resulting in very high throughput, which is difficult to segregate with the resources available. Residual waste and garden waste volumes (and weights) are particularly high.

This report considers why and when the site is most busy, Throughput and policies at the Harrow HRRC has been benchmarked with neighbouring authorities (see Section 3) and a spatial analysis identifies how many residents from outside of Harrow may be using the site (Section 4). The options available to reduce the inputs and visitor numbers are discussed in Section 5, followed by conclusions and recommendations in Section 6.

2. Background

2.1 Location

Figure ***1*** above shows the boundaries of Harrow and its neighbours. Hillingdon, Ealing and Brent are part of the WLWA, while Barnet is within the North London Waste Authority (NLWA).

Figure 1: Map of Harrow and surrounding authorities

The Harrow HRRC is open 7 days per week from 8:30 to 16:30. The site achieved a recycling rate of 34% in 2015/16, which is substantially lower than the average for English local authorities (61.7% (excluding rubble in 2014/15 according to the National HWRC Directory).

An aerial view of the site, including vehicle movements, is shown in Figure 2 below. The figure shows vehicle movements by residents in green, vehicle movements by trade waste customers and council vehicles in dark pink and vehicle movements by hauliers and site machinery (cross arrow) in blue.

Householders enter the site from the roundabout on Forward Drive on the top right of the photograph, travelling one-way round the split level site. Small recyclables such as clothing, car batteries, household batteries, cooking oil and fluorescent tubes can be deposited on the upper level and bulk materials (green waste, wood waste, comingled recycling, scrap metal, mattresses, small WEEE, screens & monitors and residual waste are deposited in bays or skips on the lower level from above.

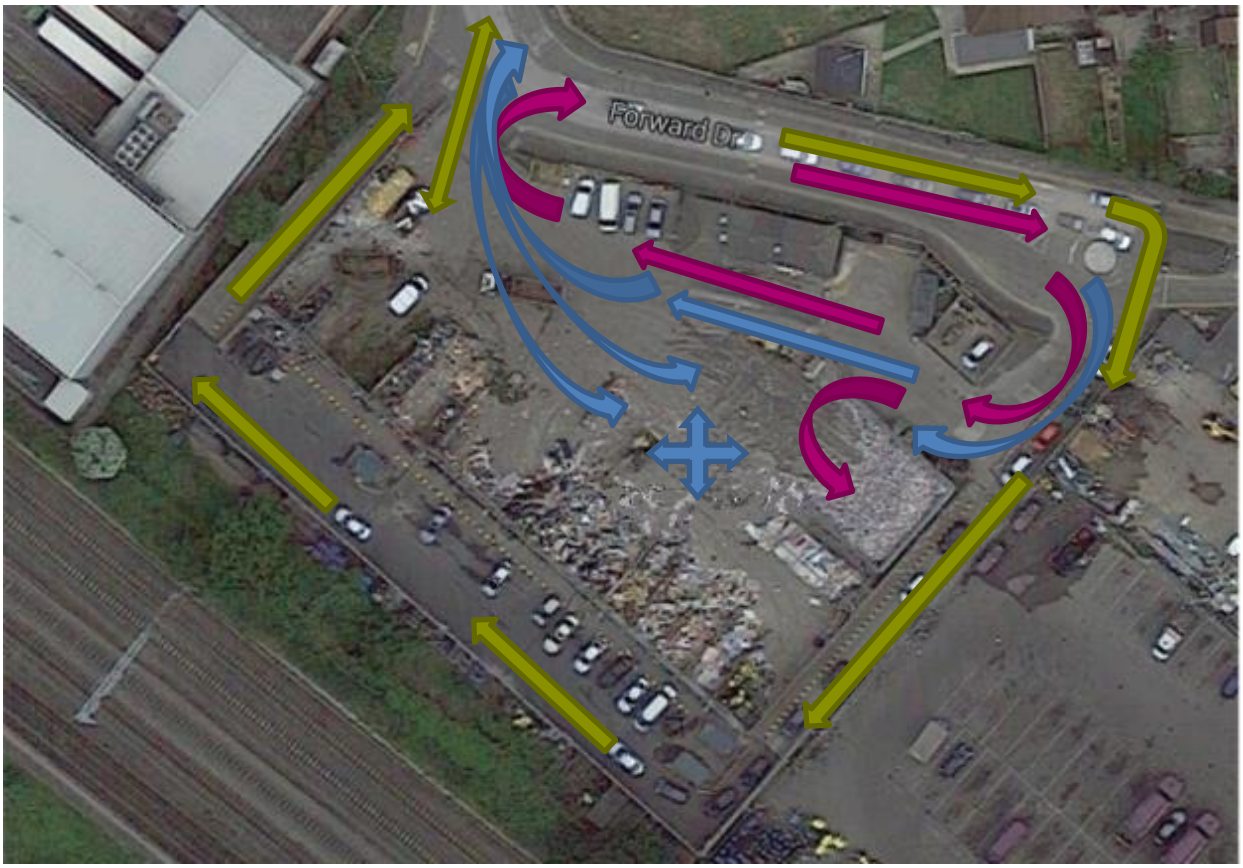

Figure 2: Aerial view of Forward Drive HRRC, Harrow

2.2 Usage

The site is extremely busy – based on the latest survey data (collected 09/05/16-10/07/16), over 7,890 vehicles per week visit the site on average, which is equivalent to 140 vehicles per hour. The busiest days are Friday-Monday, with Sunday the busiest day (over 180 vehicles/hour), as seen in Figure 3 below.

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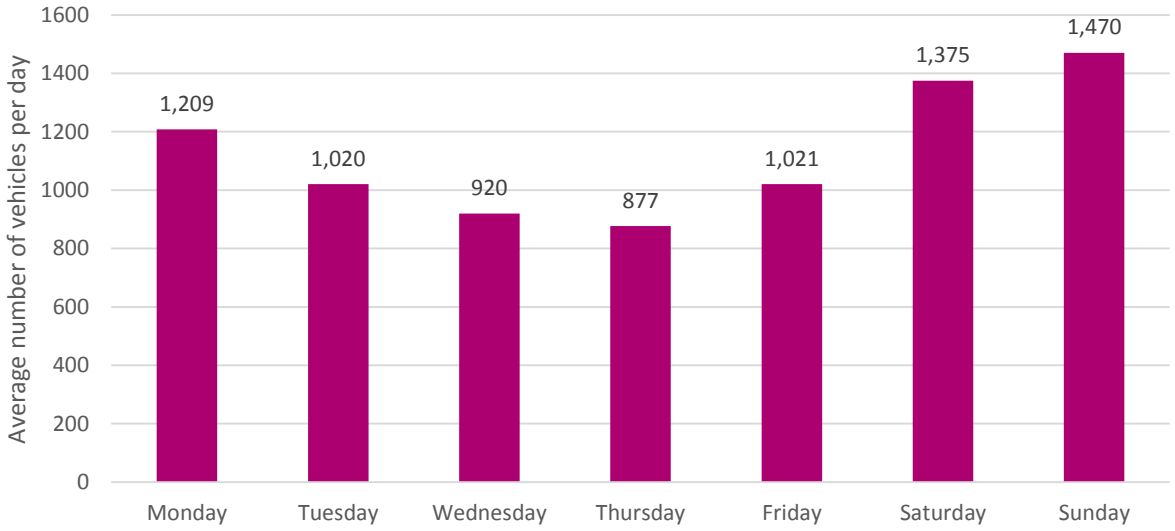


Figure 3: Forward Drive HRRC daily vehicle counts (average 09/05/16-10/07/16)

There are an additional average 303 vehicles coming on to site each week, including comingled refuse collection vehicles (RCVs), bulky waste, street cleansing, fly tipping vehicles and charities. These vehicles tip in the lower area. Assuming these vehicles are in use Monday-Friday, this equates to an average of over 7 vehicles per hour, in addition to the car traffic.

Overall nearly 150 vehicles per hour are accessing the site on average, leading to severe congestion on Forward Drive and surrounding areas.

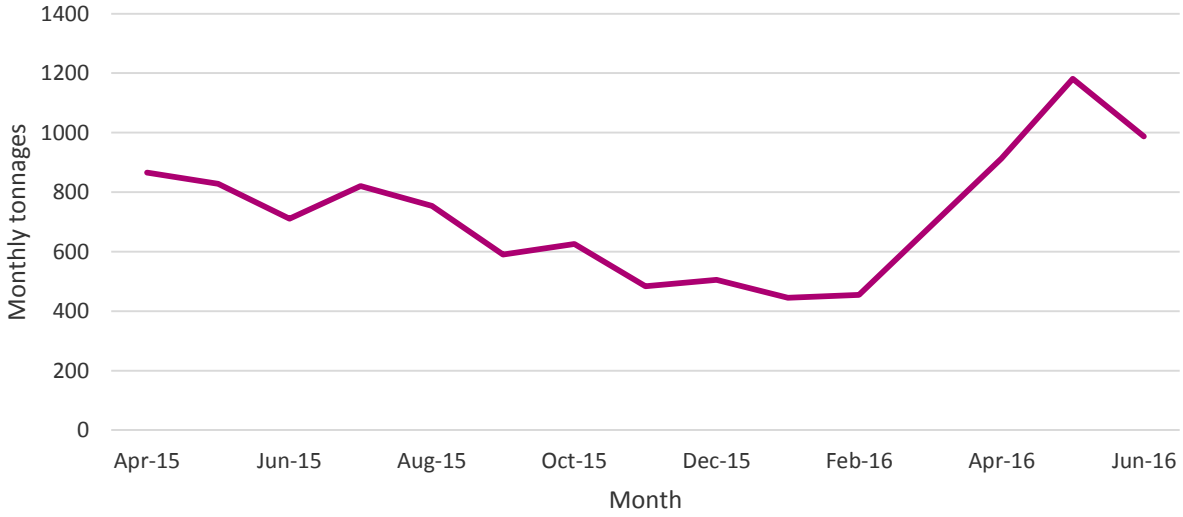
2.3 Residual waste

Based on tonnage data from the 12 months to June 2016, the site receives 7,760 tonnes of residual waste into the HRRC annually and an additional 6,360 tonnes from council vehicles (including street cleansing, trade, bulky waste etc) and trade waste vehicles.

The site's residual tonnages have been increasing at a rapid rate since January 2016, from a monthly tonnage of 445 tonnes to 987 tonnes in June 2016 – a 122% increase in just four months. The tonnage in June 2016 is 39% higher than the tonnage for June 2015.

The closure of the other site available to Harrow residents, Ruislip HRRC, in May 2014 would have contributed to increase the tonnages at Forward Drive. The increase in residual waste seems to be partly attributable to changes in policy in the other surrounding London Boroughs. Neighbouring authority Ealing started charging residents for the disposal of DIY waste in August 2015. The London Borough of Barnet, which is part of the North London Waste Authority (NLWA), cracked down on trade waste abuse in January 2016. This is discussed further in Section 2 – Policy Review.

The changes in Harrow HRRC tonnages can be seen in Figure 4 below.



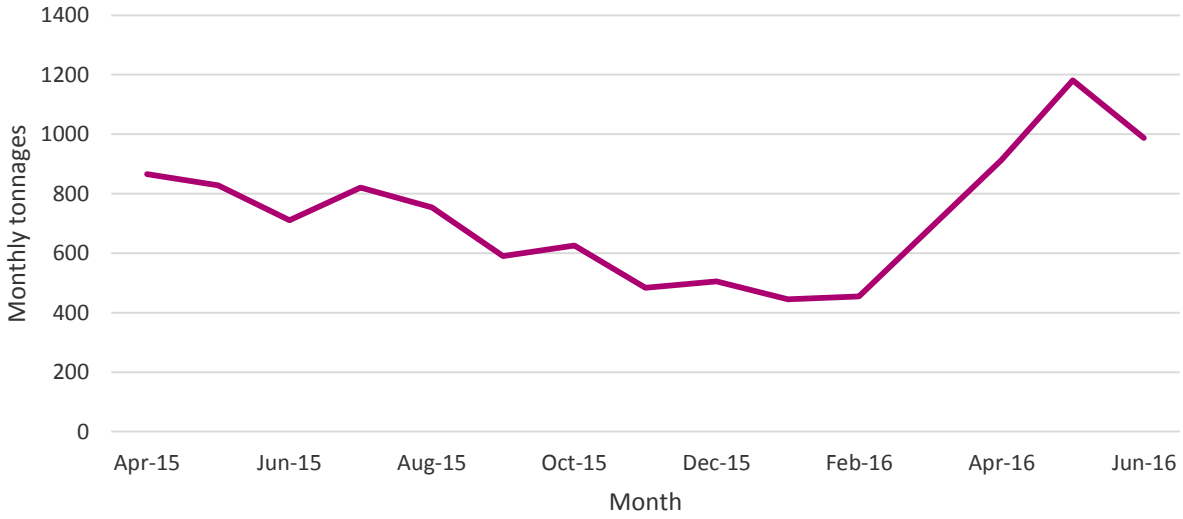


Figure 4: Forward Drive monthly residual waste tonnages (waste brought in by householders only)

2.4 Recycling

Recycling monthly tonnages since April 2015 are shown in ***Figure 5 Figure 5*** below. The whole site receives 26,016 tonnes of recyclable materials annually, of which 8,592 is brought in to the HRRC by car. The remaining 17,424 is brought into the transfer station part of the site by comingled RCVs.

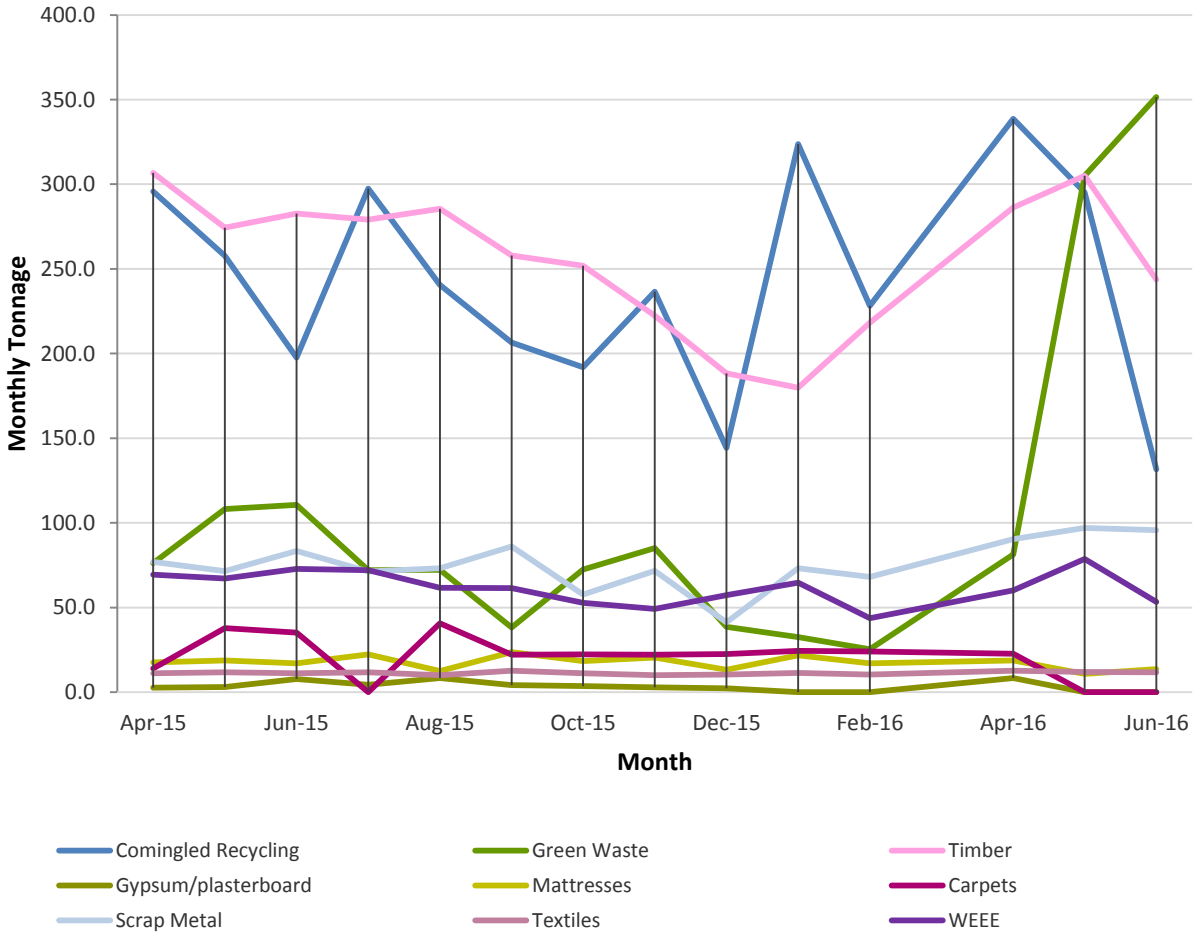


Figure 5: Forward Drive HRRC monthly recycling tonnages (i.e. waste brought in by householders only)

2.4.1 Garden waste

There have been garden waste service changes in the last year: the mixed garden and food waste collection was changed to separate food waste collections in October 2015, followed by the introduction of a new charged for garden waste service in April 2016. The impact of these changes can be seen in the tonnage figure above, with increases in garden waste tonnages noted on both those dates, in particular, a large spike in April 2016.

As a result of the introduction of a paid for garden waste service at the kerbside, the garden waste tonnages have increased substantially. Although the arising of garden waste is seasonal and varies throughout the year, the garden waste tonnage in June 2015 was 111t, while in June 2016 it was 218% higher (352t).

The new kerbside service offers fortnightly collections, and residents can choose between a summer service (May-October, £40) and an annual service (£75). Anecdotal evidence suggests that some residents have had issues signing up to the service. Furthermore, there was at least 4 weeks' delay between signing up to the service and the start of collections, which seems to be compounding the issues.

2.4.2 Comingled Recycling

Comingled recycling is collected at Forward Drive, including cardboard, paper, glass, plastic and packaging metals. The data in Figure 4 shows the influx of comingled recycling deposited by residents for the upper level, excluding the material brought in by RCVs. Of the 16,670 tonnes of comingled recycling handled by the site annually, only 2,635 tonnes are brought in by residents. The monthly tonnage of comingled recycling brought in by car has varied substantially over the last 15 months. A

peak is noticeable over the holiday period in December/January 2015. On average, 240 tonnes of comingled recycling were deposited at the site each month, equating to just over 7.8 tonnes per day.

2.4.3 Timber

Inputs of timber has also increased substantially between January and June 2016, by 36% to 244 tonnes per month in June 2016. The arising of timber had decreased between April 2015 and January 2016, for unknown reasons. This recent increase could be an indication of an increased trade waste influx. However, it should be noted that the June 2016 tonnage is 14% lower than the June 2015 monthly tonnage of 283 tonnes. The monthly average arising of timber over the last 12months has been nearly 226 tonnes, equating to 7.4 tonnes per day.

2.4.4 Carpets

Carpets and underlay were segregated for recycling but are currently no longer segregated from the residual waste stream. The bay previously dedicated to carpets has been reallocated to timber to accommodate the higher timber tonnages. This can be seen in Figure 4 above, and explains the drop off in carpet tonnages between April and May 2016. Average carpet tonnages (in the months where carpet was segregated) were around 25 tonnes per month.

2.4.5 Other materials

The arisings of most other materials have remained quite stable over the last 12months. The site receives the following average quantities of materials each month:

- Scrap metal – 75 tonnes
- WEEE (All) – 60 tonnes
- Mattress – 18 tonnes
- Textiles – 11 tonnes
- Plasterboard – 3 tonnes

3. Benchmarking

This section benchmarks Harrow against its neighbours to help understand the increase in waste arisings, within the legislative context.

3.1 Legislation

The legislation governing the provision of HRRCs is summarised below.

The Refuse Disposal Amenity Act 1978, the Civic Amenities Act 1967 and the Environmental Protection Act 1990 have required local authorities to provide free-to-use household waste recycling centres for their residents to dispose of household waste and recycling.

However, many local authorities have tried to charge in circumstances that are "discretionary" to the obligations of the local authority. The Government tackled this issue through the Local Government (Prohibition of Charges for the Deposit of Household Waste at a Household Waste Recycling Centre) (England) Order 2015 (the 2015 Order) which prevents local authorities (including those in London) from charging residents from using HRRCs. The 2015 Order provides that local authorities may charge for:

- household waste and/or household recycling from ‘non-residents’ (persons not resident in the area of the authority);
- waste and/or recycling from commercial premises; or
- ‘non-household’ waste (C&I) and/or recycling from residents or non-residents.

A growing number of authorities have now implemented charges and bans for some or all of the types of waste mentioned above.

Some authorities have banned residual waste from their HRRC and only allowed recyclable materials to be deposited. A local example is Lambeth, whose sole HRRC in Vale Street does not accept residual waste. Residents are able to use neighbouring Wandsworth's Smugglers Way site as an alternative.

A residual waste ban was considered in this review. However, as there is no specific legislation clarifying the position if the local authority were to ban non-recyclable waste (unlike with charging and the 2015 Order), it would be vulnerable to judicial review. In order to manage waste inputs we would recommend implementing residents permits and/ or charges for waste where allowable in preference to bans.

3.2 HRRC Arisings

The following table shows the numbers of sites, waste arisings and recycling rates for Harrow and its neighbours, based on 2014/15 data, according to the national HRRC directory[2].

While the total HRRC municipal waste arisings in Harrow were similar to those of Hertfordshire, the arising of residual waste is significantly higher, mainly due to the low amount of materials separated from the residual waste at Forward Drive. It is noticeable that overall waste arisings in Harrow were higher than surrounding areas even before recent increases. Some of this may be attributable to the closure of Ruislip HRRC in May 2014.

In 2014/15, the recycling rate for Forward Drive was 22.5%, though it has improved to 34% in 2015/16.

Table 1: HRRC Arisings in Harrow and surrounding authorities (14/15 data)

Authority Name	Barnet	Brent	Ealing	Harrow	Hertfordshire	Hillingdon
Number of sites	1	1	2	1	17	3
HRRC arisings, kg/hh/yr (All)	115	24	119	174	182	115
HRRC arisings, kg/hh/yr (Residual)	37	9	54	135	68	45
HRRC arisings, kg/hh/yr (Recycling excl rubble)	57	14	65	39	93	60
HRRC RR Incl Rubble	67.9%	62.8%	54.5%	22.5%	63.0%	60.7%
HRRC RR Excl Rubble	60.6%	61.0%	54.5%	22.5%	58.0%	57.1%

The data underlying the directory is from Waste DataFlow and therefore may be attributable to municipal, rather than household arising figures. The recommendations within this review have been based on the most recent tonnage data provided by the authority (July 2015-June 2016).

3.3 Trade residual waste policies

The following table briefly summarises the policies of Harrow and its neighbours, regarding the disposal of trade residual waste at HRRCs.

Barnet does not accept trade waste, even for a charge, but all the other authorities accept trade waste for charges ranging from £160-£240 per tonne for residual waste. It is interesting to note that Harrow

[2] http://www.wrap.org.uk/content/household-waste-recycling-centres-guide

charges the highest price per tonne for residual waste. Recyclable materials such as garden waste or cardboard are charged at a lower £71 per tonne (See Table 10: Harrow trade waste charges in Section 5.2).

Further detail of charging regimes is available in Appendix 1.

Table 2: Trade waste policies in Harrow and surrounding authorities

Authority Name	Barnet	Brent	Ealing	Harrow	Hertfordshire	Hillingdon
Trade waste accepted?	No	Yes	Greenford Rd Only	Yes	St Albans site only	Harefield only
Trade waste charged for?	No	Yes	Yes	Yes	Yes	Yes
Cost per tonne of residual waste	-	£195	£230	£240	£202.80 (volume charging)	£160

3.4 DIY waste charging policies

The following table briefly shows the policies of Harrow and its neighbours, regarding the disposal of DIY waste at HRRCs.

Table 3: DIY waste charging policies in Harrow and surrounding authorities

DIY charges	Barnet	Brent	Ealing	Harrow	Hertfordshire	Hillingdon
DIY waste limited?	Yes (6 bags/month)	No	No	No	Yes (1 car boot/month)	Yes
DIY waste charged for?	No	Yes	Yes	No	Yes (Volume charging)	Yes
Cost per tonne	£0	£195	£240	£0	£202.80 (large van)	£160
Minimum charge	£0	£19.50	£33	£0	£40.20 (small car)	£16

HRRCs in Hertfordshire and Barnet limit the amount of DIY waste residents can bring into site to a car boot full and 6 rubble bags respectively, each month. Residents in Hertfordshire are able to pay to dispose of more than this (£40-£200 depending on vehicle size, charged by volume). Residents of Barnet are not able to dispose of DIY waste above this limit.

Brent, Ealing and Hillingdon charge for the disposal of all DIY waste by weight, using weighbridges, the fees can be seen in Table 3 above. Further detail of charging regimes is available in Appendix 1.

Harrow is the only authority in the area not to have any limits or charging for DIY waste, which is likely to attract residents of neighbouring areas as well as traders looking to dispose of demolition and construction waste for free.

This policy inconsistency is likely making Harrow a net importer of waste, and one of the main factors contributing to the increased tonnages and congestion experienced on site.

3.5 Residents permits

Table 4 below shows the policies for non-residents in Harrow and the surrounding areas.

Table 4: Policies for non-residents in Harrow and surrounding authorities

	Policy for non-residents
Barnet	Proof of address and identity required for van users. Residents within the NLWA area seem to be able to use other HRRCs in the NLWA area (Barnet, Camden, Enfield, Hackney, Haringey, Islington and Waltham Forest).
Brent	Proof of address and identity required for van users. Non-residents will be charged at a commercial rate.
Ealing	Proof of address and identity required for DIY waste. Non-residents will be charged at a commercial rate.
Harrow	Non-residents will be charged at a commercial rate.
Hertfordshire	Hertfordshire County Council does not have a cross border usage policy.
Hillingdon	Visitors unable to prove their residency (either with a HillingdonFirst card OR an acceptable proof of residence) will be charged £10 per visit.

While none of the authorities have a formal resident permit system, all except Hertfordshire have restrictions in place concerning the use of the site by users not originating from the local authority or waste disposal authority. Hillingdon allows users to pay £10 per visit to use the site if they are not able to prove their residential status acceptably.

It should be noted that while policies may be in place, it is not known how much they are enforced by each authority. It is essential for such policies to be enforced for them to be effective.

4. Spatial Analysis

4.1 Introduction

The following spatial assessment is based on accurate postcode data held by London Borough of Harrow, Ordnance Survey and the Office of National Statistics. The original data set for Harrow comprised 4,436 postcodes, equating to 91,473 households.

Of these postcodes, 175 were not included within the spatial assessment as they were not recognised by the GIS software. This equated to 3,917 households or 4.3% of the total number of households in Harrow. In total, 87,556 households in Harrow were included in the analysis.

Six neighbouring authorities were also included in the analysis, with 8 neighbouring HRRCs.

Using Mappoint software, the household and HRRC location data were combined and a matrix of distances and driving times were produced. This formed the basis of the distance and driving time analysis, where driving times were calculated using the current road network and not 'as the crow flies' estimates. It doesn't however take account of short or long term roadworks.

All calculations assume that residents are likely to visit their closest site, even if this HRRC falls outside of the Harrow boundary. For this reason, an additional 8 sites have been included in the analysis, from neighbouring authorities. These sites are:

- Elstree (Hertsmere)
- Rickmansworth (Three Rivers)
- Summers Lane (Barnet)
- Abbey Road (Brent)
- Greenford Road (Ealing)
- Acton (Ealing)
- Harefield (Hillingdon)
- West Drayton (Hillingdon)

4.2 Drive Time Analysis

The current provision, taking into account all neighbouring sites, offers good coverage in terms of short drive times for Harrow residents, as indicated in

Table 5. It can be seen that no Harrow residents need to drive for more than 20 minutes in order to reach their nearest HRRC. The vast majority 98.3% of households can reach their closest site in less than 15 minutes' drive and 91.1% of Harrow residents can reach Forward Drive in less than 15 minutes.

Table 5: Proportion of households in each of the drive time bands

	Proportion of Households				
	Less than 5 minutes	**5 to 10 minutes**	**10 to 15 minutes**	**15 to 20 minutes**	**More than 20 minutes**
To Forward Drive	5.7%	41.8%	43.5%	8.9%	0.0%
To all neighbouring sites	5.7%	49.8%	43.0%	1.7%	0.0%

4.3 Households served

The drive time analysis provides a reasonable indication of which site should be most convenient for householders as the calculations are based on the existing road network. However, the facilities offered by each site will also have a bearing on the sites to which people choose to take their waste and recycling, as well as convenience, preference and whether each site has a residents-only permit.

Table 6 below summarises the proportion of Harrow households closest to each site, allowing for travel to sites in the neighbouring authorities.

Table 6: Number of Harrow households closest to each site

Site Name	**Households closest to each site**	
	Number	**Percentage**
Forward Drive	64,082	73%
Elstree	9,832	11%
Rickmansworth	3,591	4%
Summers Lane	0	0%
Abbey Road	0	0%
Greenford Road	8,634	10%
Acton	0	0%
Harefield	1,417	2%
West Drayton	0	0%
Total	**87,556**	**100%**

4.4 Spatial analysis results

This section bases drive time on the assumption that some residents will be closest to a site in a neighbouring authority and therefore examines the potential use of Forward Drive by households from the six neighbouring authorities. In addition to these six direct neighbours, the district of Watford has also been included due to its proximity to Harrow and lack of its own HRRC.

This cross-border usage can be estimated from Figure 6, where areas within 15 minutes of the site at Forward Drive are plotted on a map. Neighbouring HRRCs are also plotted.

Figure 6: Map showing areas within 15 minutes of Forward Drive

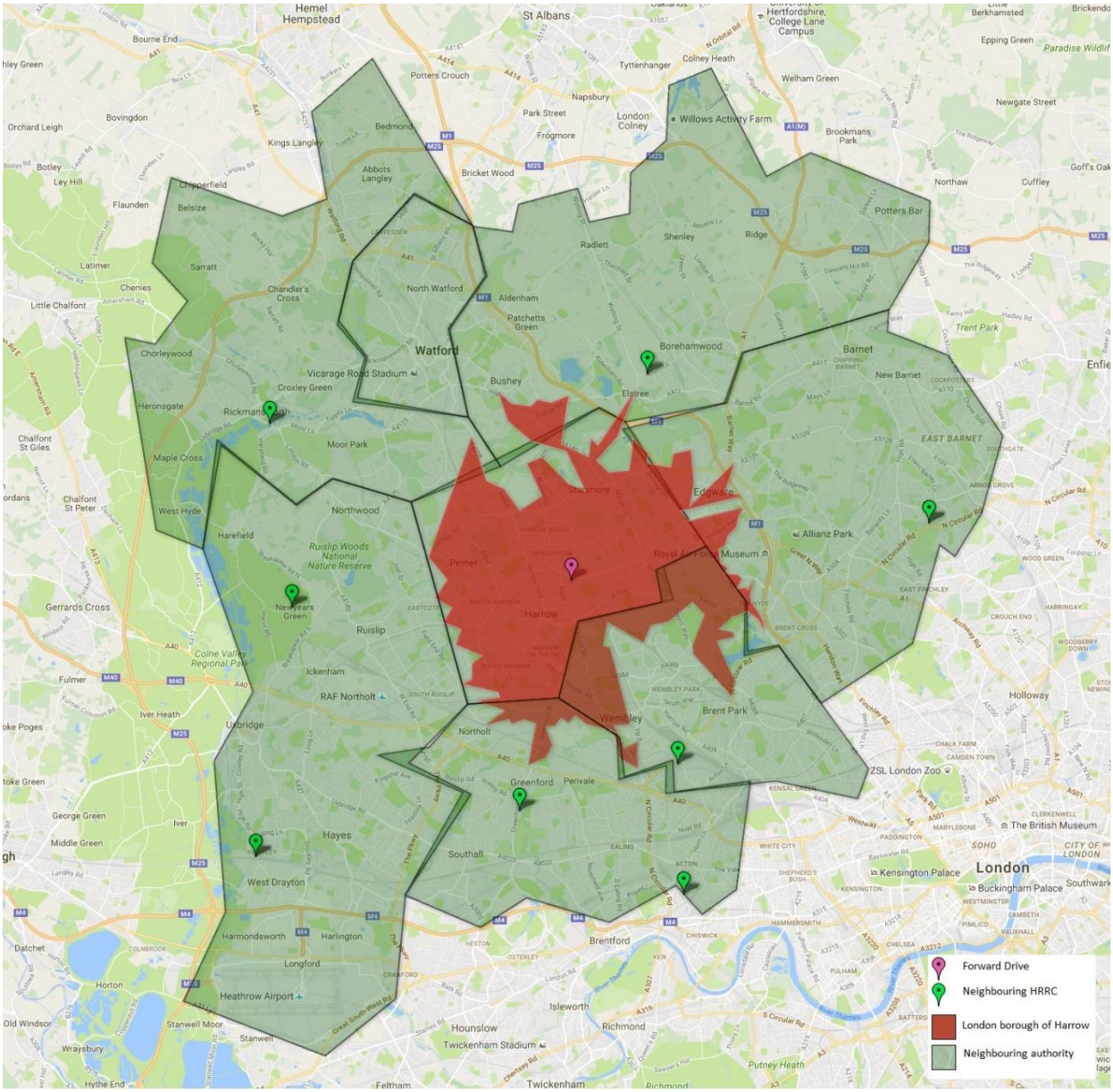


Table 7 shows the number of residents that have Forward Drive as their closest HWRC alongside this figure as a percentage of the total number of users of the site.

Table 7: Number of households closest to Forward Drive

Authority	Households closest to Forward Drive	
	Number	Percentage of users
Harrow	64,082	77%
Barnet	0	0%
Brent	14,670	18%
Ealing	0	0
Hertsmere	0	0
Hillingdon	0	0
Three	2,320	3%
Watford	1,886	2%
Total	**87,556**	**100%**

It can be seen from Table 7 that, assuming residents use their nearest site, the largest influx of users from outside of Harrow to Forward Drive come from Brent, comprising 18% of the total users of Forward Drive. A small percentage (3%) are expected to come from the Three Rivers district, and 2% can be expected to come from Watford.

These households make up 23% of Forward Drive users. Accounting for car ownership[3], these households are expected to account for 18% of Forward drive traffic.

However, the above spatial analysis is based on the assumed behaviour of householders and does not account for inputs of commercial waste. Anecdotal evidence from site staff, suggests that there are large numbers of commercial site users entering the site in a car and depositing waste for free. These commercial users may be from inside or outside of Harrow. Without an onsite survey to identify the origin of the waste and an assessment of the type of waste (household or commercial) it is not possible to quantify cross border commercial waste inputs.

5. Operational and policy changes

5.1 Implement charging for DIY waste

As summarised in Section 3.1, "Household waste" is defined under section 75(5) EPA and under the Controlled Waste Regulations 1992 (as amended). Regulation 2(2) of the 1992 Regulations confirms that for the purposes of Section 51 of the EPA, household waste does not include waste arising from works of construction and demolition.

Therefore, if a resident takes a large amount of DIY waste from their property to an HRRC, the local authority can charge the person for the deposit of this waste at the site. The following types of waste are considered DIY wastes, which can be charged for:

- Doors and windows;
- Fitted kitchens;
- Fitted wardrobes;
- Inert material such as rubble and concrete, bricks and roof tiles;
- Plasterboard;

[3] Household Car Ownership in Harrow: 76.5%

- Soil from landscaping activities;
- Any other building materials;
- Tyres.

A number of authorities in England and Wales are now charging householders for deposit of these wastes and there is significant precedent[4], however, Harrow may wish to consult their legal team to confirm the authority is willing to also use this route. If charging is not an option, then limiting the amount of DIY waste accepted on site is another option. This will require site staff to be vigilant and to feel safe if confronted by aggressive site users not willing to comply with the change. DIY charges or limits have already been implemented by neighbouring authorities. Details of their charging regimes is available in Appendix 1.

Charging users to deposit DIY waste may reduce throughput in the long-term, but implementing charging at the site in its current state is likely to exacerbate the congestion issues already being experienced in the short-term. Charging for DIY waste would bring Harrow in line with its neighbours (see section 0), reducing the appeal of the site to residents from outside the area and traders. Much of the DIY waste (including inert waste such as rubble) being deposited in Harrow is disposed of as residual waste, leading to significant disposal costs to the authority.

The site only has one weighbridge, which is already used by the trade waste users, comingled RCVs, bulky waste, street cleansing, fly tipping vehicles and charities. Vehicles have to double back on themselves in order to be weighed again on exit.

A scheme where residents are charged by volume, rather than weight, may be more appropriate, as it would remove the need to use the weighbridge and therefore may be quicker to administer. When charging by volume, users are charged a fixed price for the type and volume of waste, which is most commonly determined by the vehicle type. Advantages of charging by volume include an easier pricing structure which is more straightforward for users to understand. Volume based charges should match weight based charges, and charges for householders should match charges for traders to limit the potential for abuse. It may therefore be necessary to reduce trade waste charges to be more appropriate for residents.

This type of system does require site operatives to identify the waste and vehicle type, and clear guidelines are needed. Alternatively, if Harrow do not want site operatives to be involved in decision making and managing transactions, payment could be made via the call centre and a letter, permit or voucher sent to the resident to indicate they have paid and instructing site staff to allow them to deposit their waste. Extra security may be required on site during the initial implementation of the scheme, especially in light of past security issues experienced by current site staff. It is also important that the bulk density of waste is fully understood in order to cover costs, and a minimum charge is needed.

It is advisable to make DIY waste charges the same as existing trade waste charges, to minimise the risk of trade abuse of the new system. It is also recommended that rubble is charged for separately, at a lower rate to residual waste to make the charges more palatable to residents and in line with disposal and recycling costs. A rate of £90 is suggested and used within the modelling. A higher rate is likely to reduce the chargeable tonnage input, reducing income, and setting the price at £90 per tonne is enough to generate a reasonable income whilst ensuring the waste stream is captured. Conversely, it is recommended that the cost per tonne for wood is increased to £90 from £71, to increase the profitability of this abundant material.

Based on this, the table below shows some suggested charges:

Table 8: Suggested DIY waste charges (By volume)

Vehicle equivalent	Estimated equivalent weight	Rubble	Residual	Green waste	Recycling	Wood
Small car	100 kilograms	£9	£24	£7	£7	£9
Estate car	250 kilograms	£23	£83	£21	£21	£21
Transit van	500 kilograms	£45	£120	£36	£36	£45

[4] Northamptonshire, Somerset and North Yorkshire have established DIY charging schemes.

Luton van	1 tonne equivalent	£90	£240	£71	£71	£90

It is known that introducing DIY charges reduced the input of DIY waste by at least 50%, and up to 80% in some cases (Somerset). There are significant savings to be made in disposal costs alone (mainly to WLWA, of which a portion would be passed on to Harrow), due to most DIY waste being disposed of as residual waste.

Assuming that DIY waste makes up 12% of residual waste disposed of on site, the associated yearly disposal costs are £116,800. Visual inspection has resulted in an estimate that DIY waste accounts for 12% of residual waste, by weight. A waste audit of residual waste would provide a more accurate estimate.

According to survey data provided by Harrow, the count of materials brought in by vehicles surveyed between 9th May and 10th July 2016 indicated that 25% of materials entering site (by count, rather than volume) are classed as DIY waste. and could be limited or charged for.

Furthermore, income could be generated from the remaining proportion of the waste stream. The different options examined are shown in Table 9 below.

The following assumptions were made:

- 12% of residual waste (by weight) entering site currently is rubble or other inert material
- There will be a reduction in rubble entering site of 50% (Option 1) or 80% (Option 2)
- 13% of WLWA's disposal savings will be passed on to Harrow through fixed cost levy charges
- Of the original input, 40% (option 1) or 10% (option 2) will be charged for. The remaining 10% will remain 'hidden' in the residual waste stream.
- The charge per tonne of rubble/inert waste will be £90
- Disposal cost per tonne of rubble/inert waste is £28, as quoted by WLWA
- Transactions will be managed by site staff and a payment system is already in place
- Staff will be increased by 1.5 FTE

In option 1, charging for DIY waste is expected to reduce vehicle throughput by 8%, equivalent to 615 cars per week, or 32,011 cars per annum. In option 2, charging for DIY waste is expected to reduce vehicle throughput by 12%, equivalent to 985 cars per week, or 51,218 cars per annum.

The annual tonnage reduction (all waste) is estimated to be 1,275 tonnes in option 1, and 2,041 tonnes in option 2. The combined savings and income would allow for the employment of further HRRC staff, and security staff if required, to help implement the changes (see Section 5.4.3).

Table 9: Income and savings from DIY waste charges

HWRC Site	Option 1	Option 2
Tonnes	931	931
Current cost per tonne (i.e. residual waste disposal cost)	£125	£125
% Reduction	50%	80%
Disposal savings WLWA	£58,202	£93,123
Disposal savings Harrow	£7,566	£12,106
% Charged for	40%	10%
Charge per tonne	£90	£90
Cost per tonne	£28	£28
Potential income	£23,094	£5,774
HWRC staff costs	-£26,837	-£26,837
Security staff costs	-£18,597	-£18,597
Communication costs	-£500	-£500
Harrow Costs	-£45,934	-£45,934
Total Harrow cost	**-£15,273**	**-£28,054**

Introduction of a charge for rubble or all DIY type waste will require operational changes on site to allow for separate collection and recycling of this material. However, by changing the policy and reducing the number of visitors and tonnage inputs, it should be easier for site staff to be able to provide a bay or skip for this material.

Introducing this charge will change the current policy that states that all cars can deposit all material for free.

5.2 Upgrade trade waste controls

Introducing charges for disposal of DIY type waste or rubble will discourage traders with this type of waste, however Harrow also needs to ensure that all trade waste controls are robust. In Harrow traders are currently able to deposit trade waste for a charge, see table of costs below:

Table 10: Harrow trade waste charges

Material	Minimum Charge	Charge per Tonne
Residual waste	£83	£240
Cardboard	£21	£71
Garden waste	£21	£71

The minimum charge for residual waste and the cost per tonne is very high. Even traders that want to 'do the right thing' may be put off. Harrow need to consider who the trade waste customers are (or who they want them to be). Currently an average 90 trade waste transactions occur week (based on 09/05/16-

10/07/16 data), of which 46 are garden waste, 32 residual waste, 7 cardboard and 3 wood. Many local authorities in England and Wales are allowing trade waste into the HRRC to fill a niche, i.e. provide a service for micro and small businesses with specific waste types.

Under current policies, all vans are charged to deposit waste, but there are no restrictions on cars. This is leading to traders coming onto site in people carriers and estate cars, and depositing waste for free. The policy allowing cars to deposit waste for free seems to be one of the main contributing factors to the high throughput and levels of congestion experienced on site, as a result of abuse by traders. We recommend the implementation of a modern 'Acceptable Usage Policy', utilising service intelligence to effectively manage all site misuse issues rather than by simply controlling trade waste abuse through the management of vans and larger vehicles.

Trade waste abuse seems to be a serious issue on site – staff estimate that up to 60% of vehicles entering site are carrying trade waste. Anecdotal evidence suggests that traders have been told at sites in other areas that in Harrow they can deposit all their waste for free. A conservative 20% estimate has been used in modelling.

HRRCs are facilities for householders' resident in the area to dispose of household waste free of charge. Allowing trade waste to enter HRRCs unchecked and free of charge can result in a number of problems including:

- Congestion onsite from trade waste users and consequent additional tonnage, which may result in householders not using the site.
- Cost of additional disposal and recycling.
- Potential for staff abuse and morale of site staff affected if they are not supported in taking preventative action.
- Potential loss of revenue from what could be a chargeable service to traders.

Ensuring that all trade waste is charged for using stricter controls should reduce the number of vehicles entering site and throughput of waste in addition to generating income.

This can be done in a number of ways:

- Residents permits can be introduced to ensure that only residents of the London Borough of Harrow use the site. Permits are usually issued per household/vehicle, and there is some administrative cost associated with this. Before introducing resident permits, it is beneficial for sites to be monitored to identify where visitors are travelling from. It is likely that if there is a net import of waste, it is as a result of van bans and charges in neighbouring authorities.

- Automatic Number Plate Recognition (ANPR) is already in use at Forward Drive. As Harrow has already invested in the ANPR technology, it is suggested that they use it for monitoring and enforcement purposes. This will require officer time and therefore potentially investment in staff resource, however this may diminish over time as traders and regular users understand that the system is used to its full potential and Harrow will follow up suspected abusers of the network.

- Disclaimer forms can be used as a deterrent with any site users suspected of bringing trade waste. Users should be approached by site staff and requested to fill in a disclaimer form to verify the waste is from their household and not of trade origin. If any suspected abuse does still occur, staff should note details such as vehicle registration, then pass these details on to the appropriate contact at the Council, whereupon the site user is sent a warning letter, or conducting a home visit. In a worst-case scenario, recurrent trade abuse could result in court proceedings. Any such successful prosecutions should be widely publicised in the local media. Effectively enforcing the disclaimer mechanism in this way will send out a message to traders that abuse of the HRRCs will not be tolerated. It will also demonstrate to the site staff that they have the backing of managers in the Council in the enforcement of the policy. This in turn could provide motivation for them to increase efforts to exclude trade waste from the facilities.

- A van ban is already in place, but van bans can operate alongside van permit schemes for residents who are not using their van for commercial use or are using a hire van. Furthermore, van bans do not necessarily exclude all commercial vehicles, and traders are currently able to deposit waste for free in large cars.

The costs and savings of implementing upgraded trade waste controls are estimated in

Table 11 below.

As seen in

Table 11, it is estimated that implementing better trade waste controls would reduce the annual throughput of the site by 2,453 tonnes each year. This is equivalent to 789 cars per week, or 41,037 cars annually. Furthermore, an estimated income of £33,068 will be generated each year.

The following assumptions were made:

- 20% of site throughput is commercial
- The suspected trade waste influx would be reduced by 75%, with the remaining tonnage charged for
- The composition of waste brought by traders is the same as the site throughputs for residents

Table 11: Upgrading trade waste controls

	Residual	Rubble	Wood	Comingled Recycling	Garden	Other recyclables	Total
Income and savings							
Current tonnage	6,829	931	2,718	2,635	1,174	2,064	16,352
Estimated trade tonnage	1,366	186	544	527	235	413	3,270
Estimated amount charged for	341	47	136	132	59	0	714
Potential charge per tonne	£240	£90	£90	£71	£71	£0	£562
Disposal cost per tonne	£125	£28	£50	£9	£34	£0	**£246**
Profit per tonne	£115	£62	£40	£62	£37	£0	**£316**
Total potential income	**£39,267**	**£2,887**	**£5,437**	**£8,211**	**£2,172**	**£0**	**£57,974**
Estimated tonnage reductions	1,024	140	408	395	176	310	2,453
Estimated disposal savings (WLWA)	£128,044	£3,911	£20,387	£3,427	£5,989	£0	£161,757
Total estimated disposal savings (Harrow)	£16,646	£508	£2,650	£445	£779	£0	£21,028
Total estimated savings (Harrow)							**£21,028**
Costs							
Additional staff							-£45,434
Communications							-£500
Total costs							**-£45,934**
Total							**£33,068**

5.3 Restrict access for non-residents

HRRCs are a statutory duty for waste disposal authorities for residents within their area, not residents from other local authorities. Previously authorities have generally been accepting of cross-border use, realising that residents will use a facility that is most convenient. However, sites that are near local authority borders can receive significant waste imports resulting in higher waste management costs. By introducing a resident's permit, Harrow would exclude residents from neighbouring authorities.

No proof of residence is currently required to use the site. Residents may be challenged by site staff if they suspect they are coming from outside the area, but it is not currently possible to do this as a matter of course due to low staffing levels.

Residency can be checked in the following way:

- Asking for residents to bring proof of both identity and address – this requires staff to be available to check this paperwork, and places a further burden on them. Furthermore, this may increase the security risk to staff on site.

- Resident permits. As discussed above in trade waste controls, although it removes the burden from site staff, there is some administrative cost associated with this type of scheme. Before introducing resident permits, it is beneficial for sites to be monitored to identify where visitors are travelling from. Anecdotal evidence suggests that Forward Drive is used by non-residents, the majority of which are depositing DIY waste or trade waste. The spatial analysis suggests that 18% of site users will be from outside of Harrow. It is likely that if there is a net import of waste, it is as a result of stricter rules in neighbouring authorities.

The impact of introducing residents permits for all vehicles within the borough is expected to reduce vehicle throughput by 2,177 vehicles per week, or 113,241 vehicles annually. This equates to 28% of current use.

The cost/profit of introducing resident's permits is estimated in the table below. The following assumptions were made:

- The spatial analysis (see Section 4.4) found that 16,990 households outside of Harrow were closer to Forward Drive than their own HRRCs, and it is assumed that the proportion of these households which own cars make use of the site.
- 20% of the influx is from suspected traders (conservative estimate), of which 10% are coming from outside the area and would be excluded by this policy.
- The composition of waste brought by non-residents is the same as the site throughputs (excluding waste brought by council vehicles and declared trade waste)

Table 12: Resident permit scheme costs

Costs	**Year 1**	**Year 2**	**Assumptions**
Administrator	-£5,603	-£2,241	0.25 FTE when introduced falling to 0.1 FTE in subsequent years to administer. Resource in year one likely to be concentrated to implementation of the permit
Officer	-£3,142	-£3,142	0.1 FTE to manage administrator and more complex complaints
HWRC Operative	-£13,419	-£13,419	0.5 FTE to monitor permits
Communications	-£500	-£500	Marketing
Printing of permits	-£17,494	£2,287	Printing of permits estimated at 0.25p per permit. Estimate that 76.5% households request a permit on the assumption that 76.5% own a car according to 2011 census. Assume 10% of households require a permit in subsequent years
Sub-total	-£40,157	-£17,015	
Contingency	-£4,016	-£1,701	
Savings	**Year 1**	**Year 2**	**Assumptions**
Disposal savings WLWA	£339,134	£339,134	WLWA savings from diversion of waste from non-residents
Disposal savings Harrow	£44,087	£44,087	Savings from diversion passed on to Harrow
Total	**-£86**	**£25,371**	

The scheme is expected to have a very small net cost in the first year, but generate a yearly profit thereafter. The expected reduction would help alleviate the congestion issues currently experienced, as well as generating disposal savings which can be used to cover the costs of implementing permits and investing in higher staffing levels from Year 2 onwards.

5.4 Improve current site operations

5.4.1 Size of site

The size of the site is currently very limiting to improving operations.

To reduce congestion, changes in policy such as DIY charges, upgrading trade waste controls or residents permits need to be implemented. These improvements may negate the need to investigate site expansion.

Once policy changes are in place and throughput and numbers of vehicles are reduced to a more appropriate level, it will be possible to look into site improvements, containerising waste and maximising the use of space on both levels.

Figure 7: Site space restrictions

There are currently some small containers on the upper level to collect small recyclables such as clothing, car batteries, batteries, cooking oil and fluorescent tubes. Placing additional containers on the upper level is not currently feasible, as there is currently no space to put these. If the upper level could be extended to include the area outlined in red in the figure**Error! Reference source not found.** above, t may be possible to put some skips on the upper level, though servicing these would be challenging. Another area identified for placing skips is the area within the neighbouring council depot outlined in turquoise above. Harrow should investigate the feasibility of these options.

5.4.2 Vehicle movements

Reducing the number of council vehicles (comingled RCVs, bulky waste, street cleansing, fly tipping vehicles) using the facility would help to alleviate congestion. Furthermore, this would free up precious space for site improvements. Diverting vehicles to the Ruislip transfer station would help alleviate current issues.

There are currently an average 281 council vehicles using the site for disposal each week.

5.4.2.1 Comingled waste

The site is being used as a comingled recycling transfer station, with an average 62 comingled RCVs tipping there each week. A large area is dedicated to storing this comingled material, until it is loaded into articulated lorries and taken away for recycling. In the week commencing 4th July, 81 comingled RCVs deposited over 708 tonnes of comingled recycling. Redirecting this waste to another facility, if practicable, would reduce the congestion at the site, and improve safety, by reducing the number of RCVs and lorries entering site. More importantly, it would free up space that could be used for the storage of skips, so that the skips in bays could be frequently swapped whilst awaiting transportation, alleviating the haulier unreliability issues.

It is understood that there is an opportunity to divert this comingled waste to the site at Victoria Road in Ruislip in 18 months' time (subject to planning permission to build new sheds for food waste and dry recyclables). The site currently accepts residual waste, and is the destination for the bulked up residual waste from Forward Drive. The transfer station is managed and operated by SITA UK Ltd under a 25 year contract that commenced in January 2014.

5.4.2.2 Other council vehicles

Similarly, redirecting other council vehicles such as those used for bulky waste, street cleansing and fly tipping would also reduce congestion at the site.

Currently, an average 218 council vehicles (excluding comingled RCVs) enter site to deposit waste each week, of which an average 39 are street cleansing caged tipper vehicles. Diverting these vehicles to another site would help to reduce congestion. Alternatively, ensuring that vehicles only come in to tip when they have a full load would also alleviate congestion. According to weighbridge data, these vehicles are coming in with an average 406kg load, which is far from the full vehicle payload, although volume is not known.

5.4.2.3 Charities

Charities account for an average 22 vehicles per week, delivering between 7 and 8 tonnes of waste. This equates to an average load of 360kg. Like the street cleansing vehicles, ensuring that vehicles only come in to tip when they have a full load would help alleviate congestion.

It may also be worth investigating the origin of the waste being deposited by these charities, as some of it may be considered trade waste and chargeable (for example, waste from house clearances or garden clearances). It is also possible to request that charities segregate more materials for recycling.

The materials brought in by charities are currently costing the authority over £50,000 annually in disposal costs.

5.4.3 Staffing

Staffing levels at the site are very low – there is usually only four staff on site at a time during opening hours. The team of four has to operate the weighbridge and site machinery as well as dealing with residents, council vehicles and trade waste customers. i.e. this this four staff for both the HRRC and the WTS operations

It is recommended that staffing at Forward Drive is increased regardless of any policy changes. Additional staff may be required to cope with significant changes in policy, such as commercial waste controls, DIY waste charges or residential permits.

According to WRAP guidance, adequate staffing levels are vital to running a successful HRRC, and the importance of HRRC staff should not be underestimated, as they are the first point of contact with site users and ultimately define how the site is run.

The current staffing levels do not allow enough resource to properly challenge suspected trade users or suspected non-residents. Furthermore, suitable staffing levels are needed to free up staff time for assisting the public in segregating materials for recycling, and more generally directing site users to help them to increase their recycling efforts.

It is known that site staff have experienced serious safety issues[5] in the past, particularly when challenging users suspected of bringing in trade waste. This has led to the installation of CCTV cameras on site and to site staff being given cameras to wear on their lapels to film interactions with the public. As such, any upgrading of trade waste controls or introduction of DIY charging would need to be accompanied by increased security initially to ensure the safety of site staff.

WRAP recommends that where site staff experience abuse from site users, formal procedures are in place to take action against the offending party, be that a site ban or prosecution. It is essential that the authority is seen to purse offenders.

The proposed additional staffing for each scenario is shown in Table 13 below. These costs have been built in to each scenario independently.

Table 13: Extra staff costs

Policy change	Requirements	Details	Cost per annum
None	Extra staff are needed on site, regardless of any policy changes.	1 x Waste Recycling Assistant	£26,837
DIY Charges	Staff needed to deal with residents and security	1 x Waste Recycling Assistant and 1 x security guard (0.5 FTE)	£45,434
Resident Permits	Staff needed to check permits and administrate	0.5 x Waste Recycling Assistant, administrator (0.25 FTE) and Officer (0.1 FTE)	£22,163
Upgrading Trade Waste Controls	Staff needed to deal with residents and security	1 x Waste Recycling Assistant and 1 x security guard (0.5 FTE)	£45,434

5.4.4 Containers

The site only uses a few containers to contain waste currently, mainly due to the restricted space and the volume of waste being deposited. It would be beneficial for waste to be contained better, but a reduction in tonnage should be achieved first in order to make this practicable.

Unreliability of hauliers has been raised as an issue, as there is no spare space on site to store full skips if articulated lorries do not arrive when requested. The servicing of skips is also made difficult by the levels of vehicle traffic on the bottom level of the site, which is used by trade waste customers, charities and all council vehicles, as well as residents depositing large WEEE (see Figure 2 and Section 2.2). Increasing the number of skips would impact on council and trade vehicles' ability to enter site, and potentially increase congestion in the current situation.

While it would be beneficial to contain all waste in skips and use both levels of the site, this is not currently feasible due to site congestion and vehicle movements.

Residents currently enter the lower level to deposit large WEEE and fridges and freezers near the northern entrance to the lower level. Increasing access of residents to the lower level is not advised due to the numerous heavy vehicle movements currently occurring on the lower level. Resident's safety is likely to be put at risk.

[5] http://www.letsrecycle.com/news/latest-news/harrow-ramps-up-ca-site-security-in-wake-of-threats/

5.4.5 Signage

Signage at the site is generally good, the signage at the entrance of the site can be seen in Figure 8 below.

One significant omission is that nowhere at the entrance of the site does it state that trade waste or waste from outside the area is not authorised. Several signs clearly state this on the upper level (see Figure 9 below), but a similar sign at the entrance would be a beneficial addition.

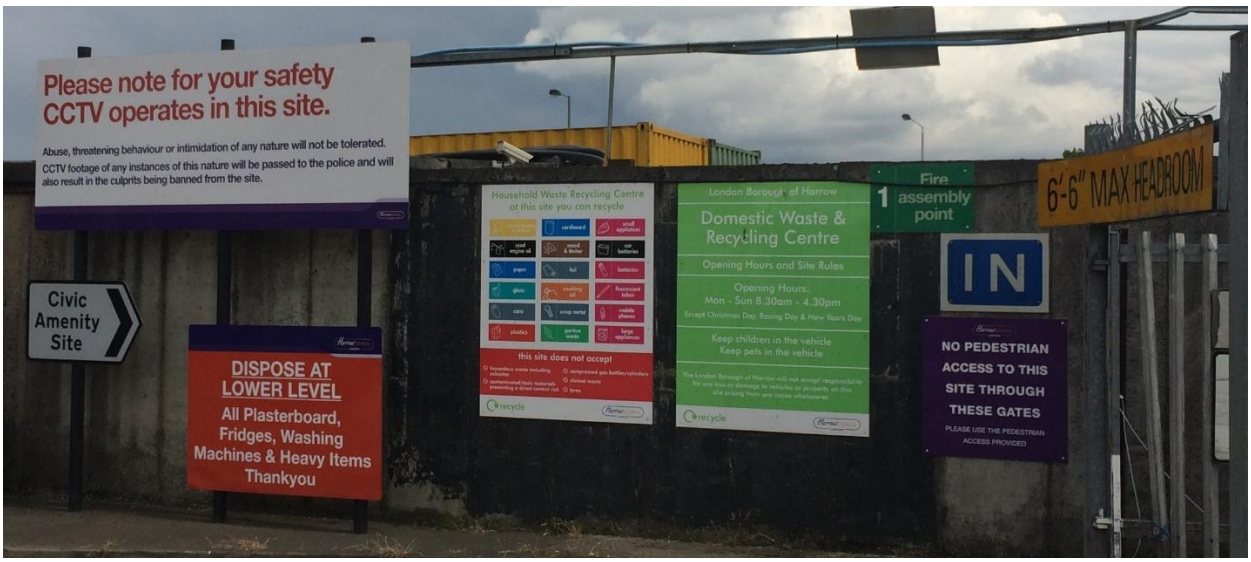


Figure 8: Entrance of site

It would also be beneficial to display a map of the site, showing which bays materials should be deposited into, on the ramp where vehicles queue up when accessing site. This would help residents think about which materials they are carrying, and allow them to plan where they will park their vehicle to reach the required bays most efficiently while waiting.

5.4.6 Providing clearer information on the website

Harrow Council's website does not provide enough information about the Forward Drive site and its rules and regulations. An update to the website information is essential, as a lot of information is not available to residents through this route at the moment.

Crucial issues include:

- There is no mention of the fact that the site does not accept waste from residents from outside the area on the website.
- The website does state that waste brought in by vans will be charged for, but does not provide any information about trade waste. It also states that "disposal is free if you bring your waste in a car", without any reference to the fact that only household waste should be free. This policy is likely to be contributing to the large amount of trade abuse experienced at the site.

It is recommended that the website is updated with further information (including the information shown on the sign in Figure 9 below) as a matter of urgency. In addition, any policy changes will need to be included on the website.

Harrow should also consider encouraging visitors at quieter times of the day or week but highlighting on the website when the site is quietest and when it is likely to suffer congestion. Reducing the number of site users and encouraging the remaining site users to better use the service will help reduce congestion.

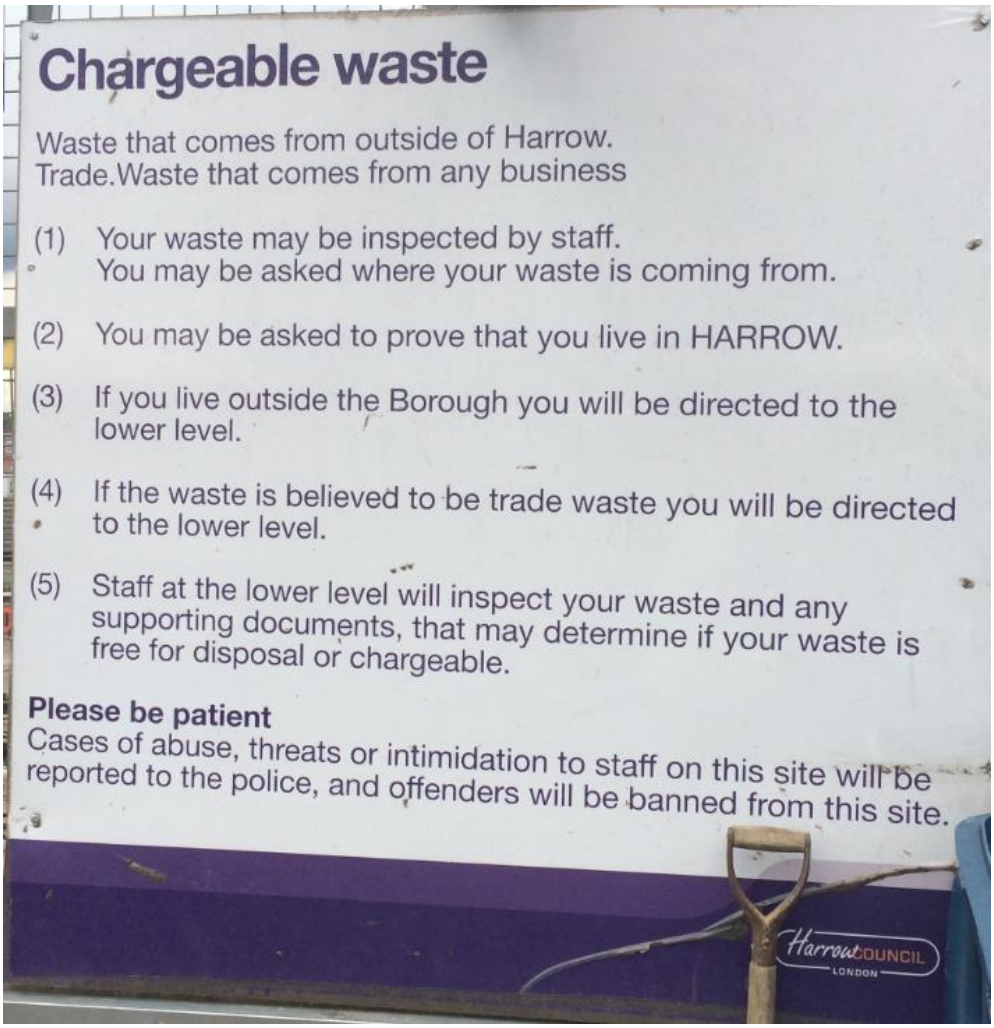


Figure 9: Forward Drive chargeable waste sign

5.5 Opening hours

Currently the site is open 8.30am until 4.30pm every day all year around. These opening hours are quite short for an HWRC, particularly in summer. Harrow may want to consider extending opening hours either at weekends, or during the summer, to allow site users greater access to the site.

However, many authorities are considering reducing site opening hours as budget cuts bite and therefore any increase in Harrow will increase the staff costs. It is therefore recommended that Harrow survey site users to obtain their opinion on whether extending opening hours by one or two hours during summer would be beneficial to reduce congestion before committing to the additional costs.

6. Conclusions and recommendations

Analysing tonnage data for Forward Drive HRRC shows that the residual waste and garden waste inputs are significantly higher in 2016 than in previous years. The increase in residual waste seems to be partly attributable to the closure of Ruislip HRRC in 2014, and changes in policy in the neighbouring London Boroughs. Harrow is the only authority in the area not to have any limits or charges for DIY waste, which is likely to attract residents of neighbouring areas as well as traders looking to dispose of demolition and construction waste for free. Whilst signs onsite do indicate the HRRC is for Harrow residents only, the policy is not enforced whilst neighbouring authorities do have some residents-only controls, such as charges for non-residents or requiring proof of residency.

Under the current Harrow policy, all vans are charged to deposit waste, but there are no restrictions on cars. This is leading to traders coming onto site in people carriers and estate cars, and depositing waste for free. The policy allowing cars to deposit waste for free seems to be one of the main contributing factors to the high throughput and levels of congestion experienced on site, as a result of abuse by traders. Charging users to deposit DIY waste may reduce throughput in the long-term, but implementing charging at the site in its current state may exacerbate the congestion issues already being experienced in the short-term.

The garden waste service changes are clearly contributing to the congestion and high tonnages experienced at Forward Drive. Anecdotal evidence suggests that some residents have had issues signing up to the service. Furthermore, it was reported there was at least 4 weeks' delay between signing up to the service and the start of collections, which seems to be compounding the issues. In spring and summer 2017, garden waste inputs may therefore return to tonnages more similar to 2015, particularly if policy changes (e.g. resident permits) to restrict inputs are implemented.

The use of the site as an HRRC and a transfer station is exacerbating congestion. Using the site exclusively as an HRRC would free up space that could be used for the storage of skips, so that the skips in bays could be frequently swapped whilst awaiting transportation, alleviating the haulier unreliability issues. If it is possible to relocate the waste transfer of comingled recycling to Ruislip, it is recommended Harrow makes this change.

A summary of the estimated effects of implementing one or more of the policy changes discussed above is estimated in Table 14 below, including the effect on both traffic and tonnages, and cost.

The policy change expected to have the largest impact is the introduction of resident permits, expected to reduce traffic and tonnages by 28%. This is due to the policy not only limiting the use of the site to non-residents, but also to traders coming from outside the area to take advantage of free disposal. The expected income from implementing this policy is estimated to be an average £25,285 over 2 years, generating a profit (£25,371) from year 2 onwards.

Upgrading trade waste controls is expected to tackle the remaining trade abuse from traders within Harrow, and reduce throughput and traffic by a further 8%. It has been assumed that a security presence is needed when controls are strengthened as site staff have suffered abuse, but this would no longer be necessary in year 2. Introducing this policy is expected to generate profit (£84,733), which could help offset the cost of some of the other policy changes proposed.

The introduction of DIY waste charges is expected to reduce throughput and traffic by an additional 10%. As above, if this is introduced, a security presence has been included in the costs when implemented but it not expected to be needed in year 2. This charging scheme is expected to cost an average £24,730 over 2 years, but this is dependent on the proportion of DIY waste reduction and charging. Option 1 (50% reduction) would see a profit of £3,324 from year 2 onwards, while Option 2 (80% reduction) would see a yearly cost of £9,457 from year 2 onwards.

Table 14: Cumulative Options

	Estimated Yearly tonnage reduction	Estimated Yearly traffic reduction	% Reduction	Cost (Years 1 and 2)
Current	16,352	410,367	-	-
Single Options				
DIY Charges[6]	1,276	32,011	8%	-£24,730
Upgrading Trade Waste Controls	1,635	41,037	10%	£84,733
Resident Permits	4,512	113,241	28%	£25,285
Combined Options				
Upgrading trade waste controls and DIY charges	2,911	73,048	18%	£60,003
Upgrading trade waste controls and resident permits	6,148	154,277	38%	£110,018
DIY charges and resident permits	5,788	145,252	35%	£555
All Options				
All 3 options	7,423	186,289	45%	£85,288

It is recommended that Harrow introduce a residents permit as it is expected to have a significant impact on reducing the number of visits the site receives per year and the tonnage inputs. However, it would also be beneficial to strengthen trade waste controls and introduce a charge for DIY type waste. By introducing these controls, and reducing throughput, it will be easier for site operatives to maximise recycling and increase the recycling rate.

Following implementation of changes, tonnage flow and staff capacity should be monitored to quantify the impact of the changes. Once the changes have bedded in, and throughput has reduced, it should be possible to reduce the levels of staffing.

Once the significant HWRC policy changes have been implemented, it is advised that Harrow identify whether there are additional material streams that can be segregated to help boost the HWRC recycling rate. Once this has occurred, it will be possible to make improvements to the site, and possibly make better use of the space available. The site will be able to improve upon the predicted recycling rate if more bulk skips are available to maximise segregation. At such point, it is recommended that Harrow use the WRAP HWRC toolkit to calculate performance improvements themselves.

A further review should be undertaken after 2 years. It is anticipated that implementation of the policies recommended above will reduce both the number of vehicles visiting site, as well as the site throughput.

[6] DIY charges have been modelled using 2 scenarios – 50% and 80% reductions in DIY waste. This midpoint of these 2 options has been used for these calculations.

Appendix 1 – Commercial and DIY policies

Commercial and DIY charges recommended by WLWA for 2015/16 and 2016/17 (per tonne)

Type of waste	2015/16 £	2016/17 £
Trade waste residual	195.00	195.00
Trade waste recycling	97.50	97.50
Asbestos (Households only)	272.00	272.00
Mattresses (per mattress)	12.26	12.26
Wood	195.00	195.00
Bulky items	218.00	218.00

Hillingdon DIY waste charging policy (weight based) and residency checks

Resident access

Access is strictly restricted to Hillingdon residents with their HillingdonFirst card OR an acceptable proof of residence in the borough.

Any resident wishing to use the site for household or domestic waste and recycling without a HillingdonFirst card or acceptable proof of residence in Hillingdon will be required to pay £10.00. Residents without a HillingdonFirst card wishing to use the site for household or domestic waste and recycling should go to the weighbridge office.

Acceptable proof of Hillingdon residence:

- a current driver's licence showing an address
- a council tax bill
- a utility bill (excluding mobile phone bills)
- bank statement (dated within the last three months)

If you are a resident disposing of rubbish in a van, or car with a trailer, please report to weighbridge office with two forms of ID confirming your address, eg council tax bill, driving licence.

Building/DIY waste

People bringing larger quantities of building/DIY waste will be asked to pay the full trade waste rate for disposing of these materials. The current full trade waste rate is £160 per tonne, with the minimum charge of £16 for up to 100kg. Larger quantities can be defined as anything over 2/3 small bags of building waste.

If building waste/construction waste is mixed in with other waste, the entire load will be charged for.

Brent Trade & DIY waste charging policy (weight based)

CHARGES FROZEN

NO Increase in Trade Waste Charges at Abbey Road HRRC and Waste Transfer Station for 2016/2017

West Waste

To all Trade Waste customers and residents:

The Authority is committed to delivering an efficient and cost effective service to its residents and customers. The members have decided to freeze trade waste prices with no increase this year.

Waste for which a charge is made

- ✓ Any types of waste from a business (differential rates are charged for some types of recycling, please ask at the site for details).
- ✓ Residents bringing in DIY type wastes (see table below)

A charge will be made for:

- Soil and turf
- Fencing and sheds
- Bricks, rubble, rocks, stones, slabs and tarmac etc
- Plasterboard, plaster and roofing (tiles, slates, felt, etc.) and asbestos
- Windows and doors including glass and frames
- Timber and all wood including pallets, skirting boards, shelves and laminate flooring etc
- Wall and floor tiles
- Bathroom suites and fittings
- Built-in furniture
- Kitchen fittings/units

No charge will normally be made for:

- Carpets and lino
- Paint
- Small plant pots and garden ornaments
- Garden benches, picnic tables and garden chairs
- Prunings and grass cuttings
- Old compost bins and water butts
- Tools
- Electrical items
- Freestanding Furniture (i.e. not built-in)
- Light bulbs and fluorescent tubes
- General recycling including glass bottles, newspapers and textiles

For more information on the current charges please read on. Information is also available on our website: www.westlondonwaste.gov.uk

The Charges

If you have items for which a charge is made, the amount you pay will be determined by the weight of the items you wish to dispose of. This is based on a rate of £195 per tonne (1000kg). There is a minimum charge of £19.50 for up to 100kg if you are in a car. The minimum charge for all other vehicles is £39 for up to 200kg.

Everyone arriving to dispose of waste will be asked what they are bringing. If you know you need to pay please drive to the weighbridge on-site and speak to a member of staff who will take your details and explain what to do next.

Weight in Tonnes	Charge	Weight in Tonnes	Charge	Weight in Tonnes	Charge	Weight in Tonnes	Charge
0.1	£ 19.50	0.36	£ 70.20	0.62	£ 120.90	0.87	£ 169.65
0.11	£ 21.45	0.37	£ 72.15	0.63	£ 122.85	0.88	£ 171.60
0.12	£ 23.40	0.38	£ 74.10	0.64	£ 124.80	0.89	£ 173.55
0.13	£ 25.35	0.39	£ 76.05	0.65	£ 126.75	0.9	£ 175.50
0.14	£ 27.30	0.4	£ 78.00	0.66	£ 128.70	0.91	£ 177.45
0.15	£ 29.25	0.41	£ 79.95	0.67	£ 130.65	0.92	£ 179.40
0.16	£ 31.20	0.42	£ 81.90	0.68	£ 132.60	0.93	£ 181.35
0.17	£ 33.15	0.43	£ 83.85	0.69	£ 134.55	0.94	£ 183.30
0.18	£ 35.10	0.45	£ 87.75	0.7	£ 136.50	0.95	£ 185.25
0.19	£ 37.05	0.46	£ 89.70	0.71	£ 138.45	0.96	£ 187.20
0.2	£ 39.00	0.47	£ 91.65	0.72	£ 140.40	0.97	£ 189.15
0.21	£ 40.95	0.48	£ 93.60	0.73	£ 142.35	0.98	£ 191.10
0.22	£ 42.90	0.49	£ 95.55	0.74	£ 144.30	0.99	£ 193.05
0.23	£ 44.85	0.5	£ 97.50	0.75	£ 146.25	1	£ 195.00
0.24	£ 46.80	0.51	£ 99.45	0.76	£ 148.20	1.1	£ 214.50
0.25	£ 48.75	0.52	£ 101.40	0.77	£ 150.15	1.2	£ 234.00
0.26	£ 50.70	0.53	£ 103.35	0.78	£ 152.10	1.3	£ 253.50
0.27	£ 52.65	0.54	£ 105.30	0.79	£ 154.05	1.4	£ 273.00
0.28	£ 54.60	0.55	£ 107.25	0.8	£ 156.00	1.5	£ 292.50
0.29	£ 56.55	0.56	£ 109.20	0.81	£ 157.95	1.6	£ 312.00
0.3	£ 58.50	0.57	£ 111.15	0.82	£ 159.90	1.7	£ 331.50
0.31	£ 60.45	0.58	£ 113.10	0.83	£ 161.85	1.8	£ 351.00
0.32	£ 62.40	0.59	£ 115.05	0.84	£ 163.80	1.9	£ 370.50
0.33	£ 64.35	0.6	£ 117.00	0.85	£ 165.75	2	£ 390.00
0.34	£ 66.30	0.61	£ 118.95	0.86	£ 167.70	2.5	£ 487.50
0.35	£ 68.25						

- Trade waste containing cement bonded asbestos will be charged at £272 per tonne. The minimum charge for up to 200kg is £54.40.
- Large, bulky loads* will be £218 per tonne. *A large, bulky load is any load of a volume over 10 cubic metres where the average density of the load is less than one tonne per 5 cubic metres.
- Trade customers will be charged £12.28 per mattress

Further information

We would be happy to speak to you and answer any questions you may have.
Please call 020 8825 9468
Email info@westlondonwaste.gov.uk.
Visit our website www.westlondonwaste.gov.uk

West London Waste
Let's be resourceful

Ealing Trade & DIY waste charging policy (weight based)

DIY and building waste - residents

Residents are currently able to dispose of up to 150kg of DIY waste per month for free at the Greenford Re-use and Recycling Centre, but new charges are coming into effect this summer.

From Friday 14 August 2015 anyone disposing of mixed loads of construction, demolition or DIY waste will have to enter the site via the weighbridge and will be charged at £23 per 100kg.

Many items will continue to be free as long as they have been correctly sorted for recycling. Please see the list of materials that will be accepted and where charges will apply on the Greenford Re-use and Recycling Centre page.

People must also provide identification to prove that they are residents and not commercial customers. The following forms of identification will be required:

- proof of address – bank statement, utility bill, council tax bill
- photo identification – driving licence or passport, with address that matches the above

Please note: We do not accept any form of asbestos at the Greenford or Acton sites. View advice on what to do with asbestos

DIY and building waste - non-residents

Anyone disposing of DIY waste, or waste in a van, that is **not** a resident will be asked to enter the site via a weighbridge where a commercial charge will be applied.

Service	**Cost**	**Minimum charge** 100kg
Disposing of mixed, non-recyclable commercial waste	£230 per tonne	£23
Disposing of separated recyclable commercial waste (garden waste, metal and cardboard only)	£100 per tonne	£10
Weighing of vehicles (public)	£10 per vehicle	£10
Mattress disposal	£11.50 per mattress	£11.50

Construction, Demolition and Excavation Waste Policy

Hertfordshire Household Waste Recycling Centres (HWRCs) are provided for householders to take their own household waste to for recycling and disposal. Not all waste from your house is classified as household waste under the Controlled Waste Regulations (England and Wales) 2012.

Hertfordshire HWRCs do not have to accept any construction, demolition or excavation waste from your home. However, we do operate a limited concession for householders carrying out small DIY jobs around their homes and gardens.

What is Construction, Demolition and Excavation Waste?

Construction, Demolition and Excavation Waste is the type of waste you would not normally take with you when you move house. This would include such things as;

- Waste from home improvements/DIY
- Bricks
- Rubble
- Plasterboard
- Taking out your bathroom
- Taking out your kitchen
- Soil or turf
- Paving slabs/Stones
- Fence panels
- Decking

How much Construction, Demolition and Excavation Waste will we accept at our Household Waste Recycling Centres?

We will accept the equivalent amount of a boot full of a normal sized saloon car with the seats up in one trip once every 30 days. We do not accept part loads. This means if you have more than one boot full from the project you are undertaking, you will have to make your own private arrangements for the disposal of your waste.

Waste does not need to be made to fit into your boot - but it can be no more than the equivalent of the concession amount. To assist our residents we have incorporated certain common exceptions to the one boot full of waste and these are stated below; You may bring to the site;

- 1 bathroom suite = 1 bath, 1 sink, 1 toilet and 1 bidet only, **or**
- 8 fence panels and 9 posts **or**
- 8 window frames **or**
- A set of kitchen cupboards, including worktop and sink only **or**
- 8 internal/external doors **or**
- A shed (maximum size 3 m x 2 m)

***Please Note - You can only bring one of the six options listed above.**

If you have more than the accepted amount at the Household Waste Recycling Centres, you can:

- Take your Construction, Demolition and Excavation Waste to the Commercial waste facility operated by Amey at their depot in St Albans. (A 6 month trial from 1st September 2015). Detail and prices can be found here.