

Sandwell MBC
Sandwell Council House
Freeth Street
Oldbury
West Midlands
B69 3DE

Black Country Joint Core Strategy

Stage 2: Infrastructure and Deliverability Study

Technical Note 7: Waste

November 2009

Mott MacDonald
Canterbury House
85 Newhall Street
Birmingham
B3 1LZ
UK
Tel: 44 (0)121 2374000
Fax: 44 (0)121 2374001

Black Country Joint Core Strategy

Stage 2: Infrastructure and Deliverability Study

Technical Note 7: Waste

Issue and Revision Record

Rev	Date	Originator	Checker	Approver	Description
A	19/12/2008	Amrit Mudhar Zoe Smith	Not checked	Not approved	Draft Report
B	26/06/2009	Amrit Mudhar	Paul Webb	Jo Baker	Technical Note 7 – Waste
C	16/10/2009	Paul Webb	Amrit Mudhar	Jo Baker	Technical Note 7 – Waste
D	26/11/2009	Amrit Mudhar	Paul Webb	Jo Baker	Technical Note 7 – Waste

This document has been prepared for the titled project or named part thereof and should not be relied upon or used for any other project without an independent check being carried out as to its suitability and prior written authority of Mott MacDonald being obtained. Mott MacDonald accepts no responsibility or liability for the consequence of this document being used for a purpose other than the purposes for which it was commissioned. Any person using or relying on the document for such other purpose agrees, and will by such use or reliance be taken to confirm his agreement to indemnify Mott MacDonald for all loss or damage resulting therefrom. Mott MacDonald accepts no responsibility or liability for this document to any party other than the person by whom it was commissioned.

To the extent that this report is based on information supplied by other parties, Mott MacDonald accepts no liability for any loss or damage suffered by the client, whether contractual or tortious, stemming from any conclusions based on data supplied by parties other than Mott MacDonald and used by Mott MacDonald in preparing this report.

List of Contents Page

Chapters and Appendices

1	Development Capacity Opportunities – Waste	1
1.1	Introduction	1
1.2	Black Country Core Strategy: Waste Planning Study (Atkins)	1
1.2.1	Introduction	1
1.2.2	Current Waste Management Methods	2
1.2.3	Treatment Capacity Gaps	4
1.2.4	Gaps in Provision and the Need for New Facilities	5
1.2.5	Potential Constraints to Future Expansion	7
1.2.6	Waste Modelling Projections to 2026	7
1.2.7	Projected Potential Long Term Capacity Gaps	8
1.2.8	Conclusions	10
1.3	Waste Treatment Facilities and Capacity Survey: West Midlands Region (SLR Consulting)	12
1.3.1	Introduction	12
1.3.2	Scope of the Study	12
1.3.3	Existing Facilities	13
1.3.4	Actual Throughput	14
1.3.5	Gap Analysis	14
1.3.6	Conclusions	16
1.4	A Study into Future Landfill Capacity in the West Midlands (Scott Wilson)	16
1.5	Recent Developments on Technical Evidence for Waste	16
1.6	Mapping	16
1.7	Conclusions	17

Tables

Table 1: Municipal Solid Waste Management Methods (Black Country), 2005/06 – 2006/07	3
Table 2: Commercial and Industrial Waste Management Methods (WMMA), 2002/03	3
Table 3: Hazardous Waste Arisings Management (Black Country), 2006	4
Table 4: Capacity Gaps for Waste Treatment Facilities (Black Country), 2005–2007	5
Table 5: Need for Waste Facilities	6
Table 6: Waste Arisings (tonnes), 2006/07 and 2025/26 (as per Atkins report)	8
Table 7: Municipal Solid Waste Treatment Capacity Gap (tonnes), 2025/26	8
Table 8: Municipal Solid Waste Treatment Capacity Gap (tonnes) including Additional Facilities, 2025/26	9
Table 9: Environment Agency Operational Licensed Waste Facilities in 'A' Codes	13
Table 10: Number of Existing 'A' Code 15 – 23 Operational Waste Treatment Facilities	13
Table 11: Gap Analysis by WPA Utilising the Surveyed Capacity Figures (million tonnes)	14
Table 12: Gap Analysis by WPA Utilising the Projected Throughput Figures (million tonnes)	15
Table 13: Gap Analysis by WPA Utilising the Estimated Projected Capacity plus Quantifiable Expansion Plans (million tonnes)	15

Figures

Figure 1: Summary of Constraints to Future Potential Expansion	7
Figure 2: Number of Fly Tipping Incidents per 1000 Population, 2006	18
Figure 3: Cumulative Quantity of Municipal Waste Generated ('000 tonnes), 2001–2021	19

1 Development Capacity Opportunities – Waste

1.1 Introduction

This Technical Note considers the existing and additional capacity required in the Black Country to treat industrial, municipal and commercial waste in order to support the anticipated growth in the number of households up to 2026.

The following three waste study documents have been reviewed and summarise in turn below:

- *'Black Country Core Strategy: Waste Planning Study – Draft'*, Atkins, 2008 (since finalised though with no significant impact on overall conclusions presented in this note)
- *'Waste Treatment Facilities and Capacity Survey: West Midlands Region'*, SLR Consulting on behalf of the West Midlands Regional Assembly, May 2007
- *'A Study into Future Landfill Capacity in the West Midlands'*, Scott Wilson on behalf of the West Midlands Regional Assembly, May 2007

Detailed information on a corridor-by-corridor basis was unavailable therefore, where available, a breakdown by district (i.e. Dudley, Sandwell, Walsall and Wolverhampton) has been provided. Following review of these documents a further Waste Treatment study was completed in May 2009 and this has not been reviewed as it falls outside the project scope.

1.2 Black Country Core Strategy: Waste Planning Study (Atkins)

The following information summarises the Atkins 2008 Draft *'Black Country Core Strategy: Waste Planning Study'* report:

1.2.1 Introduction

The four Black Country Authorities (BCAs) commissioned Atkins to further progress the technical work on waste carried out by the West Midlands Regional Technical Advisory Body (WMRTAB). The WMRTAB have undertaken a significant amount of work on waste in order to inform the West Midlands Phase 2 Revision of the Regional Spatial Strategy (RSS). The Atkins study seeks to *"produce a waste planning document that develops a criteria framework for assessing current strategic and future waste infrastructure planned in the region"*.

The study identified three main tasks to be carried out as part of the commission, these were:

- **Task 1** – To develop an evidence base which reviews existing data that highlights and addresses critical evidence gaps.
- **Task 2** – Identification of the need for Waste Management and Treatment Facilities.
- **Task 3** – Provide feedback on each Council's draft policy on waste for the submission document.

The study focuses on four main waste types, these being:

- Municipal Solid Wastes (MSW)
- Commercial and Industrial Waste (CIW)
- Construction, Demolition and Excavation Waste (CDEW)
- Hazardous Waste (HW)

The main findings from this study have been summarised in the following sub-sections. It should be noted, however, that as figures for MSW are well documented, these were easier to obtain and analyse in comparison to the other waste types. There are also some inconsistencies with regard to the years data was available for; therefore the data provided in the following sub-sections should be treated with caution.

1.2.2 Current Waste Management Methods

Tables 1 to 3 show the current waste management methods used for MSW, CIW and HW.

No details were available for CDEW although the *'West Midlands Waste Facilities Phase 2: Future Capacity Requirements'* report produced by Shropshire County Council in 2004, on behalf of the West Midlands Regional Assembly (WMRA), identified that the 2004 ODPM/Symonds survey *"indicates that, whilst changes between 2001 and 2003 are not statistically significant at a national level, there are more significant changes in West Midlands. In general terms, the quantity of CD&EW waste has reduced by 6% in the region, whilst the proportion recycled has increased from 50% to 61%."*

(i) Municipal Solid Wastes

The highest proportion of MSW was managed in landfill sites in 2006/07 (41.42%); with only 0.02% being handled by incineration without recovery over the same time period (see Table 1). The proportions of MSW being managed at incineration with recovery and recycling/composting sites increased by 4.07% and 2.81% respectively between 2005/06 and 2006/07. In 2006/07 the Department for Environment, Food and Rural Affairs (DEFRA) reported that 88.3% of all MSW was comprised of household waste with the remaining 11.7% made up of collected trade waste.

(ii) Commercial and Industrial Waste

CIW is managed using landfill, recycling and treatment/transfer sites. A sample survey undertaken by the Environment Agency in 2002/03 identified how CIW was managed in England. Table 2 provides an overview of the findings from this survey for the West Midlands Metropolitan Area (WMMA).

The Environment Agency's survey also found that there had been a reduction in industrial waste arisings which was linked to the general decline of the manufacturing and heavy industry in the West Midlands. Alongside this decline, however, was a noticeable increase in commercial waste arisings associated with the growth of the services sector.

Table 1: Municipal Solid Waste Management Methods (Black Country), 2005/06 – 2006/07¹

Management Method	2005/06 (tonnes)	2005/06 (%)	2006/07 (tonnes)	2006/07 (%)
Landfill	286,199	48.30	238,332	41.42
Incineration with Recovery	188,167	31.75	206,124	35.82
Incineration without Recovery	94	0.02	126	0.02
Recycling/Composting	118,104	19.93	130,857	22.74
Total	592,564	100	575,439	100

Table 2: Commercial and Industrial Waste Management Methods (WMMA), 2002/03²

Management Method	Industrial (tonnes)	Industrial (%)	Commercial (tonnes)	Commercial (%)
Landfill	672,000	39.32	755,000	52.61
Reuse/Recycle	755,000	44.18	509,000	35.47
Treatment/Transfer	215,000	12.58	127,000	8.85
Fate Not Recorded	67,000	3.92	44,000	3.07
Total*	1,709,000	100	1,435,000	100

Note: the totals represent the sum of the tonnes for each type of treatment method shown in the table; these vary slightly from the totals presented in the Atkins report

(iii) Hazardous Waste

HW is closely monitored by the Environment Agency and is listed in the Agency's hazardous waste database by European Waste Catalogue code.

Following the introduction of the Hazardous Waste Regulations in 2005 a number of waste streams were re-classified which lead to a 25% increase in HW arisings between 2004 and 2006. Table 3 provides details of how HW in the Black Country was managed in 2006. The highest proportion of HW is managed by treatment/recovery sites (58%).

¹ Data derived from the Department for Environment, Food and Rural Affairs (DEFRA)

² Data derived from the Environment Agency Commercial and Industrial Waste Survey 2002/03

Table 3: Hazardous Waste Arisings Management (Black Country), 2006³

Waste Planning Authority	Treatment/Recovery (tonnes)	Transfer (tonnes)	Landfill (tonnes)
Dudley	16,803	5,190	16,013
Sandwell	42,202	9,151	5,867
Walsall	38,602	6,885	879
Wolverhampton	14,203	23,355	12,372
Black Country	111,810*	44,581	35,131
% of Total Arisings	58.38%	23.28%	18.34%

* Total provided in the Atkins report is 111,809

1.2.3 Treatment Capacity Gaps

Table 4 provides an overview of the current waste arisings in the Black Country and compares these to the available capacity by waste category in order to determine the current treatment capacity gap. It should be noted that figures for CIW and CDEW are estimates that were based on the best available data at the time the report was produced.

The figures show particular concern for the management of MSW as there is a treatment shortfall in the Black Country of approximately 360,000 tonnes. The estimates provided for CDEW have also produced a negative capacity outcome; however, due to the way this waste is managed this shortfall is thought to be unlikely, especially with regard to recycled aggregates, on site treatment and exempt activities within the sub-region. In addition we note that new capacity is planned and this has been incorporated into the findings of the final report by Atkins.

CIW accounts for a large proportion of the regional waste stream. The capacity gap here is significant, though again it is noted that the figures presented do not take planned capacity into consideration. In addition it is understood that recent studies, for example the Advantage West Midlands 'Waste – A future Resource for Business' (2008) study, have highlighted that a lack of access to waste management facilities is of considerable concern to Small and Medium Sized Enterprises in the wider region.

³ Data derived from the Environment Agency

Table 4: Capacity Gaps for Waste Treatment Facilities (Black Country), 2005–2007

Waste Category	Arisings (tonnes)	Throughputs (tonnes)	Capacity (tonnes)	Gap (tonnes)
Total Municipal Solid Waste	575,445	206,250	215,000	-360,445
Residual Municipal Solid Waste (Total Recycled/Composted)	444,588	206,250	215,000	-229,588
Recycled/Composted	130,857	0	0	-130,857
Commercial & Industrial Waste	1,627,000	1,565,728	2,653,776	1,026,776
Commercial & Industrial (Excluding Metal Recycling)	1,155,170	169,814	287,820	-867,350
Construction, Demolition & Excavation Waste	1,445,262	70,716	70,716	-1,374,546
Hazardous Waste	191,576	343,714	343,714	152,138

Note 1: Municipal Solid Waste figures relate to 2006/07, figures for all other waste types relate to 2005/06

Note 2: Throughput and capacity figures relate to the calendar year 2006

Note 3: This table has been repeated in the Atkins report however the figures used vary slightly; therefore the information provided in this table should be treated with caution

1.2.4 Gaps in Provision and the Need for New Facilities

Not all of the waste generated in the Black Country is treated within the Black Country. Waste is imported and exported depending on the requirement of the treatment facility type. Table 5 provides a summary of the waste treatment/management facilities that are required in the Black Country to handle the different waste arisings within the sub-region.

Table 5: Need for Waste Facilities

Waste Type	Need for New Waste Treatment/Management Facilities
Municipal Solid Waste	<ul style="list-style-type: none"> • Composting facility for green waste and food waste • Expansion to existing or new Civic Amenity sites for all Councils • Treatment options for mixed Municipal Solid Waste such as Energy from Waste, Materials Recycling Facilities and Mechanical Biological Treatment facilities
Commercial and Industrial Waste	<ul style="list-style-type: none"> • Possible need for these facilities, but further investigation work is needed on this waste type
Construction, Demolition & Excavation Waste	<ul style="list-style-type: none"> • Strategically positioned treatment facilities for contaminated soil
Hazardous Waste	<ul style="list-style-type: none"> • Electrical items treatment facilities for these items collected by the Local Authorities

A number of potential barriers and incentives to the implementation of new waste treatment/management facilities have been identified; these are as follows:

- **Barriers:**
 - Availability of suitable land due to dense urban environment already in place in the sub-region;
 - Suitability of land available and its proximity to sensitive land uses;
 - Gaining planning permission for new sites and showing that the waste treatment/management infrastructure proposed for the site will not have a negative effect on the surrounding environment; and
 - Maintaining the levels of waste required to run the service and the costs involved in the treatment operation.
- **Incentives**
 - The need to achieve Landfill Allowances Trading Scheme (LATS) targets to avoid fines by landfilling too much Biodegradable Municipal Waste;
 - To increase recycling and composting rates in line with the targets set out in the Waste Strategy 2007;
 - Increasing value of some recyclable materials (e.g. steel);
 - Increasing land fill tax;
 - Definitive plans identifying the areas of potential redevelopment and the extent of contaminated soils; and
 - Providing a greater depth of information on the waste streams generated within the sub-region.

Again, it is noted that the conclusions presented in the finalised waste study vary slightly from the draft, however we consider there is little material difference, though advise the most recent version of the study should be used as a basis for planning and policy.

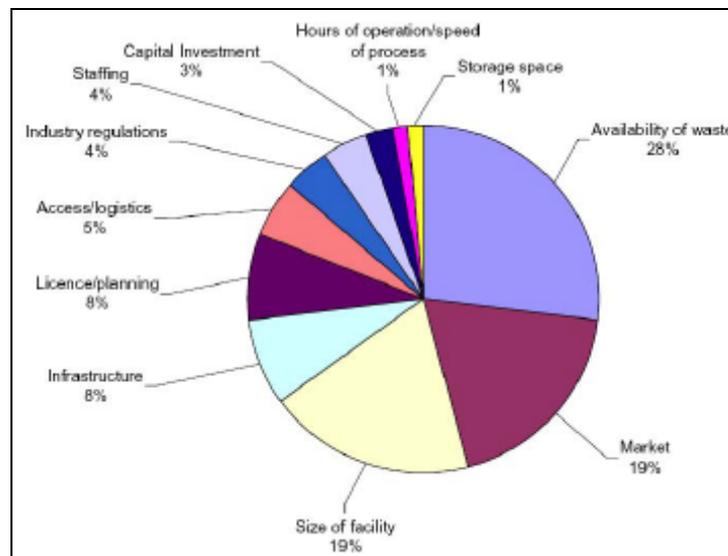
1.2.5 Potential Constraints to Future Expansion

As part of this study, Atkins reviewed the SLR Consulting report entitled '*Waste Treatment Facilities and Capacity Survey: West Midlands Region*' (see Section 1.3 for further details). One of the main pieces of information to be extracted from this report was a summary of the potential barriers to the expansion of existing waste treatment facilities identified by the participants of the survey (see Figure 1). The three main barriers to the expansion of existing waste treatment facilities provided by the participants of the survey, which together accounted for 66% of the response rate, were:

- Availability of waste (28%);
- Market (19%); and
- Size of facility (19%).

In order to meet the capacity gap identified in the Black Country (see Table 4), additional capacity is required either through the expansion of existing facilities, through establishing new facilities or a mixture of the two.

Figure 1: Summary of Constraints to Future Potential Expansion



1.2.6 Waste Modelling Projections to 2026

Atkins modelled the waste arisings for all four waste types to obtain output projections in the Black Country for 2025/26; this data is required in order to provide an insight into the potential capacity gaps that may constrain the future growth of the sub-region. A summary of the key outputs from the modelling have been provided in Table 6. All waste types show an increase in arisings with the exception of CDEW.

The projections were undertaken to enable comparison with the technical work undertaken as part of the RSS Phase 2 revision. The BCAs are looking to ensure the BCJCS conforms to the RSS and we note that the outputs from both models varied, therefore, these should be treated with caution and the assumptions used in the models specified when quoting figures. However, in general the BCAs are seeking to deliver the requirements of the RSS and will not seek to depart from these requirements unless evidence suggests this is necessary.

Table 6: Waste Arisings (tonnes), 2006/07 and 2025/26 (as per Atkins report)

Waste Type	Arisings 2006/07 (tonnes)	Arisings 2025/26 (tonnes)
Municipal Solid Waste	575,445	679,376
Commercial & Industrial Waste	1,632,000	2,443,083
Construction, Demolition & Excavation Waste	1,445,263	1,445,263
Hazardous Waste	191,522	286,706

1.2.7 Projected Potential Long Term Capacity Gaps

(i) Municipal Solid Wastes

Table 7 shows the treatment capacity gap forecast for MSW in 2025/26, assuming no new facilities/expansions of existing treatment works takes place, or alternative disposal methods are used.

Table 7: Municipal Solid Waste Treatment Capacity Gap (tonnes), 2025/26

Waste Type	Current Capacity (tonnes)	Required Capacity (tonnes)	Gap (tonnes)
Recycling	0	150,000	-150,000
Composting	0	150,000	-150,000
Treatment/Recovery	215,000	300,000	-85,000
Landfill	N/A	110,000	-110,000

There is estimated to be a treatment capacity shortfall in the Black Country of 495,000 tonnes per annum up to 2025/06 for MSW if additional capacity within the sub-region is not created. The report identifies that there are currently no recycling or composting facilities within the Black Country but 300,000 tonnes per annum (tpa) of wastes to be treated by these types of facilities will be generated up to 2025/26.

It is evident from the modelling that has been carried out, that even after other treatment measures such as recycling and composting have been utilised, there will still be a need for additional capacity at landfill sites to treat MSW.

A number of options were identified in the study which could be used to treat MSW and reduce future capacity gaps for MSW. It should be noted that although these disposal routes are expected to be used by the BCAs, there is no guarantee that they will be used. The facilities are:

- Sandwell and Walsall are considering utilising the Staffordshire Energy from Waste (EfW) proposed to be operational by 2013/14. This would be in the region of 110,000 tpa throughput.
- A 250,000 tpa Material Recycling Facility (MRF) has recently opened at Aldridge, however, significant tonnages handled at the Aldridge MRF are expected to arise from Birmingham City Council as the company operating it (Greenstar) is currently handling the co-mingled collections from Birmingham and sorting it at its facility in Blackburn.
- Sandwell have proposed to build a waste recovery park at Hill Top. The planning permission being obtained is for an In Vessel Composting facility (35,000 tpa), MRF (50,000 tpa) and Mechanical Biological Treatment (MBT) facility (150,000 tpa).

Table 8 provides revised figures for the identified treatment capacity gap with the additional facilities listed above implemented. However, with the exception of treatment/recovery facilities, there would still be a significant shortfall in treatment capacity within the sub-region.

Table 8: Municipal Solid Waste Treatment Capacity Gap (tonnes) including Additional Facilities, 2025/26

Waste Type	Current Capacity (tonnes)	Potential New Capacity (tonnes)	Total Capacity (tonnes)	Required Capacity (tonnes)	Gap (tonnes)
Recycling	0	100,000	100,000	150,000	-50,000
Composting	0	35,000 (IVC)	35,000	150,000	-115,000
Treatment/Recovery	215,000	260,000	475,000	300,000	175,000
Landfill	N/A	N/A	N/A	110,000	-110,000

(ii) Commercial and Industrial Waste

There is limited data available on the waste arisings of CIW within the Black Country. As the Black Country also accepts waste from outside the sub-region, it may be possible to assume that there would be enough treatment capacity within the sub-region to handle the CIW that it solely produced. Further investigation into the demand for CIW facilities is required.

(iii) Commercial, Demolition and Excavation Waste

Waste arisings from CDEW are not anticipated to grow further and it is thought that current provisions to handle the waste will be sufficient up to 2025/26. The slowdown in the rate of development resulting from the current economic climate has also contributed to this.

(iv) Hazardous Waste

Current capacity within the Black Country to manage HW is 343,714 tonnes with waste arisings for 2025/26 forecast to be 286,706 tonnes. This implies that there is sufficient capacity to handle HW, however, there is varying capacity within the different types of HW management facilities. There would still be a need for hazardous landfill as there is currently no provision that has been made in the Black Country.

Additional treatment facilities for the disposal of hazardous household electrical items such as fridges and freezers may also be required if existing contractual arrangements prove inadequate in the future. There is also a need to make provision for the storage, treatment and remediation of contaminated soils as there are currently no infrastructure for managing this type of waste in the Black Country. The RSS Phase 2 Revision Preferred Option, endorsed by the Panel Report (September 2009) requires the BCJCS to give specific priority to addressing this issue, given the scale of regeneration and development proposed in the Black Country.

1.2.8 Conclusions

All waste types with the exception of CDEW show a forecast increase in the amount of waste that will be generated per annum up to 2025/26. The modelling results have shown that without additional treatment capacity within the Black Country to handle the waste arising, there is a significant treatment gap which will result in the export of waste.

The Black Country currently has the capacity to manage a high proportion of its CIW, although most of the existing capacity is in the form of metal recycling facilities. This suggests that there is a need for a wider range of commercial waste management facilities than exists at present.

Although the figures presented within the Atkins study do differ from those in Tables 5 and 6 of the RSS Phase 2 Revision Preferred Option, the BCAs have expressed concern that the RSS figures over estimate MSW arisings, especially given the trend of falling MSW arisings noted across the area. For MSW and CIW, Atkins also included two sets of projections from a 2006/07 base date, one relating to the RSS assumptions and one using Atkins' own modelling, for comparison. Both sets of projections also include a breakdown by individual authority, which the RSS apportionments do not provide.

Even with the introduction of alternative treatment methods such as composting and recycling, there will still be a need for landfill capacity to handle waste. There is a significant amount of derelict land in the Black Country which has the potential for redevelopment. This land should be used if it provides a suitable location for new treatment facilities that are required in the Black Country to manage the increase in waste arisings. More should also be done to encourage re-use, recycling and composting to avoid the greater need for landfill sites. The introduction of the LATS and the Landfill Tax Escalator has resulted in changing attitudes to using landfill as a disposal method.

There is robust data available for MSW and HW, however; data for CIW and CDEW is not readily available as the same monitoring requirements for MSW and HW are not in place for these waste types. Further investigation is required into CIW and CDEW arisings so that demand for additional capacity can be forecast more accurately.

Consultations with the Black Country Minerals and Waste Group suggest that at the current time (excluding development in the pipeline), the Black Country needs to plan for the following new waste management capacity to achieve “equivalent self sufficiency” by 2026 in line with the emerging RSS Phase 2 Revision:

- MSW
 - Dry waste recovery capacity (MRF) – 124,000 tpa
 - Organic waste treatment capacity – 84,000 tpa
 - Treatment/energy recovery – 94,000 tpa
- CIW
 - Recovery and treatment (non metal) – around 1,000,000 tpa

And based on the average capacity of a ‘typical’ facility the BCJCS will need to plan for:

- Two to three new MSW dry waste recovery facilities
- Two new MSW organic waste treatment facilities
- One new MSW treatment/energy recovery facility
- 10 to 120 new CIW recovery and treatment facilities

The BCJCS will also need to plan for:

- Capacity to replace CDEW and waste transfer facilities likely to be lost as a result of housing redevelopment;
- Provision to store, treat and remediate contaminated soils in line with emerging RSS requirements; and
- New landfill capacity taking into account what is likely to come forward through restoration requirements for mineral working sites.

Provision of sufficient waste capacity is a significant issue if the sub-region is to deliver on its waste management obligations. However it does not present a barrier to delivery of the BCJCS, though the restricted availability of the full range of local facilities may in particular be increasing the cost of dealing with commercial waste.

The capacity gap does demonstrate the importance of protecting existing capacity to prevent a widening of the current gap. We note that the JCS has taken this into consideration in the development of the regeneration corridors.

The evidence regarding waste so far generated and the output from recent consultation with the waste group, demonstrates the sub-region is clearly committed to understanding and providing waste facilities and the on-going commitment to develop a broader evidence base to support policy is testament to this. We therefore believe the sub-region has the institutional capacity to resolve these concerns relating to capacity and the range of facilities available.

1.3 Waste Treatment Facilities and Capacity Survey: West Midlands Region (SLR Consulting)

The following information has been sourced from the SLR Consulting '*Waste Treatment Facilities and Capacity Survey: West Midlands Region*' report published in 2007:

1.3.1 Introduction

The WMRTAB on behalf of the WMRA, commissioned SLR Consulting to undertake a study of non-landfill waste treatment facilities in the West Midlands Region. The study was published in May 2007 and presents the findings from telephone surveys and site visits undertaken by SLR Consulting with the waste treatment facilities.

1.3.2 Scope of the Study

There were more than 400 existing waste treatment facilities that were considered to fit the scope of this study, with 265 of these facilities selected for a telephone survey as part of the first stage of the study. The purpose of the telephone surveys was to gather information about the facilities such as the type of facility, types of waste managed at the facilities, waste throughput and treatment capacities at the facilities. The second stage of the study involved site visits to 43 facilities, however, access was only gained to 34 of these facilities. The purpose of the site visits was to gain a deeper appreciation of the treatment procedures at the facilities, capacity constraints on throughput and the facility's ability to handle alternative waste types.

The following facilities were considered to fit the scope of this study:

- Operational and planned waste management facilities which handle municipal, commercial or industrial waste streams (excluding construction and demolition facilities);
- Operational licensed waste facilities in 'A' codes 15 to 23 (see Table 9);
- Accredited reprocessors; and
- Incinerators included in the Environment Agency Incinerator survey.

Table 9: Environment Agency Operational Licensed Waste Facilities in ‘A’ Codes

‘A’ Code Listing	Facility Process Description
A15	Material recycling facility
A16	Physical treatment facility
A17	Physico-chemical treatment facility
A18	Incinerator
A19	Metal recycling site (vehicle dismantler)
A19a	End of Life Vehicles facility
A20	Metal recycling site (MRS)(Mixed)
A21	Chemical treatment facility
A22	Composting facility
A23	Biological treatment facility

The following sub-sections outline the main findings of the study.

1.3.3 Existing Facilities

The Environment Agency’s *Regis* (Regulation Information System) database which keeps a record of all the licensed waste facilities nationally identified 354 operational waste facilities in the West Midlands Region that were classified as ‘A’ Codes 15 to 23. Table 10 shows the distribution of operational facilities and the number of incinerators (‘A’ Code 18 only).

Table 10: Number of Existing ‘A’ Code 15 – 23 Operational Waste Treatment Facilities

Waste Planning Authority	Number of Operational Facilities	Number of Incinerators
Dudley	32	2
Sandwell	35	3
Walsall	38	0
Wolverhampton	26	1
Black Country	131	6
West Midlands Region	354	14

1.3.4 Actual Throughput

Sandwell and Walsall were found to be in the top three Waste Planning Authorities (WPAs) in the Region with the largest amount of surveyed throughput. Metal recycling sites were identified as the most dominant treatment facility type in the West Midlands in terms of surveyed capacity. The predominant facility type in Walsall is metal recycling sites and the majority of surveyed throughput in Sandwell is due to metal recycling sites (3 facilities with in excess of 75,000 tpa throughputs).

1.3.5 Gap Analysis

Table 11 provides a comparison between the treatment capacity required and the surveyed capacity at the facilities by Black Country WPA. Each of these WPAs, with the exception of Sandwell, revealed a substantial shortfall for treatment capacity. Overall, there is a treatment gap of 6.25 million tonnes in the West Midlands Region of which 0.55 million tonnes exists in the Black Country.

Table 11: Gap Analysis by WPA Utilising the Surveyed Capacity Figures (million tonnes)

Waste Planning Authority	Treatment Capacity Required (million tonnes)	Surveyed Capacity (million tonnes)	Treatment Gap (million tonnes)
Dudley	0.60	0.27	0.33
Sandwell	0.80	0.91	-0.11
Walsall	0.60	0.58	0.02
Wolverhampton	0.53	0.22	0.31
Black Country	2.53	1.98	0.55
West Midlands Region	11.34	5.09	6.25

However, once the projected regional capacity figures are included in the calculations, the shortfall is considerably reduced (see Table 12). The revised figures now show that by 2025/26 there will be sufficient capacity in Sandwell, Walsall and Wolverhampton to manage demand (based on no imports of waste) in the respective districts, while there is limited capacity available in Dudley. The Black Country as a whole indicates that it will have the capacity to treat a further 0.80 million tonnes of waste, although a treatment deficit in the wider region of 3.87 tonnes by 2025/26 still remains.

Table 12: Gap Analysis by WPA Utilising the Projected Throughput Figures (million tonnes)

Waste Planning Authority	Treatment Capacity Required (million tonnes)	Projected Throughput (million tonnes)	Treatment Gap (million tonnes)
Dudley	0.60	0.52	0.08
Sandwell	0.80	1.00	-0.20
Walsall	0.60	1.25	-0.65
Wolverhampton	0.53	0.56	-0.03
Black Country	2.53	3.33	-0.80
West Midlands Region	11.34	7.46	3.87

Information regarding future expansion plans of the waste treatment facilities was also gathered during the survey stages of the study. When this information is taken into account, the treatment gap regionally is lessened by 0.47 million tonnes (see Table 13) in comparison to the figure shown in Table 12. The available capacity in the Black Country also increases by 0.11 million tonnes.

Table 13: Gap Analysis by WPA Utilising the Estimated Projected Capacity plus Quantifiable Expansion Plans (million tonnes)

Waste Planning Authority	Treatment Capacity Required	Projected Throughput plus Quantified Expansion	Treatment Gap
Dudley	0.60	0.52	0.08
Sandwell	0.80	1.09	-0.29
Walsall	0.60	1.25	-0.65
Wolverhampton	0.53	0.58	-0.05
Black Country	2.53	3.44	-0.91
West Midlands Region	11.34	7.94	3.40

1.3.6 Conclusions

This report found that by 2025/26 there will be a significant capacity gap in the Region to treat waste (3.40 million tonnes). On a sub-regional level, the Black Country appears to be able to cater for the demand that is anticipated to be generated from the increased number of households forecast for the sub-region, however, this would require cooperative working between the WPAs especially as a treatment deficit has been identified in Dudley of 0.08 million tonnes.

The figures presented in Tables 11 to 13 need to be treated with caution as they are based on a number of assumptions such as:

- Directing capacity towards those processes which have been identified as having a deficit in treatment capacity;
- Waste from within the WPA is only treated within the same WPA; and
- Waste is not imported or exported between WPAs.

It is noted that these conclusions do not incorporate the conclusions identified in the Atkins study and Advantage West Midlands study regarding the range of waste provision in the region.

1.4 A Study into Future Landfill Capacity in the West Midlands (Scott Wilson)

The figures presented in the Scott Wilson report entitled '*A Study into Future Landfill Capacity in the West Midlands*' which was made available in May 2007 have been noted, but following consultation with the minerals group it has been determined that information presented has been superseded by the RSS phase 2 work and Atkins study.

However the study does emphasise that the Land Fill capacity in the region will be exhausted by 2022/23 if more waste is not diverted from landfill. Therefore the provision of new capacity within the region is essential.

1.5 Recent Developments on Technical Evidence for Waste

Since the Black Country Waste Planning Study was published, additional technical evidence has also become available on waste, notably DEFRA MSW data for 2007/08, data from a new national survey of CIW arisings, Environment Agency Regis data for 2007 on inputs into licensed facilities, and refreshed regional studies into landfill capacity and waste treatment capacity. The refreshed regional studies have fed into a new regional waste capacity database developed by WMRTAB, which includes new estimates of capacity. Where feasible in the timescale available, the implications of this new data should be taken into account in developing the BCJCS waste policies.

1.6 Mapping

Figure 2 and Figure 3 illustrate the number of fly tipping incidents and cumulative quantity of municipal waste generated, respectively, in the Black Country. Data was available on a district basis therefore a more accurate breakdown by corridor level was not possible.

Incidents of fly tipping may help Authorities to identify the areas where there is a pressing need for additional waste service provision/enforcement. Failure to provide increased capacity may result in additional incidents of fly tipping.

1.7 Conclusions

Further investigation into the different types of waste arisings is required in order to be able to assess more accurately the treatment capacity gaps in the Black Country up to 2026 and beyond. There is robust data available on the generation of municipal waste as the monitoring processes in place are more stringent than for commercial and industrial waste, construction, demolition and excavation waste and hazardous waste.

Initial indications from the Environment Agency suggest that the previous predicted increase in waste growth rates due to legislative changes have not occurred, and that the overall trend in the disposal of hazardous waste to landfill is reducing. This has also been helped from the promotion of alternative waste management methods including re-use, recycling, recovery and composting. The changes in the Landfill Tax Escalator, effective from April 2008, and announced in the March 2007 Budget statement have not been factored in but they are designed to reduce the quantity of waste going to landfill from all sources.

It is clear the Authorities are responding to current trends and this provides confidence that the region has the capacity to manage waste issues.

Hazardous waste arisings predictions were based on assumptions from the earlier WMRA Phase 2 Capacity Study that included anticipated growth from recent legislative changes. Early indications of post-2004 data from the Environment Agency suggest that these predictions are not reflected in actual growth and that trends for hazardous waste arising and disposal are in fact slowly reducing.

It should be noted that there seem to be conflicting outcomes from the studies that have been reviewed in this Technical Note. The Atkins study suggests that there is a shortfall in the treatment capacity required for municipal waste and commercial and industrial waste, however; the SLR Consulting report suggests that the Black Country does have enough capacity (non-landfill) to cater for the forecast increase in waste arisings. Figures used in these reports and others published on waste should be treated with caution and reference made to the assumptions used in the model runs.

As evidenced by the updated Waste Treatment Facilities and Capacity Survey: West Midlands Region' The region and sub-region is clearly developing a robust local evidence base on which to develop future policy, supported by significant external technical expertise and as such believe the region has the capacity and support to resolve these concerns.

It should also be noted that any increase in the regional provision for dealing with, and processing, contaminated waste from brownfield sites, will help with the deliverability of the BCJCS by increasing capacity and possibly reducing the cost of redevelopment. However, we have been made aware of no evidence that suggests the cost or capacity of the sub-region to deal with contaminated waste has actually restricted redevelopment of these sites relative to other regions. We would add a note of caution that the sub-region now needs to begin addressing how the capacity gaps identified can be delivered.

Figure 2: Number of Fly Tipping Incidents per 1000 Population, 2006

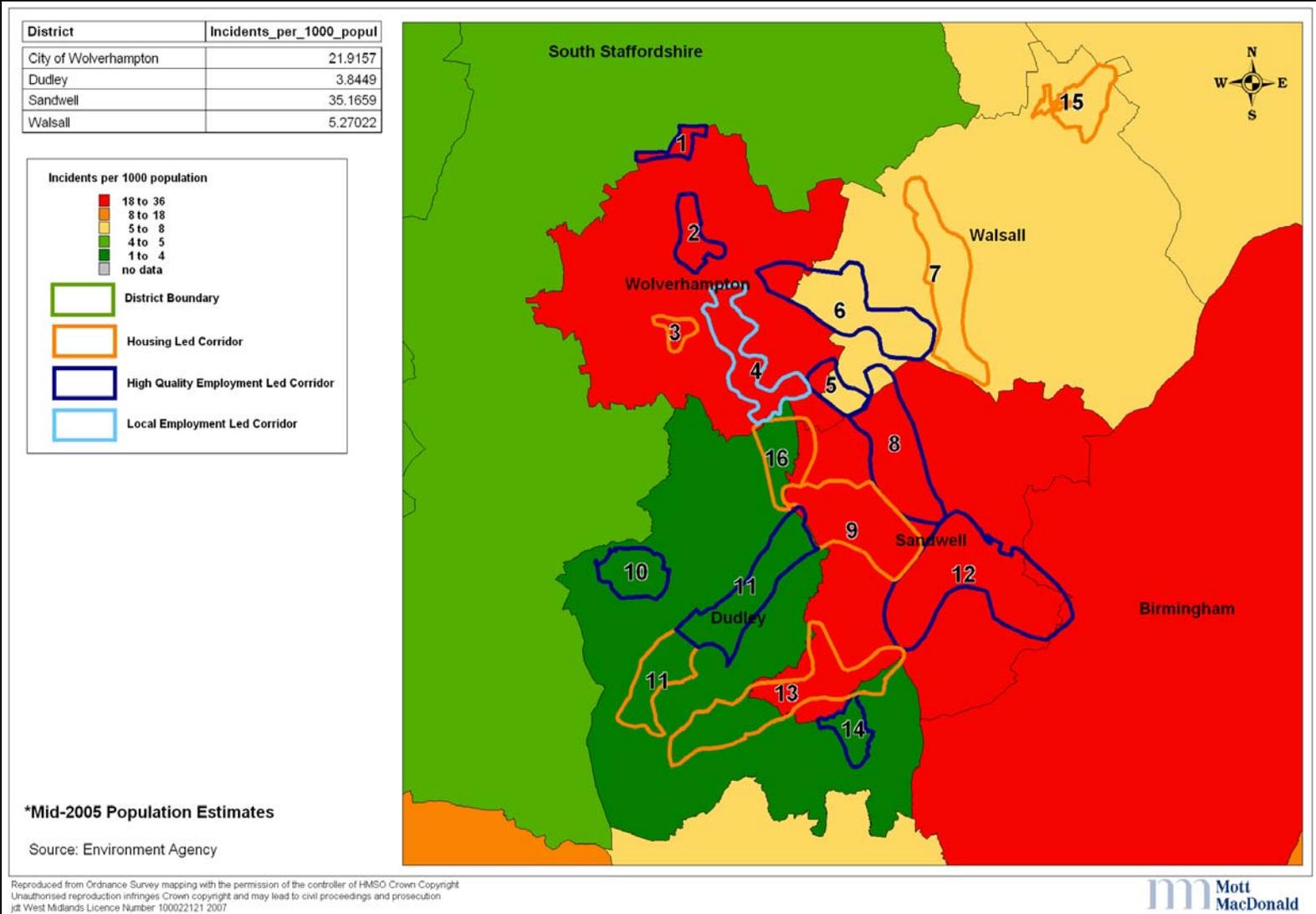


Figure 3: Cumulative Quantity of Municipal Waste Generated ('000 tonnes), 2001–2021

