

## Baseline Review - Where are we today?

### 1. Introduction

- 1.1 This Baseline Report meets the need to understand “where we are today” as the basis for commencing work on the review and updating of the MWMS. It has also been prepared to meet the SEA requirement for collection of baseline information and allow the clear presentation of evidence underpinning the strategy. It is based on the situation as at 31st March 2006.
- 1.2 The baseline report will give a firm foundation from which to consider the need for new actions and initiatives and to inform the assessment and appraisal required under SEA/SA. The baseline report includes:
- An analysis of the existing services – the type and level of service and performance
  - An estimate the performance of services already firmly planned (budgeted and contracted)
  - How existing policy and legal requirements are currently being addressed;
  - The roles and responsibilities as currently agreed;
  - The status of current waste contracts and associated infrastructure;
  - Environmental baseline data.
  - Contextual information and its significance for option analysis and forward planning;
  - Waste data, waste composition and material captures;
  - Forward projections of waste quantities to 2030;
  - A projected ‘business as usual’ LATS balance.

### 2. Review of Current Legal and Policy Requirements

- 2.1 The EU Landfill Directive is the most significant driver for change in municipal waste management. This requires all member states to significantly reduce the amount of biodegradable municipal waste (BMW) being sent to landfill. A principal objective of this Directive is to reduce the impact of methane produced by biodegradation in landfills (a potent greenhouse gas) on climate change.
- 2.2 Under the Directive, targets have been set for the UK to reduce the amount of BMW going to landfill, as follows:-
- By 2010 to reduce the amount of BMW going to landfill to 75% of that produced in 1995;  
By 2013 to reduce the amount of BMW going to landfill to 50% of the 1995 figure;  
By 2020 to reduce the amount of BMW going to landfill to 35% of the 1995 figure
- 2.3 These targets are mandatory; failure to meet them will almost certainly mean the UK is infringed with subsequent fines from the European Court of Justice.
- 2.4 The Landfill Allowance Trading Scheme (or “LATS”) regulates and monitors compliance with the Landfill Directive obligations in England. The scheme started in 2005/06 and allocates a landfill allowance for each WDA for each year of the scheme until 2020. WDAs are under a duty to ensure that the amount of BMW sent to landfill by them in any particular scheme year does not exceed the amount authorised by the landfill allowances available to them for that scheme year. The LATS position for GMWDA is set out in detail in Section 8 below.
- 2.5 Current legal and policy requirements for municipal waste management which are relevant to MWMS development are set out in appendix A (Table 2.5A sets out current legislation and its implementation by and impacts on GMWDA and partner WCAs. Table 2.5B gives a summary of proposed legislation and how this may impact on the MWMS.

**Table 2.5A: Legislation - Implementation by and impacts on GMWDA and Partners**

Legislation	Key points for WDAs	Implementation by and impacts on GMWDA and Partners
Waste & Emissions Trading Act 2003 Landfill (Scheme Year and Maximum Landfill Amount) Regulations 2004 The Landfill Allowances and Trading Scheme (England) Regulations 2004 The Landfill Allowances and Trading Scheme (England) (Amendment) Regs 2005	<ul style="list-style-type: none"> <li>• Whether they are required to produce a MWMS under the Act</li> <li>• Their schedule of landfill allowances.</li> <li>• The way in which the balance of allowances will be calculated, including the way in which the performance of treatments will be assessed under the Landfill Allowances Trading Scheme (LATS)</li> <li>• The rules regarding trading, banking and borrowing of landfill allowances</li> <li>• The powers of direction that the Act gives to WDAs vis a vis WCAs</li> <li>• The amount of the financial penalty under the Scheme</li> </ul>	GMWDA were not specifically required to produce a MWMS under the WET Act 2003. Notwithstanding, the partnership produced an agreed MWMS in May 2004. Details of the LATS scheme as this affects GMWDA are given in section 8 of this Baseline review.
Landfill Tax Regulations 1996 (and relevant Budget announcements)	Local authorities should know which wastes are classified as 'active' and 'inert' for the purposes of the tax. For 'active wastes', landfill tax is due to increase by at least £3 per tonne per annum from the 2005/6 level of £18 per tonne until it reaches £35 per tonne. For 'inert wastes', the rate of landfill tax is £2 per tonne with no plans to increase this.	The announced landfill tax increases have been factored into costs assessments and procurement strategy
PPS 10	Sets out how sustainable waste management will be delivered through spatial planning. Authorities should involve senior planners in the MWMS's development, and MWMS developers should be involved in preparing Local Development Documents (LDD). MWMS should be the source of data for municipal waste in the RSS and the LDD, with revisions being reported as appropriate.	GMGU are in the early stages of preparing their LDF in accordance with PPS10 requirements and guidance and are working in partnership with GMWDA in the co-ordination of work on both MWMS revision and LDF
Household Waste Recycling Act 2003	All WCAs should collect at least two types of recyclable waste from all households in their area, by the end of 2010 which could include batteries, garden waste, glass, hazardous household liquids (i.e. paint and varnish), kitchen waste, metals, paper, plastics, textiles and shoes, electrical or electronic waste (e-waste) and wood.	Under the agreed approach adopted in the MWMS, all of the WCA's are expanding their kerbside collection services and, as a minimum all of them will meet the requirements of the Act in the short term.
Clean Neighbourhoods and Environment Act 2005	Repeals the requirement to transfer waste disposal functions to companies and amends the payments of recycling credits. Extends the powers of WCAs in relation to illegal waste activities	<p>The repeals have allowed for the creation of a GMWDA wholly-owned "inward-facing" company with whom the GMWDA has negotiated a short term interim services contract under the Best Value provisions. The contract extends from April 2006 for a maximum period of 2 years.</p> <p>Under Regulations, the mandatory payment of recycling (disposal) credits by the GMWDA to WCAs ceases in April 2006 in line with the consolidation of a tonnage-based levy.</p>

Waste Minimisation Act 1998	Allowing local authorities to provide funding for waste reduction initiatives.	No formal policy has been devised by the partnership under these provisions.
Animal By Products Regulations 2003	<p>Authorities collecting bio-wastes including food wastes can no longer deal with materials through open-air treatments. If the collected bio-waste includes meat the material must be treated through a two-barrier process.</p> <p>If collected waste includes kitchen waste, but attempts are made to exclude meat, the material must be treated using a single barrier process.</p> <p>The fact that the State Veterinary Service needs to approve facilities may add to lead-times for in-vessel facilities.</p> <p>There are restrictions and reporting requirements for the spreading on land of compost derived from kitchen wastes.</p>	The current MWMS 2004 recognises that separate collection of kitchen waste for composting by in-vessel processes may be required if the recycling and composting targets are to be met in the medium and long term. The implementation of this requirement will be addressed through the procurement and contract processes.
Guidance on monitoring mechanical biological treatment (MBT) & other pre-treatment processes for the landfill allowances schemes (England and Wales)	This sets out how the contribution of mechanical biological treatment systems to the achievement of LATS targets should be measured.	The guidance will be taken into account in the assessment of options and in particular in the assessments made during the ongoing procurement processes.
Renewables Obligation Order 2002 (currently under review and to be superseded)	Sets out which forms of energy generation qualify for Renewables Obligation Certificates (ROCs). Sets out the proportion of electricity to be supplied through renewable energy sources in future years. Effectively establishes the parameters affecting the value of ROCs and the waste treatments for which these are available.	The situation on renewable energy and the values of ROCs will be taken into account in the assessment of options and in particular in the assessments made during the ongoing procurement processes.
Landfill (England and Wales) Regulations 2002	Bans certain wastes being disposed of at landfill, and sets limits on the amount of biodegradable municipal waste allowed to be deposited at landfill. Sets requirements for specific landfills for hazardous, non hazardous and inert waste. Is likely to reduce the number of landfills permitted to accept hazardous waste.	<p>This legislation underpins the LATS. The current MWMS approach is given in section 8 of the Baseline report.</p> <p>The obligations upon the GMWDA and its contractors to secure appropriate landfill capacity for all residual waste, including hazardous materials, will be addressed in the adopted procurement processes.</p>
Environmental Protection Act 1990	Sets out duties & responsibilities of WCAs and WDAs. Sets out duty of care, waste licensing and fly tipping legislation.	See following section on roles and responsibilities.
Control of Pollution (Amendment) Act 1989 and The Controlled Waste (Registration of Carriers and Seizure of Vehicles) Regulations 1991	Sets out rules regarding waste carriers, and the powers of WCAs to investigate and take enforcement action against offenders.	
Hazardous Waste Regulations 2005 The List of Waste Regulations 2005	Sets out new regime for dealing with hazardous waste, and includes requirements for producers of hazardous waste to register with the Environment Agency, and sets out documentation requirements.	Arrangements for dealing with hazardous household waste (both collected and at HWRCs) will continue to be addressed under the MWMS and incorporated into service contracts.
Producer Responsibility Obligations (Packaging Waste) Regulations 1997	Though this imposes no obligations upon local authorities, the role of local authorities in meeting targets set in the European Packaging Waste Directive will be extremely	The GMWDA encourages its contractors to engage in compliance schemes, wherever feasible.

(as amended)	important. Some authorities already receive some money from obligated packaging producers, however, further funding opportunities may become available in the future, depending upon the approach taken by compliance schemes to meet the next Packaging Directive targets in 2008.	
End of Life Vehicles Regulations 2003	Requirements regarding how vehicles (including abandoned vehicles from local authorities) are managed.	The partnership scheme to deal with abandoned vehicles has been developed to take account of the de-pollution requirements and will be developed further in line with producer responsibility obligations.
Controlled Waste Regulations 1992	Defines in more detail what waste types can be classed as household, commercial and industrial and which waste categories local authorities may make a charge for collecting.	Charges for collection and any reception through HWRCs should be addressed– Reception at one HWRC is addressed through procurement specifications
Ozone Depleting Substances Regulation 2000	Management of fridges and freezers.	See section 4 of Baseline Report on current arrangements
Waste Management Licensing Regulations 1994	Sets out specific requirements of the waste management licensing and exemptions regime.	Requirements noted in procurement documentation
Pollution Prevention and Control (England and Wales) Regulations 2000	Require local authorities to regulate Part A(ii) and Part B processes under the Regulations. Note – most waste management facilities are regulated by the Environment Agency as they fall under the Waste Management Licensing Regulations or are classified as Part A(i) processes under the PPC Regulations	Compliance with the relevant Regulations rests primarily with service providers but the WDA has obligations in respect of those facilities made available by it to service providers (eg HWRCs).
Environmental Protection (Duty of Care) Regulations 1991	Sets out the requirements of the transfer note system and powers of the Environment Agency and WCAs to enforce them.	
Local Government Act 1999 (Best Value) and The Local Government (Best Value) performance indicators and Performance Standards (England) Order 2005	Introduces Best Value Authorities, and the requirement on local authorities to provide services to certain standards. Sets out all Best Value Performance Indicators, including those on recycling and composting. Also sets the statutory performance standards on recycling and composting for local authorities. Explains how each performance indicator should be calculated, giving clear definitions and explanations. The guidance also provides details of the recent inclusion of anaerobic digestion to the composting indicator.	Details are set out in the GMWDA annual Best Value Performance plans and referred to in Appendix H. The partnership authorities have committed to pooled recycling/composting targets for 2005/06
Regional Waste Strategies	Local waste strategies must have regard to the strategies produced at a regional level.	Revised MWMS will be have regard to the Regional Waste Strategy and be consistent with policy objectives

**Table 2.5B: Future Legislation**

Proposed Legislation	Comment	GMWDA
Regulations transposing the Directive on Waste Electrical & Electronic Equipment (WEEE) (2002/96/EC)	Has implications for management of WEEE at Civic Amenity sites. May imply availability of financial support for authorities (for management of WEEE). Possible introduction of treatment requirements and new exemptions from waste management licensing.	Provision included in procurement specifications
Directive on Batteries & Accumulators	Potential requirement to collect & recycle batteries.	Provision included in procurement specifications
Waste Framework Directive	Proposals are being drawn up by the European Commission for a revision of the Waste Framework Directive. These may affect, for example: Definitions of disposal/recovery; When waste ceases to be a waste (and becomes a product). This may affect, for example, the use of composted materials on land; The underlying objectives for the Directive; Whether or not all waste management facilities will be regulated under IPPC.	Changes may facilitate recycling and composting Note proposals but uncertain content and timing
Thematic Strategy on Waste Prevention and Recycling	The European Commission aims to develop a strategy which may include waste prevention targets and measures needed to achieve them. It investigates ways to promote recycling and analyses options to achieve recycling objectives in a cost-effective way.	Proposals will be reviewed in the development of waste prevention and recycling options
Thematic Strategy on Soil Protection	In response to concerns about the degradation of soil, the European Commission has outlined the first steps in a strategy to protect soils. This may provide a basis for establishing standards regarding composted/digested materials, affecting which products can be used in which contexts.	Note proposals, however uncertain content and timing
Biowaste Directive	Proposes a requirement for source separation of bio-wastes, a common basis for compost standards across the EU, and stability criteria establishing when biologically treated waste might be considered 'no longer biodegradable' for the purposes of the Landfill Directive	Note proposals, however uncertain content and timing

### 3. Roles and Responsibilities

#### 3.1 Introduction

- 3.1.1 Those involved in the development of the MWMS need a clear and common understanding of their own roles and responsibilities as regards waste management. In two-tier authorities and in statutory joint waste disposal authorities, a clear understanding of the legal responsibilities of the constituent authorities is a pre-requisite for setting out the case for, and understanding the benefits, of different partnering and financing models. Such an understanding can also help to avoid potential conflicts, and make certain that some roles are not simply overlooked.
- 3.1.2 The waste authorities in Greater Manchester are responsible for the collection, management and disposal of municipal waste arisings within the Metropolitan District Council areas of Bolton; Bury; Manchester; Oldham; Rochdale; Salford; Stockport; Tameside and Trafford. Wigan MBC is a statutory waste disposal authority in its own right and is represented on the GMWDA for administrative purposes.
- 3.1.3 If sustainable municipal waste management is to be achieved and maintained, it is important that clear roles and responsibilities are set out for those parties who are involved in the management of municipal waste.

3.1.4 This section is intended to provide a brief overview of the role of the key stakeholders. It is neither exhaustive in terms of the bodies involved nor in the extent of their specific roles and responsibilities. It is intended to be informative and to avoid any confusion that may exist, although it must be said that in adopting a partnership approach, there will necessarily be areas of joint interest and overlap in delivering a successful strategic outcome.

## 3.2 Government

3.2.1 Under an overseeing policy to establish more sustainable waste management across England and Wales, the Government continues to introduce, monitor and amend various legislative and economic instruments and to promote policies and initiatives, all of which are aimed at supporting a national focus on the need to reduce, reuse and recycle municipal waste. (The legislative background is set out above). The legislative and economic changes are managed principally by the Department for Environment, Food and the Regions.

3.2.2 In addition to the imposition of strategy performance standards, particularly for recycling and composting, one of the key legislative drivers of the strategy is the statutory responsibility placed upon WDA's to meet defined annual allowances for the disposal of permitted quantities of biodegradable municipal wastes. The impact and the way in which Government intends to regulate and monitor compliance with these obligations is described in Section 8.

3.2.3 In economics terms, Government continues to make financial support and other assistance available to waste authorities to develop waste minimisation and recycling related initiatives. The Greater Manchester partnership has successfully secured funding and other support since 2002/03. Government commitments of support currently extend to 2007/08, under initiatives variously involving WIP, WRAG, WPRG and WRAP. Of even more significance has been the award by Government of £100m in PFI credits in January 2005 to support delivery of the joint MWMS adopted by the partnership in 2004. The amount of support is conditional upon the performance of services under the MWMS principles and the detailed output specifications agreed under the PFI contract.

3.2.4 Government have increasingly promoted an integrated approach to municipal waste management and an increased measure of co-operation between local authorities, particularly between the two tiers of collection and disposal authorities in areas such as Greater Manchester. The adoption of a joint MWMS is seen as a further step at improving co-operation and collaboration between authorities and between the two tiers.

## 3.3 Waste Disposal Authorities

3.3.1 The corporate aims of the GMWDA are to provide quality and sustainable municipal management waste services, and in doing so, to optimise the benefit of joint working with the constituent authorities.

3.3.2 In Greater Manchester, management of the municipal waste stream is carried out by the constituent District Councils (as Waste Collection Authorities) and by the Greater Manchester Waste Disposal Authority (as the statutory WDA).

3.3.3 The Greater Manchester Waste Disposal Authority has statutory powers and responsibilities for, inter alia:-

- making arrangements with contractors for disposal of waste collected by the WCA's;
- providing and making arrangements with contractors for the provision and operation of civic amenity sites and the removal of wastes deposited at those sites;
- making arrangements for the recycling and composting of waste and meeting its statutory performance standards; and
- complying with the allowances of permitted quantities of biodegradable municipal waste that can be landfilled.

3.3.4 The Greater Manchester Waste Disposal Authority was one of seven statutory authorities created under the Local Government Act 1985 to carry out the waste management functions and duties of the Metropolitan County Councils after their abolition in 1986. Since 1986, the functions of the Authority

have been realigned in accordance with the statutory provisions of the Environmental Protection Act 1990 (“the EPA”) and the Environment Act 1995.

Since April 1996, the primary role of the Authority (also referred to as the “GMWDA”) has been:-

- (a) To make arrangements (with contractors, following competition):-
  - For reception, treatment, recycling, recovery, transport and final disposal of municipal waste collected by the constituent District Councils (as Waste Collection Authorities -WCA’s); and
  - For the provision and management of civic amenity sites (re-branded household waste recycling centres) and for the reception, recycling, transfer, transport and final disposal of waste and other materials deposited at such sites/centres.
- (b) To investigate and develop recycling and resource recovery initiatives, including research and development and to work in partnership with its contractors, the WCAs and other parties to provide integrated waste minimisation, recycling, composting and resource recovery from the municipal waste stream.
- (c) To undertake the payment of recycling credits in the form of mandatory and discretionary disposal credits and collection credits (on behalf of a number of constituent WCAs).
- (d) To manage and assume after-care responsibilities for completed landfill sites in ownership or under the control of the Authority, including site and infrastructure maintenance, management and control of leachate and landfill gas systems (e.g. pump and gas/power generation equipment maintenance, gas monitoring and control) and bore-hole drilling operations (for monitoring and other purposes).
- (e) To manage other lands in the ownership of the Authority.
- (f) To maintain the structural fabric of household waste recycling centres owned by or otherwise provided by the Authority and to meet other obligations in respect of those facilities (e.g. provision of mains services, maintenance of shared access etc).

### 3.4 Waste Collection Authorities

3.4.1 Waste collection authorities have statutory powers and responsibilities, inter alia:-

- for making arrangements with service providers for the collection, within their area, of:-
  - Household waste, (except in prescribed circumstances)
  - Commercial waste, if requested to do so by the waste producer
  - Industrial waste (if requested to do so by the waste producer (and provided the GMWDA can make arrangements to dispose of that waste).
- for making arrangements with service providers for the recycling and composting collected waste and meeting statutory performance standards;
- for the delivery of residual waste to the GMWDA for disposal;
- for the making of charges for the collection (and disposal) of specified waste types from specified sources.

3.4.2 Recycling / Composting: The WCAs are crucial to the process of formulating and delivering an optimum MWMS. Not only it is essential to integrate collection, treatment, and disposal services but there must be a clear and common understanding and commitment by the parties to the respective roles and responsibilities within the partnership. This is particularly relevant to those elements of the services where both tiers have common and therefore potentially overlapping areas of influence. The key point at issue is the respective approach to the recycling and composting of WCA collected materials. The

proposed Inter-Authority Agreement (referred to below) and the PFI procurement process will address this issue.

### 3.5 Waste Planning:

- 3.5.1 A Joint Waste Development Plan Document (JWDPD) for Greater Manchester is currently in the early stages of preparation. This process will be conducted in co-ordination with and in support of the review of the MWMS.
- 3.5.2 The adopted Plans are now saved plan under the 2004 Act, for a period of 3 years from the commencement of the Act (28 September 2004) or to a time prescribed by the Secretary of State.
- 3.5.3 The GMWDPD will form part of the Local Development Framework (LDF) for each of the 10 Greater Manchester Districts. The LDF produced by each district which will replace the adopted Unitary Development Plans with a suite of local development documents, including DPDs (of which this document will be one), SPDs, and Area Action Plans (AAP). The GMWDPD will make provision for waste development in the Joint Plan area, and will replace the existing policies in each individual UDP.
- 3.5.4 The GMWDPD will address the following matters in relation to waste:
- Disposal
  - Treatment (including recycling and re-use)
  - Sorting
  - Site identification
- 3.5.5 The adopted UDP policies for waste may have been built on information which in some cases is now out of date. Even though this was thoroughly researched and evidenced, more recent information and changes to technologies mean that some policies may need revision. The shortcomings in the waste policies are largely due to the advancement in waste treatment and the emergence of new technologies.
- 3.5.6 There is also a need to address the requirements of emerging Government Policy contained in policy statements PPS10 and MPS15 which place an onus on planning authorities to identify sites for processing of waste, including the use of construction and demolition waste, preferred areas for waste facilities and to provide for waste minimisation activities in new developments.
- 3.5.7 The North West Regional Assembly (NWRA) advised by the Regional Technical Advisory Body (RTAB) has the role of preparing the Regional Waste Strategy and Regional Spatial Strategies (RSS) with respect to waste. The Regional Waste Strategy was published in September 2004 and the RSS is currently under development, including those policies concerning waste management.

### 3.6 Environment Agency

- 3.6.1 The Environment Agency, in its capacity as regulator, is responsible among other things for operating a waste regulation, licensing and permitting regime that provides an integrated and consistent approach to the regulation of the deposit, storage, recovery or disposal of waste, including municipal waste. The regime ensures that licensed waste operations and activities are carried in a way that protects the environment and human health. The regime also incorporates permits for industrial and other installations, based on the application of best available techniques across a range of environmental impacts aimed at achieving a high level of protection for the environment as a whole.

The Agency's role and influence extends across the full spectrum of cradle to grave management of municipal waste, including minimisation, audits of facilities and data management.

### 3.7 Waste Management Industry

- 3.7.1 The partnership will be looking to the industry to work with the waste authorities to develop services in Greater Manchester, both for the benefit of local people and the national performance. The intention is that under an agreed set of contractual arrangements, including risk apportionment, a selected partner(s) will help to meet the key objectives of the MWMS ie:-

- Landfill allowance and bio-diversion targets;
- Meet and exceed the defined recycling and composting targets;
- Arrest the increases in municipal waste arsing and
- Develop an approach that takes into account new and emerging technologies.

The solution is likely to include:-

- Investment in materials recycling facilities as a key requirement for increasing recycling performance;
- Investment in facilities to significantly increase composting capacity through open windrow and in-vessel composting facilities; and
- Investment in mechanical and biological treatment facilities to divert waste from landfill.

### 3.8 Voluntary / Community Sector and Not For Profit Groups

- 3.8.1 This sector is involved primarily via the WCA's, through links with existing collection arrangements (eg door step collections) and the operation and development of kerbside collection regimes, as agents for the WCA's. This sector is not a major player in current disposal arrangements.
- 3.8.2 The partnership has previously stated that implementation of the MWMS will be dependant in part upon fostering links with this sector within Greater Manchester. Historically, there is an established base of activity within the conurbation, including a total of 280 organisations who are registered with the Authority under the recycling credits scheme. Although the level of activity of these organisations varies, the importance of their contribution is recognised by the partnership. The partnership's association with this sector will be reviewed as part of the review process.

### 3.9 Joint Working

- 3.9.1 The GMWDA and the constituent WCAs have formulated a Municipal Waste Management Strategy (MWMS 2004) following consultation with stakeholders, including members of the public. The MWMS is founded on a recycling and composting led-approach and is based on joint working and the development of integrated waste management systems. The strategy is driven by a fundamental need to maximise the value of waste resources, increase recycling and composting, minimise waste production at source and, as a minimum, meet legislative targets.
- 3.9.2 The Greater Manchester authorities have a recent history of effective partnership working on waste that has levered in substantial external funding to help increase the recycling performance from 5.07% in 2001/02 to planned 20% in 2005/06. This has arisen from effective working practices at all levels and an increasing recognition that we can achieve very much more working together than we can individually.
- 3.9.3 Achievement of the targets and objectives of the MWMS is intrinsically linked to the PFI procurement process. The decision –making and stakeholder engagement that is in place to handle key process issues and ensure successful delivery under the PFI contract has evolved and is demonstrated and supported by the following:-
- The statutory composition of the GMWDA that comprises Member level representatives from the constituent District Councils including a scheme of reimbursement of savings secured by landfill avoidance on a tonnage basis for municipal waste above an agreed threshold;
  - An agreed framework for the apportionment of costs incurred by the GMWDA (other than for disposing of commercial waste) via a levy on the constituent District Councils including a scheme of reimbursements of savings secured by landfill avoidance on a tonnage basis for municipal waste above an agreed threshold;
  - Established levels of engagement between the two tiers at Leader/Chief Executive, Portfolio Holder/Chief Officer and other levels of representation on all major procurement decisions (and their impact on other waste service/policy issues);

- The approval and adoption of an agreed joint MWMS in May2004, signed off by all of the waste authorities;
- The success achieved by the partnership in securing Government etc funding for disbursement, on an agreed basis, to prioritise service improvements and collection/ disposal infrastructure across the MWMS area;
- The cooperation of the partners, including service providers, in validating waste modelling data in terms of quantities, type and source of materials etc and unit costs, and the use of these data in modelling future WCA collection services;
- The adoption of a shared objective of developing an effective and compatible interface between collection and disposable services that does not penalise other Greater Manchester authorities and avoids the use of the power of direction by the GMWDA; and
- The agreement of statutory based pooled recycling and composting targets for 2005/06.

3.9.4 All of these factors provide evidence to reinforce the level of partnership being established.

### 3.10 Procurement of Future Services

3.10.1 As indicated in 3.11 below extensive partnership working has been established on the PFI Contract procurement with the primary aim of ensuring that, on behalf of the partnership –

- The Authority has in place a new PFI waste management services contract that will deliver the objectives of the MWMS; and the service provider(s) to whom the contract is awarded has been selected following a procurement process that has adhered to the necessary legislative requirements, has involved and being informed by all stakeholders, and has been managed in a professional manner so as to secure Best Value.
- The following timetable details the principal stages of the procurement process and the key actions.

**Table 3.1A: Procurement of Future Services under PFI Contract - Timetable**

STAGE	COMPLETED/COMPLETION	ACTIVITY DESCRIPTION
PRG Approval of OBC	18 January 2005	
Publication of Contract Notice. PQQ/ISOP Documentation issued on receipt of Expression of Interest	4 February 2005	
Return of PQQ/ISOP	29 April 2005	Bidders response time
Evaluation PQQ/ISOP	1 July 2005	Evaluate PQQ/ISOP
ITT	3 October 2005	Issue ITT to shortlisted bidders
Receipt of responses to ITT	13 February 2006	Bidders response time

#### **Issue of ITT – 6<sup>th</sup> 10/05**

Evaluate ITT bids and Selection of bidders for BAFO and issue of	02-05-06	Evaluation of bids; including clarification discussions with bidders
Invitation to submit BAFO's	09-06-06	Issue ITT evaluation report
Receipt of BAFO's	30-07-06	Bidders response time
Evaluation of BAFO selection and appointment of preferred bidder	18-08-06	BAFO evaluation and bidder clarifications; preferred bidder recommendation and approval
Negotiation and submission of final business case to Defra	23-02-07	Finalise FBC and seek Defra approval
Simultaneous Commercial and Financial Close	27-03-07	Agree financial terms and contract award
Full Services Delivery Commences	01-04-07	

In parallel with the PFI contract procurement, and with the support of the partnership, the Authority is undertaking separate procurements for the following services, with a view to ensuring they are complementary to the PFI contract and support the principles of Best Value –

- An interim services contract for GMWDA services (i.e. management etc. and delivery for disposal of the WCA collected and HWRC waste streams) from April 2006, for a period of up to March 2008.
- The provision of landfill capacity for a 5 year period from April 2008, to run in tandem with the PFI contract.
- The provision of composting capacity/services for green waste from HWRC sites and WCA kerbside collection services.
- The provision of a Material Recovery facility (MRF) to process co-mingled dry recyclables collected by the WCA's.

A separate exercise has been mounted during 2005 to establish contact and interest from potential service provider who may be able to deal with quantities of RDF/SRF as a product of MBT technologies that deal with residual wastes. This exercise has links in the neighbouring WDA's since a regional solution may provide Best Value. The exercise is also being influenced to a marked extent by Government national energy policies. The work is continuing.

### 3.11 Memorandum of Understanding / Inter-Authority Agreement

- 3.11.1 In order to deliver the aims of the objectives of the MWMS, GMWDA and the WCAs have confirmed their commitment to the common goals that have defined. All of the authorities have signed a Memorandum of Understanding that sets out the broad principles of the partnership, including environmental guidelines, payment mechanisms, waste inputs, siting of facilities and sale of recyclables. The outline terms of the Memorandum of Understanding are set out in the accompanying Annex.
- 3.11.2 It is intended that the Memorandum of Understanding will lay the foundations for the Greater Manchester Waste Partnership and a formal Inter-Authority Agreement to set alongside the PFI contract. The IAA will take the broad principles outlined in the MOU and define the joint approach to achieving the strategic objectives of the PFI contract/MWMS. This will include:-
- Commitment by WCA's as to projected tonnage of materials delivered to facilities;
  - Defining changes in collection regimes;
  - Agreement of strategic changes that may impact on achievement of recycling ambitions;
  - Payment mechanisms;
  - Penalty allocations.
  - Distributing of benefits accruing from over performance.
- 3.11.3 The IAA will be concurrent with the PFI contract term and will be a binding financial and contractual agreement on all parties that incentives efficient and effective service delivery. Its primary purpose is to provide a robust basis for the GMWDA to share the liabilities it is likely to have accept on waste delivered for disposal.

### 3.12 Decision Making Structures

- 3.12.1 Under existing arrangements, decisions in connection with the PFI procurement will be made by the GMWDA following the prior stakeholder engagement principles.
- 3.12.2 During 2005/06 the Authority concluded a comprehensive review of the machinery that is in place to govern its policies and procedures.

The new Constitution aims:-

- To explain how GMWDA operates, how decisions are made and the procedures which are in place to ensure efficient, effective, and transparent accountable decision making;

- To ensure that high standards of conduct are exercised by Members and officers;
- To ensure that those responsible for decision making are clearly identifiable to local people and that they explain the reasons for decisions;
- (The document is published on the GMWDA website [www.gmwda.gov.uk](http://www.gmwda.gov.uk)).

### 3.13 Alignment of Collection Systems

One of the main planks of the partnership is the recognition that the MWMS and the PFI contract procurement demonstrate those areas where collaborative working can be of benefit.

The PFI contract excludes waste collection services. As a separate and independent exercise, an initial piece of work was completed in late 2005 and shared within the partnership.

The exercise explored the case for the alignment of collection systems across the nine WCA's of Greater Manchester. The potential benefits/disbenefits highlighted by the initial analysis are being assessed by the WCA's.

## 4. Current Waste Contracts and Associated Infrastructure

### 4.1 Waste Collection Authority Collection Arrangements

- 4.1.1 The collection of household waste for recycling and delivery to disposal points is undertaken by the nine WCA's either by in-house service providers or via contractual arrangements with the private sector. Details of the existing contracts and collection arrangements in place in each WCA are shown in the tables below.
- 4.1.2 With the exception of waste delivered by members of the public to the HWRC's household waste generated within Greater Manchester is collected for disposal by the WCAs. Waste is collected in wheeled bins by all authorities apart from Stockport Council which delivers a plastic sack collection.
- 4.1.3 Most collection services are delivered in-house by the councils themselves (by their Direct Service Organisations where these still exist) with the exception of Manchester City, Stockport and Trafford. Manchester City operates a joint venture for refuse collection with Greater Manchester Waste Ltd (GMWL). Stockport has let its waste collection contract to GMWL and refuse collection in Trafford is delivered under contract to Onyx.
- 4.1.4 All districts within Greater Manchester provide kerbside collection services for recyclable materials. Most districts have introduced collections of mixed dry recyclables such as plastic, cans, glass and paper. The collection services are provided either by community and voluntary organisations, or by GMWL or other contractors.
- 4.1.5 In their capacity as the Authority's main services providers and as contractors to a number of the constituent WCAs, GM Waste Ltd provide integrated collection and recycling/composting services in the GMWDA area.
- 4.1.6 Their recent programme of activities has included the following initiatives and developments which build upon their existing relationships with the Authority, the WCAs and other partners -
- operation of refuse collection services in Manchester and Stockport and green waste collection services in Stockport;
  - introduction and expansion of kerbside collection services for newspapers and magazines in Bury, Manchester, Oldham, Stockport and Trafford and areas outside Greater Manchester (developed in partnership with the paper industry);
  - consolidation of arrangements for the processing and composting of green waste recovered via civic amenity sites and from kerbside collections;
  - continued investigation into composting or stabilisation of organic wastes (via the MRFs);
  - investigation of the potential for kerbside collection of glass, to complement existing bring systems;

- expansion of bring facilities throughout Greater Manchester for dry recyclables;
- continued research and development into separation technologies; and,
- participation in market development initiatives

### Bring Sites

- 4.1.7 In addition to the kerbside collection facilities provided by each WCA Bring sites or Mini Recycling Centres are provided in accessible areas such as supermarket car parks. Bring banks are provided for a range of materials such as glass, plastic, cans and textiles.
- 4.1.8 No figures are currently available on the amount of waste collected through bring sites however based on data for the materials collected through the kerbside it is estimated that approximately 18% of the material collected for recycling or 8,500 tonnes is collected through bring sites. The majority of this is assumed to be glass.

Table 4.1.A: Current Bring Site provision by district:

			Number of household per site
Bolton	114,550	13	8,810
Bury	77,000	12	6,420
Manchester	170,000	46	3,695
Oldham	90,000	56	1,607
Rochdale	87,700	76	1,154
Salford	100,000	14	7,143
Stockport	122,160	136	898
Tameside	95,000	46	2,065
Trafford	94,500	14	6,750
			2,302

- 4.1.9 Current provision of bring sites in Greater Manchester is approximately 413 per 950,910 households which is equivalent to 1 site per 2,302 households. Provision varies amongst the districts with Stockport demonstrating the best level of provision with one site provided per 900 households and Bolton showing the lowest provision at one site per 8,800 households.
- 4.1.10 The Audit Commission has suggested that good practice is to provide one bring site per 750 households. This is a good aspirational target, which represents an average distance of 500 metres in an urban area but it will vary in a rural district and could be up to 2-3km. To reach a level of provision of 1 site per 750 households in Greater Manchester would require an additional 850 bring sites to be identified and developed. This presents a challenge given the difficulties that can be encountered in identifying suitable sites. Several districts already consider they have reached saturation point in terms of bring site provision.

## 4.2 Household Waste Recycling Centres

- 4.2.1 In line with its statutory obligations, the GMWDA provides a network of 26 civic amenity sites throughout Greater Manchester. The sites are confined to the deposit of household sourced wastes and unwanted materials delivered by members of the public, free of charge. Details of the site locations are shown in Table 4.2.A.
- 4.2.2 The sites are managed and serviced on behalf of the GMWDA by GM Waste Ltd under a short-term contract which commenced on 1 April 2006. Prior to this date, the sites were also managed and serviced by GM Waste Ltd under contract to the GMWDA. The future management and servicing of facilities and the overall provision of the civic amenity site service is subject to a procurement process for a long-term contract planned to commence in late 2007. At the time of preparation of this strategy, the procurement has not been completed. A description of the sites is given in the table below.

**Table 4.2.A: Household Waste Recycling Centres**

			2004/05 Tonnes
Bolton	Nightingale Farm, Blackrod	Open compound with portable compaction units and containers	5331
	Raikes Lane, Bolton	Open compound and "throw-over-wall"	23743
	Union Rd, Tonge Moor	Open compound with portable compaction units and containers	3967
Bury	Cemetery Rd, Radcliffe	Open compound and "throw-over-wall"	8193
	Drinkwater Park, Prestwich	Open-topped skips and "throw-over-wall"	3996
	Every Street, Fernhill	Open compound	16007
Manchester	Reliance Street Newton Heath	Open compound and "throw-over-wall"	13844
	Longley Lane, Sharston	Open compound and "throw-over-wall"	23171
	Sandfold Lane, Levenshulme	Open compound and "throw-over-wall"	15482
Oldham	Arkwright Street, Oldham	Open topped skips and "throw-over-wall"	13536
	Beal Hey, Chandos Street, Shaw	Open compound with open top containers	4794
Rochdale	Entwisle Rd, Rochdale	Open compound*	5940
	Peel Lane, Heywood	Open compound	4500
	Spring Vale, Middleton	Open-topped skips and "throw-over-wall"	8012
	Chichester Street, Waithlands	Open topped skips and "throw-over-wall"	9122
Salford	Cobden Street, Brindle Heath	Open topped skips and "throw-over-wall"	10513
	Lester Rd, Over Hulton	Open-topped skips and "throw-over-wall"	8266
	Lumns Lane, Clifton	Open compound	10661
Stockport	Adswood Road, Adswood	Open compound and "throw-over-wall"	17957
	Bredbury Park Way Bredbury	Open compound and "throw-over-wall"	18124
	Rosehill, Railway Rd. Marple	Open compound with portable compaction units and containers	5830
	Torkington Rd, Hazel Grove	Open compound with portable compaction units and containers	4465

Tameside	Ash Road, Droylsden	Open compound and "throw-over-wall"	7956
	Bayley Street, Stalybridge	Enclosed compound and "throw-over-wall"	20918
Trafford	Sinderland Road Altrincham	Open compound and "throw-over-wall"	20802
	Chester Rd, Stretford	Enclosed compound and "throw-over-wall"	22611
TOTAL			307,740

### *Current Policies*

4.2.3 The policy of the GMWDA is to provide civic amenity sites:-

- at a sufficient density of provision to meet the needs of service users (ie a minimum of 17 sites, based on a notional catchment area, population and throughput);
  - that are readily accessible to users;
  - that provide a focal point to encourage members of the public to segregate and recycle and thereby contribute towards sustainable waste management;
  - that are open to users during the following hours:-
    - on all days during British Summer Time  
08:00 to 20:00
    - on all days (except Christmas Day and New Year's Day)  
08:00 to 18:00
  - that, as far as practicable, segregate users from the working areas and servicing traffic;
  - that incorporate height barriers to deter abuse of sites by traders.

4.2.4 In order to provide a focus for recycling and composting opportunities, the sites provide separate receptacles or bunkers etc for scrap metal, glass bottles and jars, steel and aluminium cans, motor oil, tyres, paper, cardboard, textiles, vehicle batteries, fridges/freezers, books and wood. There are also separate facilities for the reception of green garden waste and rubble.

4.2.5 The sites also make separate arrangements for the disposal of household-sourced hazardous and difficult wastes including white cement-bonded asbestos, unwanted chemicals (up to 5 litres), such as herbicides, pesticides, paint thinners and LPG bottles.

4.2.6 A Best Value review completed in December 2002 identified weaknesses in the service created principally by inappropriate physical arrangements and the 'local tip' culture that prevailed at most sites. Following a detailed appraisal of all of the sites, and with the support of DEFRA grant funding of £2.2 million in 2003/04, the GMWDA completed an investment programme to transform the civic amenity sites into household waste recycling centres. The project involved:-

- a programme of investment in the physical arrangements, including the provision of bunkers, areas of hard-standing, security fencing, containers and receptacles, site signs and staff accommodation; and
- increasing the numbers of site staff, depending upon throughput, to direct and assist the public in the use of the sites and to intercept and divert trade wastes.

### *Site Security and Trade Waste*

4.2.7 The GMWDA is conscious that issues regarding site security are important factors affecting the recycling capacity of most sites. Break-ins by pickers searching for items of value and incidents of vandalism and arson have been endemic problems in Greater Manchester. In addition, there has

been a history of abuse of the sites by traders who, by deception, have disposed of commercial waste, free of charge.

- 4.2.8 The security issues have been alleviated by the measures referred to above. However, notwithstanding the installation of vehicular height restrictions at all sites and the diligent intervention and diversion measures taken by the increased numbers of site staff, further measures are required to intercept and prevent trade waste abuse.
- 4.2.9 A number of plans have been made to mitigate trade waste inputs, all of which seek to distinguish between traders and householders. Best practice for achieving the exclusion of trade waste involves:-
- A van ban with permit system (in some cases with height barriers);
  - Site entrance security checks; and
  - Follow-up procedure to target persistent offenders
- 4.2.10 The package of measures being considered by the GMWDA is modelled on a system currently employed by Lancashire County Council. Further development work is being undertaken with the current service providers.

*Materials Separation and Recycling etc*

- 4.2.11 As part of the arrangements for the reuse, recycling and composting of materials deposited at the sites, GM Waste Ltd and the GMWDA have entered into separate contractual arrangements to deal with each deposited material type as follows:-

**Table 4.2.B: GMWDA HWRC Services**

Material	Collection Method/Container	Contractor	Date Comm	Term	Intermediate Transfer	Processor/ Disposal	Tonnage 2004/05
Scrap Metal	Designated Receptacle	R English	1997	Rolling	EMR Salford	EMR process material to furnace-ready grades S Norton process material via metal shredder then metals are sorted some are reprocessed an element of 15-20% is landfilled 'See EMR Above'	12538
		C Norton	1997	Rolling	S Norton & Co. Ltd Liverpool		
		EMR Metals	1997	Rolling	EMR Salford		
Glass	Designated Receptacle	GM Waste Ltd	1997  N/A	Rolling	Rochdale TLS Bury TLS South M/cr MRF	Midland Glass Nottingham Sort glass before export will not be exporting GMW Glass in 2006 Glass Recycling UK Ltd Processed to remove non-glass material approx 10% is exported. This has a green Listing	1588
Steel Cans	Designated Receptacle	R English C Cyclers Ltd	1997 N/A	Rolling	EMR Salford	'See EMR Above'	1414
Aluminium Cans	Designated Receptacle	R English		Rolling	EMR Salford	'See EMR Above'	144
Mixed Non Ferrous	Secure Receptacle	R English		Rolling	EMR Salford	'See EMR Above'	96
Paper	Designated Receptacle	GM Waste Ltd	2004	Rolling	Shotton Waste Paper Co. Deeside Elsa Waste Paper Reddish Stockport	Shotton Waste recycle the paper for newsprint	1241
Textiles	Designated Receptacle	Oxfam	2004	Ad hoc	Oxfam Huddersfield	Oxfam sort textiles some goes to local shops or it is baled and goes abroad CT Recycling sort into categories sent for disposal in any country I & C Cohen's sort clothing into grades 60-65% is resold 35-40% is sold for re-manufacturing 6-9% is landfilled some is exported	565
		C T Recycling Ltd	N/A		C T Recycling Ltd Wakefield		
		I & G Cohen	1997	Rolling	I & C Cohen's Salford		

Material	Collection Method/Container	Contractor	Date Comm	Term	Intermediate Transfer	Processor/ Disposal	Tonnage 2004/05
<b>Books</b>	Designated Receptacle	Oxfam	2004	Ad hoc	<b>Sorted at source</b>	<b>Oxfam</b> empty on site then take to local shops for resale	65
<b>Cardboard</b>	Designated Receptacle	C & C Recycling GM Waste Ltd  GM Waste Ltd		Rolling Rolling  Rolling	<b>C &amp; C Recycling Bury</b> <b>Houghton Waste Paper Ltd Audenshaw</b> <b>Materials Recovery Ltd Little Hulton</b>	<b>C &amp; C</b> reprocess the cardboard <b>Houghton Waste Paper</b> process the cardboard for recycling <b>Material Recovery</b> send the cardboard for reprocessing	1571
<b>Wood</b>	Container/Bunker	GM Waste Ltd		Rolling  Rolling  Rolling	<b>Hadfield Wood Recyclers Droylsden</b> <b>J Dickinson &amp; Son (Horwich) Ltd</b>  <b>R. Plevin &amp; Sons Ltd Mossley</b>	<b>Hadfields</b> recycle the wood received <b>J Dickinson</b> recycle the wood into chipboard then it is sent to sawmills <b>R. Plevin</b> process the wood then send it to factories for recycling	13279
<b>Green Waste</b>	Compound/Bunker/  Container	GM Waste Ltd		Rolling  Rolling Rolling Rolling  Rolling  Rolling Rolling Rolling	<b>South Manchester Plant</b>  <b>Bury TLS</b>	<b>DB Farming Hindley</b> use green for conditioning the land <b>Fairfield Composting M/cr</b> use green for agricultural land conditioner <b>JWS Waste &amp; Recycling Services Ltd Salford</b> <b>C &amp; M Gould Hyde</b> use green animal bedding and soil conditioner <b>P K Composting Poulton-le-Flyde</b> use green for agricultural land conditioner <b>David Sykes Oldham</b> use green for agricultural land conditioner <b>Quinn Ltd Ardwick M/cr</b> <b>RJ Rich &amp; Son Preston</b> use green for composting <b>SJB Butterfield West Ardley</b> Use green for conditioning	23560

Material	Collection Method/Container	Contractor	Date Comm	Term	Intermediate Transfer	Processor/ Disposal	Tonnage 2004/05
Waste Oil	Bunded	Oil Salvage Ltd	1997	Rolling	Oil Salvage Ltd Lyser Road Bootle	Oil Salvage Ltd recycle for quarry use burning fuel 6-9% is landfilled some is exported	206
Batteries/Dry Cell	Bunded	Ron English			EMR Salford to G & P BatteriesLtd Darlaston	G&P Batteries recycle batteries and remove the copper, aluminium, plastic and steel for recycling	491 (auto only)
Fridge/Freezers	Secure Container	W & S	2004	Mar-06 to be extended	EMR Salford EMR Rochdale	EMR Dalston Ozone depleting gases are removed collected by BOC Compress Oil is removed for reprocessing. Foam is disposed of at landfill Non Ferrous metals is reprocessed abroad and Ferrous metals exported for reprocessing to steel works	1821
Tyres	Designated Area/Secure Container/Compound	HWRC - GMW transport to Processor WCA direct to the Processor		Rolling  Rolling	Wheeldon Bros Bury  Dickinson Environmental Rochdale	Wheeldon's recycle 55% of tyres those that cannot be reprocessed are shredded and sent to landfill  Dickinson's generates from the reprocessing 10% metal 45% rubber/fibre mix for recreation purposes 35% fine rubber for remanufacture and 10% fibre and waste	299
LPG Bottles	Secure Container	Specialist Contractor				Collected and returned to LPG producers	30

<b>Asbestos</b>	Designated Receptacle	GM Waste Ltd		Rolling	<b>Wheeldon Bros Bury</b>	<b>Wheeldon's</b> use specialist landfill sites for asbestos	1178
<b>Fluorescent Tubes</b>	Designated Receptacle	GM Waste Ltd	Feb-06	Rolling	<b>Mercury Recycling Trafford Park Manchester</b>	<b>New service introduced</b>	
<b>Rubble</b>	Container/Bunker/ Designated Area	JWS & Recycling  J Dickinson & Sons		Rolling  Rolling	<b>JWS Waste &amp; Recycling Salford</b>  <b>J Dickinson &amp; Sons (Horwich) Ltd</b>	<b>JWS Waste</b> sort the rubble and take any contamination out the rubble is then sent to cover landfill sites  <b>J Dickinson</b> grade the rubble then it is used for fill material	36603
<b>Plastics</b>	Designated Receptacle	GM Waste Ltd		Rolling	<b>Material Recovery Ltd</b>	<b>Material Recovery</b> export plastic	

### 4.3 Hazardous and Difficult Waste

- 4.3.1 In addition to the “recyclables” referred to in Table 4.2.B (HWRC Services) (ie tyres, lead acid/vehicle batteries, LPG bottles), many households generate materials that, after use or at the end of their life, they need to be safely disposed of. Incorrect handling or disposal presents risks to health and/or the environment. These materials are commonly known as hazardous or difficult wastes.
- 4.3.2 European legislation and the Hazardous Waste Regulations have prescribed waste types that are to be classified as hazardous and, as such, they are subject to regulated arrangements for their handling, processing and disposal.
- 4.3.3 The GMWDA and GM Waste Ltd have made contractual arrangements for the disposal etc of the following materials and waste types that are classified as hazardous or difficult wastes, as set out in Table 4.3.A.



**Table 4.3A: Hazardous and Other Waste Management / Disposal Services**

Material	Collection Method/Container	Contractor	Date Comm	Term	Intermediate Transfer	Processor/ Disposal	Tonnage 2004/05
<b>Waste Oil</b>	Bunded	Oil Salvage Ltd	1997	Rolling	<b>Oil Salvage Ltd Lyser Road Bootle</b>	<b>Oil Salvage Ltd</b> recycle for quarry use burning fuel 6-9% is landfilled some is exported	206
<b>Batteries/Dry Cell</b>	Bunded	Ron English			<b>EMR Salford</b>	<b>G&amp;P Batteries. Specialist processor.</b>	491 (Auto only)
<b>Fridge/Freezers</b>	Secure Container	HWRC/WCA GMWDA contractor EMR sub contract to W & S who transport to Intermediate Transfer	2004	Mar-06 to be extended	<b>EMR Salford EMR Rochdale</b>	<b>EMR Dalston</b> Ozone depleting gases are removed collected by BOC Compress Oil is removed for reprocessing. Foam is disposed of at landfill Non Ferrous metals is reprocessed abroad and Ferrous metals exported for reprocessing to steel works	1821
<b>Tyres</b>	Designated Area/Secure Container/Compound	HWRC - GM Waste Ltd transport to Processor WCA direct to the Processor		Rolling  Rolling	<b>Wheeldon Bros Bury  Dickinson Environmental Rochdale</b>	<b>Wheeldon's</b> recycle 55% of tyres those that cannot be reprocessed are shredded and sent to landfill <b>Dickinson's</b> generates from the reprocessing 10% metal 45% rubber/fibre mix for recreation purposes 35% fine rubber for remanufacture and 10% fibre and waste	299
<b>LPG Bottles</b>	Secure Container	Specialist Contractor				Collected and returned to LPG producers	30
<b>Asbestos</b>	Designated Receptacle	GM Waste Ltd		Rolling	<b>Wheeldon Bros Bury</b>	<b>Wheeldon's</b> use specialist landfill sites for asbestos	1178

<b>Material</b>	<b>Collection Method/Container</b>	<b>Contractor</b>	<b>Date Comm</b>	<b>Term</b>	<b>Intermediate Transfer</b>	<b>Processor/ Disposal</b>	<b>Tonnage 2004/05</b>
<b>Fluorescent Tubes</b>	Designated Receptacle	GM Waste Ltd	Feb-06	Rolling	<b>Mercury Recycling</b>	New Service in 2006	
<b>Abandoned Vehicles</b>	Removed for collection/disposal	GMP Fast Track Scheme 6 WCA's included in Fast Track 2 WCA's have own private contractor 1 WCA use GM Waste Ltd	Jun-05	Rolling	<b>Individual Recovery Companies</b>	<b>Indivial Companies</b> process in compliance with The End of Life Vehicle Directive	2739

*Clinical Waste*

- 4.3.4 The range of services includes arrangements for the disposal of clinical waste in the form of:-
- “yellow bag” body secretion/excretion, “sanpro” and health care wastes collected at the doorstep by the WCA’s (Group E) and delivered in appropriate containers to North West Energy facilities in Greater Manchester for disposal by incineration.
  - contaminated “sharps”, including syringes, cartridges and broken glass collected at the doorstep by the WCA’s or from local authority premises (Group B) and delivered to North West Energy Ltd facilities in Salford for disposal by incineration.
  - pharmaceuticals etc (DUMP campaigns - disposal of unwanted medicines and pills) (Group D) delivered by WCA’s to North West Energy Ltd facilities in Salford for disposal by incineration.
  - double-bagged animal carcasses (Group A) delivered to reception points provided by GM Waste Ltd by WCA’s or members of the public for storage in refrigeration units pending collection and transfer to TRF facilities for disposal by incineration.

*Other Waste Types*

- 4.3.5 As we increase the amount of waste that is recycled and separated at source, it is essential that all hazardous materials are separated from other household waste and dealt with through separate collection and disposal arrangements. Because operational waste staff, engaged in waste collection, recycling and disposal operations are in close proximity to waste, if hazardous waste is mixed in with normal waste this will increase the level of risk to their personal health and safety. In addition, the toxicity and combustibility of some items of waste prevent their inclusion in waste collection and disposal streams and need to be separated.
- 4.3.6 The collection of some of these types of waste using a kerbside collection based scheme would be financially and operationally prohibitive to the waste collection authorities and may not assist in the diversion of hazardous waste from the general waste stream as they would, by nature of the irregular need to dispose of them, be based on a collection by request.
- 4.3.7.1 The chosen route of disposal adopted by the Authority is through Household Waste Recycling Centres (HWRC’s), which provide facilities for the disposal of items of hazardous waste produced by households. The following paragraphs describe the various methods of collection and disposal.

*Tyres*

- 4.3.8 Tyres are dealt with in two ways, by a process similar to the above where residents take the used tyres to the HWRC’s for collection/delivery to a specialist contractor who again processes the tyres for recycling. In addition, WCA’s collect tyres and then deliver them direct to the contractor for processing. Tyres have to be detached from rims prior to processing.

*White Cement Bonded Asbestos*

- 4.3.9 Small amounts of WCBA can be taken to HWRC’s by members of the public for disposal. The items are placed in a special 35 cu. yd. closed container. The containers are collected from the sites and the contents disposed of under licence from the Environment Agency. Disposal is currently at the landfill site at Risley IV.

*Chemicals*

- 4.3.10 Chemicals are taken to HWRC’s, where they are identified and placed into the secure chemical store. A note of the size of the container and the contents is made and attached to the container for subsequent identification. The disposal contractor keeps a register of the chemicals stored at each location. This information is communicated to the specialist contractor to ensure the correct and safe transportation of the chemicals to the point of processing. Consignment notes are retained by the disposal contractor. In the event of a highly hazardous chemical arriving at one of the facilities procedures are in place for the immediate removal of the substance by the appointed specialist.

*LPG Gas Bottles*

- 4.3.11 Facilities are provided on all sites for the reception of LPG cylinders from members of the public. Waste management licences require cylinders to be stored in lockable, vented compounds pending collection.
- 4.3.12 Collection of LPG cylinders is undertaken by specialist contractors on behalf of the cylinder owners, eg Calor, BOC etc..

#### *Fridges / Freezers*

- 4.3.13 Domestic fridges/freezers are accepted at all Household Waste Recycling Centres and the GM Waste Ltd main reception points. All sites have a designated area for the receipt of fridges/freezers. These areas are usually secured within a caged compound.
- 4.3.14 The fridges/freezers are collected by the processor/disposal contractor (EMR of Warrington) for delivery to one of their depots at Salford or Rochdale. Units are bulked up at both depots before they are transported to EMR Darlaston for processing.
- 4.3.15 Once the fridges/freezers reach Darlaston, those fridges that need to be processed for the removal of ozone depleting gases are treated, before the fridge carcasses are shredded. The non-ferrous and ferrous metals and other components are recovered to generate between 95% and 97% recycling performance.

#### *Abandoned Vehicles*

- 4.3.16 The services also include arrangements for dealing with abandoned vehicles.
- 4.3.17 Under current statutory responsibilities, Greater Manchester Police (GMP) deal with stolen vehicles that are abandoned; vehicles involved in road traffic accidents or used in connection with criminal acts; and vehicles that cause obstructions on the highway.
- 4.3.18 Responsibility for the removal and disposal of abandoned and burnt out vehicles that don't all in the categories referred to above lies with the local authorities and the Police. GMP exercise powers principally under the Road Traffic legislation to deal with vehicles that are in a dangerous location or in a dangerous condition. The local authority powers rest with the WCA's who are required to arrange for the removal of abandoned vehicles, following the service of requisite notices, and to deliver them to the GMWDA for storage and/or disposal.
- 4.3.19 Since 2002, the GMWDA has been a partner in a "fast track scheme" currently involving GMP, Greater Manchester Fire Service and eight of the WCA's whereby GMP take overall responsibility for dealing with and processing all reports of abandoned vehicles throughout the conurbation and, subject to specified procedures being carried out, arrange for their immediate removal by approved GMP vehicle contractors. All abandoned vehicles are either:
- crushed immediately, ie when a vehicle is in such a dangerous condition that it
  - should clearly not be on the road (Category A); or
  - taken into storage for a period of twenty-one days, ie when the vehicle is in such a condition that it does not represent a risk to public health or safety (Category B).
- 4.3.20 A unit charge is paid to the approved contractors for every vehicle removed.
- 4.3.21 The GMWDA's responsibility is confined to the storage and disposal of Category B vehicles. This responsibility is fulfilled by GMP's contractors, on a recharge basis. The GMP contractors also comply with current End of Life Vehicles Directive depollution obligations, pending Government intentions to place the onus on vehicle manufacturers and importers to pay for the take-back and disposal of all end of life vehicles by 2007.
- 4.3.22 The WCA(s) outside the "fast track scheme" exercise their own responsibilities to deal with abandoned vehicles in their area, with an appropriate financial contribution from the GMWDA.

### **4.4 Other Waste Streams**

#### *Registered Charities*

- 4.4.1 At its discretion, the Authority operates a scheme for the provision of 'free' disposal services for registered charities wishing to dispose of non-recyclable household waste. The scheme is

operated under controlled and monitored conditions via a system of permits that are issued on a limited basis to named and pre-registered charity organisations. During 2004/05, 4722 permits were issued and the total of 1943 tonnes of household waste were delivered.

**4.5 WCA Collected Dry Recyclables Services**

4.5.1 In addition to outlets secured for dry recyclables received at the HWRC’s (see Table 4.2B), the GMWDA (via GM Waste Ltd) and a number of the WCA’s have made either joint or independent arrangements for the reception, transfer and processing of dry recyclables collected by the WCA’s via kerbside and bring site services (see Table 4.5A below).

4.5.2 The following intermediate transfer facilities are provided by GM Waste Ltd (GMWL), on behalf of the WCA’s, and in order to receive HWRC sourced materials:-

- Bulking/shredding facility, Fernhill, Bury
- Bulking/shredding facility, Longley Lane, Sharston, Manchester
- Bulking facility, Cobden Street, Brindle Heath, Salford
- Bulking facility, Bayley Street, Stalybridge, Tameside

4.5.3 References to other depots relate to facilities provided directly by the relevant WCA, or under contract to the WCA.

**Table 4.5A: WCA Collected Dry Recyclables Services**

							Ultimate Use
Glass Bottles & Jars	Bolton MBC	RU Recycling Blackburn	June 2004	2007	Wellington Street Depot, Bolton		
					Park Road Depot, Westhoughton		
	Bury MBC	RU Recycling Blackburn	Oct 2004	3 yr	-		
	Manchester CC	Glass Recycling UK Barnsley	-	12 mth rolling contract	Longley Lane, Sharston		
	Oldham MBC	Glass Recycling UK Barnsley	-	Open	Moorhey St Depot, Oldham		
	Rochdale MBC (Friday collection) (Tuesday to Thursday collection)	RU Recycling Blackburn Berryman South Kirby	June 2006	3 yr	Direct		
	Salford CC	GMWL	-	Open	Cobden St MRF, Salford		
	Stockport MBC	GMWL	2001 (Longley Lane from June 2004)	10 yr	Longley Lane, Sharston		
Tameside MBC	Tameside MBC	-	-	Ash Road Depot, Droylsden	• Local markets • Glass Recycling UK		

							Ultimate Use
Newspapers & Magazines	Trafford MBC	GMWL	TBA	10 yr	Longley Lane, Sharston		
	Bolton MBC	UPM Shotton	-	2007	Derby St Depot, Bolton	UPM Shotton	
	Bury MBC	UPM Shotton	-	Open	Fernhill TLS, Bury	UPM Shotton	
	Manchester CC	UPM Shotton	-	Open	Longley Lane, Sharston	UPM Shotton	
	Oldham MBC	UPM Shotton	-	Open	Moorhey St Depot, Oldham	UPM Shotton	
	Rochdale MBC	RU Recycling Blackburn	Feb 2006	3 yr	Direct		
	Salford CC	GMWL	-	Open	Cobden St MRF, Salford	UPM Shotton	
	Stockport MBC	UPM/GMWL	2001 (Longley Lane from Jun 2004)	10 yr	Longley Lane, Sharston	UPM Shotton	
	Tameside MBC	Cheshire Recycling Ellesmere Port	1996	13 yr	Elsa Waste Paper, Reddish	Cheshire Recycling Ellesmere Port	
Plastics	Trafford MBC	UPM Shotton	TBA	10 yr	Longley Lane, Sharston	UPM Shotton	
	Bolton MBC	RU Recycling Blackburn	-	2007	Wellington St Depot, Bolton Park Road Depot, Westhoughton		
	Bury MBC	RU Recycling Blackburn	-	3 yr	Direct		
	Manchester CC	GMWL	-	Open	Fernhill TLS, Bury		
	Oldham MBC	Materials Reclamation Ltd, Salford	-	Open	Moorhey St Depot, Oldham		
	Rochdale MBC	RU Recycling Blackburn	Feb 2006	3 yr	Direct		

							Ultimate Use
Ferrous Cans	Salford CC	GMWL	-	Open	Cobden St MRF, Salford	Corus	
	Stockport MBC	GMWL	-	Open	Cobden St MRF, Salford		
	Tameside MBC	Centi-Force Liverpool	-	Open	Ash Road Depot, Droylsden		
	Bolton MBC	RU Recycling Blackburn	June 2004	Open	Wellington St Depot, Bolton  Park Road Depot, Westhoughton		
	Bury MBC	RU Recycling Blackburn	-	3 yr	Direct		
	Manchester CC	GMWL	-	Open	Longley Lane, Sharston		
	Oldham MBC	Solid Cast Ltd, Hyde	-	Open	Moorhey St Depot, Oldham		
	Rochdale MBC	RU Recycling Blackburn	Feb 2006	3 yr	Direct		
	Salford CC	GMWL	-	Open	Cobden St MRF, Salford		
	Stockport MBC	GMWL	2001 (Longley Lane from June 2004)	10 yr	Longley Lane, Sharston		
	Tameside MBC	EMR Metals, Rochdale	-	Open	Ash Road Depot, Droylsden		
Trafford MBC	GMWL	TBA	10 yr	Longley Lane, Sharston			
Non-Ferrous Cans	Bolton MBC	RU Recycling Blackburn	June 2004	2007	Wellington St Depot, Bolton  Park Road Depot, Westhoughton	Alcan	

	Bury MBC	RU Recycling Blackburn	-	3 yr	Direct		
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							Ultimate Use
Textiles	Manchester CC	GMWL	-	Open	Longley Lane, Sharston		
	Oldham MBC	Solid Cast Ltd, Hyde	-	Open	Moorhey St Depot, Oldham		
	Rochdale MBC	RU Recycling Blackburn	Feb 2006	3 yr	Direct		
	Salford CC	GMWL	-	Open	Cobden St MRF, Salford		
	Stockport MBC	GMWL	2001 (Longley Lane from June 2004)	10 yr	Longley Lane, Sharston		
	Tameside MBC	EMR Metals, Rochdale	-	Open	Ash Road Depot, Droylsden		
	Trafford MBC	GMWL	TBA	10 yr	Longley Lane, Sharston		
	Manchester CC	GMWL	TBA	10 yr	Longley Lane, Sharston		
	Rochdale MBC	Oxfam / Salvation Army	-	Open	Various		
	Salford CC	GMWL	-	Open	Cobden St MRF, Salford		
Cardboard	Stockport MBC	I & G Cohen, Salford	-	12 mth rolling contract	I & G Cohen, Salford		
	Tameside MBC	CG Hobson & Son, Kirk Burton, W Yorks	-	Open	C G Hobson & Son, Kirk Burton		
	Salford CC	GMWL	-	Open	Cobden St MRF, Salford		
	Stockport MBC	Elsa Waste Paper, Reddish	-	Rolling 6 mth contract	Elsa Waste Paper, Reddish		

**4.6 Composting Services for WCA Collected / HWRC Green Waste etc**

*Existing Arrangements*

- 4.6.1 The GMWDA and the WCAs are currently reliant upon external service providers for the composting of green waste received at the HWRCs and green garden waste collected at the kerbside by the WCAs.
- 4.6.2 The following table (Table 4.6A) provides a statement of the services in place for each of the material sources and an indication of the ultimate use of the compost.
- 4.6.3 The following intermediate transfer facilities are provided by GM Waste Ltd (GMWL), on behalf of the WCA's, and in order to receive HWRC sourced materials:-
  - Bulking/shredding facility, Fernhill , Bury
  - Bulking/shredding facility, Longley Lane, Sharston, Manchester
  - Bulking facility, Bayley Street, Stalybridge, Tameside

**Table 4.6A: Composting Services**

							<b>Ultimate Use</b>
Kerbside collected green garden waste	Bolton MBC	GMWL	-	Open	Fernhill TLS, Bury	(See shredded green waste below)	(See shredded green waste below)
	Bury MBC	GMWL	-	Open	Fernhill TLS, Bury	(See shredded green waste below)	(See shredded green waste below)
	Manchester CC	GMWL	TBA	10 yr	Longley Lane, Sharston	(See shredded green waste below)	(See shredded green waste below)
	Oldham MBC	GMWL	-	Open	Fernhill TLS / Longley Lane, Via Bayley St, Stalybridge	(See shredded green waste below)	(See shredded green waste below)
	Rochdale MBC	GMWL	-	Open	Fernhill TLS, Bury	(See shredded green waste below)	(See shredded green waste below)
	Salford CC	JWS, Salford	-	Open	Direct		
	Stockport MBC	GMWL	2001 (Longley Lane from June 2004)	10 yr	Longley Lane, Sharston	(See shredded green waste below)	(See shredded green waste below)
	Tameside MBC	GMWL	-	Open	Fernhill TLS / Longley Lane, Via Bayley St, Stalybridge	(See shredded green waste below)	(See shredded green waste below)

							Ultimate Use
Green waste	Trafford MBC HWRC's	GMWL	TBA April 2006	10 yr Up to 2 yrs	Longley Lane, Sharston Bayley Street, Stalybridge, Fernhill, Bury Longley Lane, Sharston	(See shredded green waste below) (See shredded green waste below)	(See shredded green waste below) (See shredded green waste below)
Shredded green waste	Intermediate processing points	GMWL	April 2006	Up to 2 yrs	N/A	(See Appendix B)	General applications
Contaminated / Reject green waste	Intermediate processing points	GMWL	April 2006	Up to 2 yrs	N/A	Risley, Warrington Tenement Lane, Stockport Withnell, Chorley	(Landfill Disposal)
Soil making material	North Manchester MRF	GMWL	April 2005	3 yrs	N/A	ADAS Ltd, St Ives, Cambs	Composting Trial

*Future Composting Provision*

- 4.6.4 The current disposal route for green waste comprises a series of outlets managed by GM Waste Ltd. These are summarised in Appendix B as a series of on farm and third party solutions.
- 4.6.5 The GMWDA is obliged to ensure the composting arrangements meet PAS 100 specifications - the industry standard.
- 4.6.6 The introduction of LATS will create a dramatic increase in demand for composting capacity. Throughout all regions, WDAs will be seeking new outlets for green waste diverted from landfill which may shift the market for compost products into a situation of oversupply.
- 4.6.7 Against this background, the GMWDA has set out a number of strategic objectives, as follows:-
- Provide sufficient green waste composting capacity to dispose of HWRC collected green waste.
  - Ensure that green waste composting arrangements for HWRC material are expandable to cater for kerbside collected green waste, if required at some point in the future.
  - Ensure that all new composting arrangements meet the PAS 100 quality standard.
  - Ensure that robust outlets for composted green waste are developed which will be sustainable in the longer term.
  - Ensure that the sites/operations developed to provide green waste composting capacity meet, as far as possible, national and sub-regional environmental agenda.
  - Ensure that green waste composting arrangements represent a VFM solution, taking into account all hidden costs, including those associated with site development/planning.
  - Ensure GMWDA is not exposed to unacceptable risk in the long term.
- 4.6.8 The GMWDA has initiated a procurement process by issuing a Prior Information Notice to forewarn the market of the potential requirements that the GMWDA may have for green waste composting infrastructure, initially involving composting capacity of 25k+ pa of green waste. The ensuing market

testing will provide information regarding the likely gate fees that may be available, existing capacities available and the lead time associated with the development of new facilities. It will also assist in assessing logistics solutions and the associated costs of transporting and shredding green waste.

#### 4.7 Residual Waste Treatment and Disposal

- 4.7.1 In order to fulfil the provisions of the EPA 1990, the GMWDA entered into contracts for the provision of waste disposal services throughout Greater Manchester (except Wigan). The services provided were divided into three separate contracts, set out in the Table below. The contracts were awarded to GM Waste Ltd, following competition.

**Table 4.7A: Contractual Arrangements Prior to 1986**

		Period of Contract
Contract A	Disposal of controlled waste collected and generated by the nine constituent WCA's.  Provision, servicing and management of seven (plan - attached) CA sites provided by the contractor.	1 February 1995 to 31 March 2006  1 February 1995 to 31 March 2006
Contract B	Removal and disposal of wastes deposited at nineteen free-standing CA sites provided by the GMWDA.	1 February 1995 to 31 March 2000 (extended to 31 March 2002 and to 31 March 2006)
Contract C	Management of nineteen free-standing CA sites provided by the GMWDA (Note: This contract was modified in February 2004 to hand over the recycling functions at these facilities to GM Waste Ltd for their control and operation.)	(As Contract B above)
Landfill Contract	Landfill disposal services - referred to below.	5 April 1991 to 31 March 2006 (extended to 31 March 2008)

#### *Short-Term Contract (post April 2006)*

- 4.7.2 The GMWDA is in the process of procuring a new long-term waste management services contract, with secured PFI support. The procurement process is due to be completed in late 2007.
- 4.7.3 Under relevant provisions of the Clean Neighbourhoods Act 2005 and the EPA 1990, the GMWDA has made arrangements with GM Waste Ltd to provide short-term waste management services for the reception, recycling, treatment and disposal of waste, in accordance with an output specification and in an environmentally and economically sustainable manner. As part of the contract, the GMWDA has made existing assets available for use in delivery of the services.
- 4.7.4 The contract is for a period of 2 years, commencing on 1 April 2006, with a break clause that can be activated at 3 months notice.
- 4.7.5 The scope of the services includes:-
- The continued operation and maintenance of existing waste reception, processing, treatment, recycling, recovery facilities designed to meet or exceed the GMWDA's specified minimum recycling or recovery targets and required targets for diversion of wastes from landfill disposal.

- The continued operation of the Bolton Thermal Recovery Facility (TRF) for thermal processing of municipal waste for the duration of the contract.
- The provision of adequate landfill capacity for the safe disposal of all residual or reject wastes arising from all parts of the Contract.
- The management and operation of Household Waste Recycling Centres (HWRC's) for the reception of waste.
- The provision of reception points for hazardous household waste at HWRC's and arrangements for the disposal of this material.
- The provision of reception points for Waste Electrical and Electronic Equipment (WEEE), items containing Ozone Depleting Substances (ODS) and fridges/freezers that do not contain ODS at HWRC's. Upon implementation of the WEEE Directive, ODS containing items and other fridges/freezers are to be managed in accordance with the WEEE Directive requirements.

4.7.6 The short-term contract excludes:-

- The management and aftercare of former landfill sites in the GMWDA land holding.
- The collection of household waste.
- The disposal of items containing ODS and fridges/freezers that do not contain ODS, other than the provision of reception facilities at HWRC's.
- The disposal of WEEE, other than the provision of reception facilities at HWRC's.

#### *Landfill Disposal Services*

4.7.7 Landfill disposal services for residual municipal waste are provided via a joint venture currently in place between GM Waste Ltd and Biffa Waste Services Ltd (BWSL). Under the contractual arrangements, BWSL guarantee to provide sufficient rail and road linked landfill disposal capacity to meet the GMWDA's requirements, via GM Waste Ltd (subject to limited exceptions). In turn, the GMWDA, via GM Waste Ltd, guarantees to deliver a minimum of 750k tonnes per annum of wastes and residues to locations specified by BWSL.

4.7.8 The principal sites are at:-

- Roxby, Humberside - for rail-borne wastes;
- Risley and Arpley in Warrington and Withnell, Chorley - for road-borne wastes.

4.7.9 Rail services are provided by English, Welsh and Scottish Railways Ltd (EWS) under contract to GM Waste Ltd.

#### *Residual Waste Treatment and Disposal Services*

4.7.10 The current range of waste management facilities includes:-

- Four road and rail connected material recovery facilities (MRF's) based on a Dano pulverisation process located in Stockport, Salford, North Manchester and South Manchester;
- Three road connected transfer loading stations in Bury, Oldham and Rochdale; and
- A road connected thermal recovery facility in Bolton.
- The capacities and throughputs of these facilities are described in Appendix B.

#### *Material Recovery Facilities*

- 4.7.11 The four “dirty” MRF’s are the principal reception points for collected municipal waste in Greater Manchester. They are based on a Dano drum pulverisation system installed in the early 1980’s for the purposes of volume reduction and compaction. The primary function of the MRF’s at present is the recovery of metals and volume reduction to improve transport efficiencies.
- 4.7.12 Household waste, suitable for the process, is fed via a plate feeder conveyor into the drums. Once inside, the drums rotate and projecting steel spurs break open bags etc and the waste is reduced in size via the impact of harder items with softer items. Waste has a residence time of approximately two hours in the drums; the longer the residence time, the greater the size reduction.
- 4.7.13 Ferrous metals (principally cans) are separated by over band magnets for transfer by road to (EMR) at for reprocessing.
- 4.7.14 The non-ferrous rich materials that are recovered by eddy current separators are hand sorted to segregate the used beverage cans for transfer by road to British Alcan at Warrington for reprocessing. The remaining non-ferrous material is also sent for reprocessing. The screened residues from the processing of the plus 45mm material are compacted into ISO containers and loaded onto rail wagons for transport to landfill for final disposal at Roxby, Humberside.
- 4.7.15 The minus 45mm material can undergo further screening and density separation to give an organic rich material. This material is gravity fed into containers prior to landfill disposal at BWSL sites.
- 4.7.16 Each facility has an ‘attached’ CA site as an integral part of the infrastructure.
- 4.7.17 Wastes that are not suitable for the Dano process are bulk loaded for transport to landfill, principally by road to sites at Risley and Arpley, Warrington. No form of sorting or separation of these waste takes place, with the exception of facilities made available for separated white goods, fridges and freezers, rubble, wood and tyres.

#### *Waste Transfer Stations*

- 4.7.18 There are three municipal waste transfer stations in operation within Greater Manchester located at Bury, Oldham and Rochdale. Each site provides a reception point for collected waste from the WCA’s and Bury TLS and Rochdale TLS have attached CA sites as integral parts of the infrastructure.
- 4.7.19 The facilities at Bury and Oldham are based upon compaction systems utilising ISO containers. The Rochdale facility is operated as a bulk loading station. There are materials separation or sorting facilities at Bury and Rochdale for white goods, rubble, wood, tyres etc. The outputs of the Bury and Rochdale facilities are transported by road for landfill disposal, principally at sites at Risley and Arpley, Warrington. Occasional loads are transferred from Bury to the MRF’s to make up full train loads for transport to landfill by rail. The output of the Oldham facility is transported by road for landfill disposal at a site at Withnell, Chorley.

#### *Thermal Recovery Facility*

- 4.7.20 There is a thermal recovery facility dealing with collected wastes primarily from the Bolton MBC area.
- 4.7.21 Until late 1996, the facility operated as a twin-stream non-recuperative incinerator. Investment has been made in the installation of suitable equipment to ensure that the facility complies with current and anticipated emission standards. A comprehensive scheme for the conversion of the former plant into a thermal recovery facility has been completed and the new plant became operational from October 2000. The combined heat and power facility has an electrical power output of 10 megawatts.
- 4.7.22 The facility also incorporates an open compound, part of which is used for bulk loading of wastes that are not suitable for the thermal recovery process. The remainder of the compound is used for CA purposes.
- 4.7.23 The bottom ash from the process is delivered separately by road for reuse purposes. The fly ash output constitutes a hazardous waste that is separately bagged and consigned and transported by road for disposal at a suitably licenced landfill.

- 4.7.24 The collected wastes delivered to the facility that are not suitable for processing are bulk loaded and transported by road for disposal by landfill, principally at sites in Risley and Arpley, Warrington.
- 4.7.25 The ferrous metals (principally cans) recovered magnetically from the bottom ash are bulk loaded for transfer by road for reprocessing.

**Table 4.7B; Facilities Provided by GM Waste Ltd**

		2004/05 000's tes
Twin stream wet pulverisation plants, road and rail connected	<ul style="list-style-type: none"> <li>• North Manchester (Reliance Street, Newton Heath)</li> <li>• South Manchester (Longley Lane, Sharston)</li> <li>• Salford (Cobden Street), Brindle Heath</li> <li>• Stockport (Bredbury Parkway, Bredbury)</li> </ul>	139 191 125 182
Twin stream compaction transfer station, road connected	<ul style="list-style-type: none"> <li>• Oldham (Arkwright Street)</li> <li>• Bury (Every Street, Fernhill)</li> </ul>	70 76
Transfer Station, road connected	<ul style="list-style-type: none"> <li>• Rochdale (Entwistle Road)</li> </ul>	61
Twin stream thermal recovery facility road connected	<ul style="list-style-type: none"> <li>• Bolton (Raikes Lane)</li> </ul>	121
Total		967

*Residual Waste Reception Services*

- 4.7.27 The reception points provided for the WCA's serve more than one WCA area. The following table provides a typical spread of reception facilities used for WCA collected wastes. The reception facilities are also routinely used for the 'bulking up' of residual wastes delivered to the HWRC's

**Table 4.7C: Residual Waste Reception Services**

									Stockport MRF
Kerbside household collected residual waste	Bolton	√	√					√	
	Bury		√					√	
	Manchester			√	√			√	√
	Oldham			√		√			
	Rochdale			√			√		
	Salford	√						√	
	Stockport				√				√
	Tameside*			√		√			√
	Trafford				√			√	

									Stockport MRF
Bulky residual waste	Bolton	√							
	Bury		√						
	Manchester			√	√			√	√
	Oldham			√		√			
	Rochdale						√		
	Salford			√				√	
	Stockport				√				√
	Tameside*								√
	Trafford				√			√	

4.7.28 An inventory of existing infrastructure is set out in Appendix B of this report.

## 5. Environmental Baseline Information

### 5.1 Biodiversity, flora, fauna and landscapes

Greater Manchester, although often perceived as an urban conglomeration, actually has a wide and varied range of wildlife. The nine districts are characterised by different landscapes from the ancient wooded cloughs of Bolton, Bury and Stockport, the moorland expanses of Rochdale and Oldham.

Much of Greater Manchester's heritage is derived from its past international importance as an industrial capital. As these post-industrial sites have fallen into disuse wildlife has colonised these areas and are now highly valued. Wigan Flashes is a direct result of past coal mining where subsidence has led to waterbodies collecting in the resulting hollows. This is now an important reedbed resource in Greater Manchester.

Although all our wildlife is highly valued, some of our biodiversity has been recognised as being internationally important, for example, the Rochdale Canal due to the presence of floating water-plantain and the "Manchester Mosses" which include Astley and Bedford Mosses which is a network of the last remaining peat bogs in the area.

#### **Acid grassland**

Acid grassland is a rare habitat throughout the North West with few extensive examples other than those in the uplands, predominantly in Rochdale and Oldham. However, there are smaller somewhat isolated examples present in all ten districts of Greater Manchester. Acid grassland covers a total of 5.7% of the county. Along with all lowland grasslands, lowland dry acid grassland has declined resulting in a patchy and fragmented distribution of this habitat throughout Greater Manchester. The effects of isolation and fragmentation therefore pose the greatest threat to the existing remnants. However, there has been a recent trend for dry acid grassland to become established on post-industrial sites, notably spoil heaps.

Changes in land use, inappropriate tree planting and a lack of management resulting in the spread of scrub means that many dry acid grasslands are currently in unfavourable condition. As a better understanding of the habitat and its management is developed, dry acid grasslands can be brought into favourable condition.

Sites Important for Acid Grassland in Greater Manchester:

South Pennine Moors (North and South) SBIs, Rochdale and Oldham - including part of South Pennine Moors SSSI, SPA, cSAC  
 Knowl Moor SBI, Rochdale  
 Hamer Pasture Reservoir SBI, Rochdale  
 Dark Peak SSSI, SPA & SBI  
 Bull Hill & Holcombe Moor SBI, Bury  
 Winter Hill & Smithills Moor SBI, Bolton  
 South Pennine Moors SPA, cSAC, SSSI & SBI, Rochdale and Oldham

#### **Bats**

Population levels of bats in Greater Manchester are inadequately known and as yet, there is little information on trends. There is generally thought to be a decline in bats across Greater Manchester although in some areas anecdotal evidence suggests there may be a slight increase due to reduction in pollution levels, but there is no hard evidence for this.

All bat species are considered to be of conservation importance in Greater Manchester.

Pipistrelle – Information on pipistrelle bats is confused by the fact that recently two separate species (Pipistellus pipistellus & Pipistellus pygmaeus) have been found. Historic data (i.e. before the split) indicates that the pipistrelle occurs in all ten districts of Greater Manchester. Information on the separate species indicates that P. pipistellus may be the more common of the two.

Serotine – Manchester and Stockport with unconfirmed records in Bury.

Daubenton's – Probably occur in all ten districts of Greater Manchester. The species benefits from the high concentration of mill lodges in Greater Manchester.

Whiskered – Wigan, Bolton, Bury, Rochdale, Manchester, Trafford, Stockport & Tameside. It is not confirmed in Salford.

Natterer's – Bolton and may occur in Wigan and Oldham although this is not confirmed.

Leisler's – Trafford and possibly Manchester.

Noctule – Wigan, Bolton, Bury, Rochdale, Salford and Trafford. Appears to be in decline in Greater Manchester.

Brown long-eared – Wigan, Bolton, Bury, Salford, Trafford and possibly Rochdale and Manchester.

### ***Bitterns***

Bitterns do not currently breed in Greater Manchester. Winter visitors are, however, regularly recorded in the Wigan Flashes. Numbers are uncertain due to the secretive nature of the bird. They are considered to be rare but increasing non-breeding visitor in Greater Manchester. In 1997 a male (or males) stayed after the winter and was heard booming between April and July. Although it cannot be ruled out that breeding occurred, it is unlikely.

### ***Brown Hare***

Brown hare has been recorded in all ten Boroughs of Greater Manchester. The species is fairly widespread in the Pennine fringe and also occurs locally in the lowland of west and south of the County. The current distribution and population trends are not precisely known. A survey in 1996 of Oldham found populations in three areas of the Borough. There was also some anecdotal evidence of decline in Greater Manchester. A strong population also exists at Woodford Aerodrome, Stockport. The mountain hare was introduced into the Peak District in the 19th Century and is now well established. In Greater Manchester there is a sharp demarcation between the distribution of brown hare and mountain hare (which occupies higher moorland).

### ***Canals***

Thanks to its industrial heritage, Greater Manchester has a rich resource of canals. There are ten canals in total. These range from actively used canals such as the Leeds/Liverpool and the Ashton Canal to currently disused examples such as the Huddersfield Narrow Canal (now restored and navigable) and the Rochdale Canal. There are proposals to reopen the majority of canals for navigation and active restoration is in progress. The canal corridor forms a linear mosaic of habitats including woodland and scrub offsites, hedgerows, flower rich towpath verges and diverse emergent 'reed' fringes. The corridor helps link habitats fragmented by urbanisation and uniquely forms a wetland corridor between river catchments.

### **Notable Species**

Floating water plantain, Grasswack pondweed, Frogbit, Whorled water milfoil, Fringed water lily, American pondweed, Flat stalked pondweed, Hair-like pondweed, Long stalked pondweed, Black spleenwort, Rusty back fern, Water soldier, Greater duckweed, Kingfisher, Bats, Water vole, Freshwater sponge, White clawed crayfish

The Rochdale Canal has been designated as a candidate Special Area of Conservation (cSAC) due to the occurrence of internationally significant populations of floating water plantain *Luronium natans*.

#### **Floating water plantain - Greater Manchester Resource and Distribution**

In Greater Manchester floating water plantain largely occurs in canals including the Ashton Canal SBI, the Rochdale Canal SSSI and cSAC and the Peak Forest Canal SBI. It also occurs in the Huddersfield Narrow Canal SSSI/SBI, but it is not as prolific as it once was, although there is evidence that it is recurring since the restoration of the canal. It was formally recorded in the Hollinwood Branch Canal SSSI/SBI. It also occasionally occurs in upland lakes/pools.

### ***Great crested newts***

Great crested newts are considered to be common but declining in Greater Manchester. The exact population of the species in the county is unknown, as are the locations of all ponds that support newts. Some areas such as Wigan, Bury, Bolton and parts of Salford have been well studied and surveyed. Elsewhere, knowledge is more limited, although some individual sites are known. It is believed that Greater Manchester has a high concentration of great crested newt ponds that could be significant in national terms. Great crested newts are known to breed in all districts of Greater Manchester except Rochdale. Breeding has not been confirmed in this district, although newts may occur. Particularly high concentrations of great crested newts are found in Wigan, Salford and Bolton.

### **Lowland Broadleaved Woodland**

There are approximately 781ha of ancient woodland in Greater Manchester identified by the Provisional Ancient Woodland Inventory 1988 which records ancient woodland over 2ha in size. There are, however, many smaller ancient woodlands across Greater Manchester that have not been formally identified. Many of these are associated with steep cloughs which give the impression of a smaller area being covered by woodland. Therefore, figures for ancient woodland areas are likely to be higher than currently recorded. In addition, there are 2,380 ha of semi-natural secondary woodland and 2,100 ha of planted woodland. Like all semi-natural woodland in Greater Manchester lowland broadleaved woodland is classed as a scarce habitat in the GM Biodiversity Audit and is thought to cover approximately 2.5% of Greater Manchester. The full significance and extent of this habitat will become clear as more research is carried out. Research will include surveys of the county's semi-natural and plantation broadleaved woodlands, as well as investigations of other factors that may affect the survival and condition of woodland in the county.

### **Marshy grassland**

Marshy grassland covers some 2% (2,464 ha) of Greater Manchester with the majority, almost 60%, occurring in Rochdale. With the exception of the upland areas, marshy grasslands are often small and fragmented usually found in association with other grassland habitats, swamps or ponds. This habitat is found in all ten districts of Greater Manchester. Sites Important for Marsh/marshy Grassland in Greater Manchester:

- Puddle Clay Pits SBI, Tameside
- Marsh and Pools at Greenheys SBI, Salford
- Damp Meadow by Redhouse Lane SBI, Trafford
- Townsgate Marsh SBI, Salford
- Alder Forest Marsh SBI, Salford
- Elton Goyt SBI, Bur

### **Raised bogs or mosslands**

97ha of raised bog is identified in the county, but this is a misclassification of modified bog, since no intact examples remain. The raised bogs or mosslands of Greater Manchester once covered large areas of the county in areas such as Chat Moss, Carrington Moss, Ashton Moss and Clifton Moss. Many of these areas have been lost to agricultural improvement, peat extraction or development. The majority of the remnant mossland in the county is found on Astley and Bedford Moss in Wigan,

Chat Moss in Wigan and Salford and Red Moss in Bolton. Outside these areas, only small fragments are left in such areas as Royton Moss, (Oldham), Clifton Moss (Bolton/Salford) and Ince Moss (Wigan).

### **Nightjar - Greater Manchester Resource and Distribution**

Early in the 20th Century, nightjars were reported from locations across Greater Manchester as far east as the Pennine fringe in Oldham. After the 1950s however, the population was largely confined to the Chat Moss area of Salford and Wigan. The main breeding sites were Astley Moss East, Little Woolden Moss and the remnant mossland in between the two. It also bred in Botany Bay Wood and on Bedford Moss. In 1980 the population in these areas was about 10 pairs. During the 1980s the destruction of habitat, primarily for peat cutting led to a rapid decline and the species was extinct as a regular breeder by the end of the decade. It has, however, continued to occur on Chat Moss fairly regularly, including 1998, 1999 and 2000. Records have been between late May and July and include churring and displaying birds. It is possible that sporadic breeding attempts have occurred, as some potential breeding sites are not readily accessible to birdwatchers.

### **Twite**

In Lancashire and Greater Manchester, twite now breed only in upland areas. In Greater Manchester twite would appear to be restricted to Oldham and Rochdale although there are records from 1999 of small numbers on Smithills Moor in Bolton with similar numbers recorded in 2001. There is no evidence that the downward trend is stabilising. Regular recorders have reported their recent loss from several traditional breeding sites. The majority of remaining birds are clustered in small areas within Rochdale and Oldham. Little is definitely known about the wintering grounds of the Greater Manchester population. Some birds remain in the Greater Manchester uplands encouraged by a feeding station.

### **Unimproved grasslands**

The diversity and value of unimproved grasslands vary considerably throughout Greater Manchester with many of the botanically species-poorer examples having developed recently on derelict sites. The majority of the species-rich examples lie within designated Sites of Biological Importance in Trafford, Oldham, Stockport, Tameside, Bury and Manchester. Unimproved neutral grassland is thought to make up 3.2% of the county with some 4,404 ha recorded. However, it is thought only a small proportion of this is currently species-rich. A further 9,800 ha of semi-improved neutral grassland has also been recorded.

Sites Important for Neutral Grassland in Greater Manchester:

- Hawkshaw and Boardsman Farm SBI, Bury
- Linnet Clough SBI, Stockport
- Bruntwood Park SBI, Stockport
- Higher Higham Meadows SBI, Tameside

### **Upland oak woodland**

The total coverage of upland oak woodland within Greater Manchester is unknown although the total area is believed to have declined. Like all semi-natural woodland in Greater Manchester it is classed as a Scarce habitat total BAP area.

Greater Manchester's upland oak woodland sites are currently fragmented and isolated and are no longer in a pristine condition. Upland oaks woods, in common with other ancient and semi-natural habitats are irreplaceable and must be managed to maintain their special character.

The full significance and extent of this habitat in Greater Manchester will become clear as more research is carried out. This research will include surveys of the county's semi-natural oak woodlands, as well as investigations of other factors that may affect the survival of this form of woodland in the county.

Many of the upland oak woodlands make a significant contribution to the upland landscape often growing with other semi-natural habitats. In some areas these woodlands have an established place within local history as a source of firewood, timber for building or as a link to past farming practices.

Upland oak woods in Greater Manchester are generally in an unfavourable, although stable condition. This means that compared to more extensive and less disturbed woods they do not carry out all the functions and support all the species and communities that are potentially possible. Some of the woods where management has taken place e.g. to keep out grazing livestock or reduce the impact of invasive, alien plants are improving and will eventually attain a favourable condition.

The following districts contain areas of upland oak woodland:

- Bolton
- Bury
- Oldham
- Rochdale
- Stockport
- Tameside

### **Amenity grassland**

Amenity grassland and grassland that has been 'improved' by the addition of fertilisers, do not make as significant a contribution to biodiversity as less managed grassland. The intensity of management often precludes the growth of many plant species and is dominated by cultivars of perennial rye-grass and common broadleaved species such as white clover, daisy, broadleaved plantain or dandelion. Nevertheless, these grasslands can still have high biomass of soil fauna (e.g. earthworms and leatherjackets), and may be used as roosting sites for birds such as gulls or lapwings and may be part of the feeding territory of badgers and amphibians. The greatest value of amenity grassland, therefore, lies both in its existing value to limited but often high populations of a range of species, and in its potential to make a greater contribution to biodiversity through altering management regimes.

Gardens and allotments can support a diverse range of wildlife, depending on their management, structure and planted species. Gardens can support a host of common bird species (including blackbird, robin, blue tit, great tit, song thrush, house martin, tawny owl) and many people already make an effort to provide food or breeding sites for

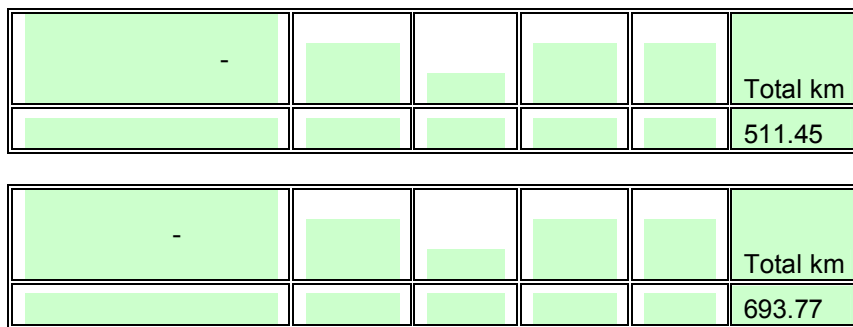
birds. Common butterflies such as the red admiral and peacock thrive in gardens, and moths also take advantage of the nectar supplies on offer. Garden ponds can also support amphibians including the great crested newt, provided they are not stocked with fish. Mammals such as hedgehogs, foxes and badgers often utilise urban greenspaces, especially gardens, as part of their feeding territories.

There are approximately 11,000ha of amenity grassland in Greater Manchester, nearly 8.5% of the County. This includes many town parks, playing fields and golf courses. The actual area of gardens, allotments and other forms of managed greenspace is unknown but constitutes a significant area of the County. Managed greenspaces occur in all ten districts of Greater Manchester. The City of Manchester has nearly 20% of the total area of amenity grassland.

**Water Voles**

Known water vole populations in Greater Manchester are being mapped which will assist in considering impacts on water vole when considering planning applications.

**5.2 River Water Quality**



**5.3 Air Quality**

Waste management is estimated to give rise to a small proportion of emissions to air in the UK, with two exceptions. Emissions of methane from waste, which are overwhelmingly landfill methane, are estimated to account for around 22% of UK total methane emissions, and 27% of England’s total methane emissions<sup>70</sup>. Emissions of cadmium are estimated to account for around 10% of UK total emissions, mostly from combustion of landfill gas.

Emissions of dioxins and furans from waste management have become of particular concern. As noted above, emissions have fallen substantially in recent years to the point where emissions from municipal solid waste incineration are no longer a significant source of dioxins and furans in the UK. Estimated emissions of dioxins and furans from management of MSW account for about 1% of the UK total, shared approximately equally between incineration and landfill gas combustion. A number of sources contribute to emissions of dioxins and furans to a similar or greater extent: accidental vehicle fires; small scale waste burning (e.g. on building sites); incineration of other wastes; and the iron and steel industry. However, the most significant sources of dioxins and furans are domestic emissions and fireworks, both of which account for about a sixth of total emissions, although these estimates are subject to considerable uncertainty.

**Transfer stations and Materials recycling facilities (MRFs)**

Air quality issues relating to transfer stations and material recovery facilities generally arise as a result of fugitive emissions from tipping and sorting of waste. Control of odours is likely to be a key issue for minimising emissions to air from MRFs. Only limited data is available on emissions to air from MRFs. This does not allow emissions to be quantified. The use of Materials Recycling Facilities provides an opportunity for materials in the waste stream to be recycled. Reprocessing materials in this way could result in increases or decreases in emissions at locations remote from the MRF itself, and potentially a benefit in the overall life-cycle impacts of resource use.

**Mechanical Biological Treatment (MBT)**

The term MBT covers a variety of processes which use mechanical means to separate and reduce the particle size of the waste, and biological means to begin the composting process to stabilise the waste. MBT systems are usually designed such that emissions are minimised through housing under negative pressure and the use of bio-filters.

Emissions of VOCs from MBT are likely to be more significant than from combustion processes, although no data on VOC emissions from MBT has been identified. Emissions of particulate matter from fugitive and process sources will also need to be controlled. Limited data on emissions from MBT processes is available.

### **Composting**

The main air quality issues associated with in-vessel and windrow composting are the production and control of bio-aerosols, VOCs and carbon dioxide. Other factors being equal, better control is possible on emissions from in-vessel systems than on emissions from open windrow composting facilities. Based on limited poor quality data, emissions of particulates from open windrow composting appear likely to be higher than from other waste management activities. Further research is ongoing in this area, under Defra's waste research programme and other initiatives. In view of the possible increases in waste composting in the future, more information in this area will be valuable. Emissions of VOCs and micro-organisms are likely to be more significant from open composting processes than from combustion processes.

### **Waste to energy (incineration)**

A considerable body of data is available on emissions to air from waste incineration which allows emissions to be characterised with good confidence. Incineration generates relatively high emissions of oxides of nitrogen, hydrogen chloride and sulphur dioxide, which therefore require abatement using flue gas cleaning systems, although fugitive emissions of particles, VOCs and odours are generally low. This is because incineration facilities can be operated to provide good control on fugitive emissions resulting from the short residence time of waste, and the use of air from the waste reception area in the combustion process.

Emissions of dioxins and furans and metals from incineration have decreased substantially in recent years driven by increasingly stringent limits on emissions from incineration plant set in European directives. Combustion of municipal solid waste is now estimated to account for around 0.5% of total UK emissions.

### **Emissions of UK Air Quality Strategy substances from industry in Greater Manchester**

Local Authority District	(kg)2004
Bury District	506200
Salford District	101000
Trafford District	642000
Bolton District	168
Trafford District	18100

Results from the Environment Agency Pollution Inventory for emissions to air of substances identified under the UK Air Quality Strategy in the NW government region. The Pollution Inventory shows annual emissions from industrial activities that are regulated by the Environment Agency

## **5.4 Climate change impacts**

UK waste sector emissions have steadily declined over this period, to the extent that emissions in 2003 are estimated to have been 40% of those in 1990. This reduction has arisen primarily because of reductions in emissions to air of methane from landfill sites. Methane is a potent greenhouse gas, with a global warming potential over a hundred year timescale some 21 times higher than carbon dioxide. The improved collection and combustion of landfill gas which contains about 50% – 60% methane<sup>77</sup> has resulted in a substantial reduction in the impact of this source on emissions of substances with global warming potential from the waste management sector.

The main source of emissions to air of carbon dioxide from waste management is landfill gas – carbon dioxide accounts for up to half of the volume of landfill gas. This may be increased as landfill gas is burned, converting methane to carbon dioxide although this reduces greenhouse gas impacts. Waste management processes which generate electricity will result in an offset to direct carbon dioxide emissions due to the avoidance of generation of electricity from fossil fuels. This may result in a net overall benefit in reduced carbon dioxide emissions. Emissions during the transportation of waste during collection, treatment and disposal are accounted for separately. Emissions from waste transportation are estimated to account for only a minor proportion of emissions from waste management.

### 5.5 Local and Regional Estimates of Carbon Emissions, 2003

CO2 emissions (kt CO2)  
2003

	Industry and Commercial	Domestic	Road Transport	Land Use Change	Total	Population Thousands <sup>(1)</sup>	Per capita CO2 (tonnes)	Domestic per capita CO2 (tonnes)
Bolton	730	726	467	3	1927	264	7.3	2.8
Bury	640	470	417	1	1528	182	8.4	2.6
Manchester	1563	1065	647	1	3275	433	7.6	2.5
Oldham	512	620	286	5	1422	218	6.5	2.8
Rochdale	557	527	516	3	1603	207	7.8	2.6
Salford	781	572	577	3	1933	217	8.9	2.6
Stockport	677	852	377	1	1906	283	6.7	3.0
Tameside	565	540	322	1	1429	213	6.7	2.5
Trafford	1042	595	359	3	1998	212	9.4	2.8
<b>TOTAL Greater Manchester</b>	<b>7067</b>	<b>5966</b>	<b>3968</b>	<b>21</b>	<b>17022</b>	<b>2227</b>		<b>2.7</b>

	<b>2004</b> <i>All figures are in kg</i>
Bolton District	52231912
Bury District	110121000
Manchester District	13959000
Oldham District	30200000
Salford District	34400000
Trafford District	189567000

### 5.6 Soil resource & land contamination

Waste managed in each Greater Manchester local authority Waste Returns 2002/3 (Tonnes)			Industrial / Commercial
Bolton	44926	10349	187297
Bury	93277	36707	582415
Manchester	78042	278	326444
Oldham	13616	23724	271322
Rochdale	1304	1239	207004
Salford	100497	64648	434820
Stockport	74888	8067	271376
Tameside	35420	95	131568
Trafford	43947	123196	503774
Wigan	286105	6513	628643
			<b>3544663</b>

		clearance costs (£)
Bolton Metropolitan Borough Council	3446	182517
Bury Metropolitan Borough Council	1363	101733
Oldham Metropolitan Borough Council	1530	79148
Rochdale Metropolitan Borough Council	1267	88952
Salford City Council	5717	312903
Stockport Metropolitan Borough Council	159	7332
Tameside Metropolitan Borough Council	1447	24757
	10,120	797,342

No data recorded in Trafford and Manchester CC during 2004/5

## 6. Contextual Information

### 6.1 Introduction

- 6.1.1 Contextual information includes data on factors that influence the quantity and nature of waste sings in the authorities' area, and the likely reactions of the community to waste initiatives. Such factors include population size, types of housing, and the state of the local economy.
- 6.1.2 Contextual information can be useful where it:
- helps to explain trends;
  - enables comparison with other authorities, for example comparing two authorities with similar levels of social deprivation; or
  - helps to explain existing performance and potential performance in the future
- 6.1.3 Contextual information in this section includes geographic, demographic and socio-economic factors that may influence the quantity and nature of waste arisings in Greater Manchester as well as being important factors in the design and provision of services that will implement the waste management strategy.
- 6.1.4 Greater Manchester is one of Britain's largest metropolitan conurbations. There are ten district authorities within Greater Manchester (although Wigan is not included within GMWDA's responsibilities and is not included within the MWMS). In 2001 the population of Greater Manchester stood at 2.48 million, of which almost 26% were aged under 20, 54% aged 20-59 with 20% aged over 60. Ethnic minorities made up 12.1% of the total population and 5.1% of England's black minority ethnic population are resident in the County.

### 6.2 Greater Manchester's Economy

- 6.2.1 The constituent towns and boroughs of Greater Manchester saw rapid growth in the nineteenth and early twentieth centauries being at the heart of the industrial revolution. Since the 1950's there has been a continuing decline in manufacturing. Although, manufacturing and associated infrastructure continues to be an important factor in the local economy with manufacturing jobs continuing to fall by 2.2% per year whilst service sectors are predicted to grow. Greater Manchester is now a regional focus for financial, professional and business services, media, cultural, leisure and tourist activities.
- 6.2.2 Greater Manchester is also characterised by patchy economic performance and competitiveness with GDP levels varying greatly between the north and east, and the south of the conurbation; and similar variations in terms of unemployment, gross earnings and business performance;
- 6.2.3 Almost half of the employees within Greater Manchester work in established and growing internationally competitive growth sectors:
- Financial, professional and business services;
  - cultural, creative and sports industries;
  - ICT-related industries;
  - life-sciences;
  - medical equipment and technologies;
  - retail and
  - business and leisure tourism
- 5.2.4 The city centre has a high concentration of employment in both finance and business services (the largest sector) and cultural and creative industries. Manchester has the second highest proportion of employees in both sectors compared with other Core Cities in the United Kingdom.

- 6.2.5 However, GDP for Greater Manchester is only 88% of the national average, although there is considerable variation between the south at 5% above the national average and the north at 31% below the national average. Productivity measured by gross value added (GVA) at £29,400 is below both regional and national averages at £33,400 and £33,100 respectively.
- 6.2.6 Within Greater Manchester, unemployment ranges from 7.9 % in Manchester City to 2.0 % in Stockport; and average gross weekly earnings range from £394 in Trafford to £297 in Oldham, with only Trafford and Manchester above the national average. The core of the conurbation generates £ 11 billion GDP, representing approximately 46% of Greater Manchester's GDP and 17% of the North West GDP. Similarly, jobs in the City represent 25.5% of jobs in Greater Manchester and 10.1% of jobs in the North West.
- 6.2.7 Greater Manchester still has structural deficiencies in terms of skill levels and educational attainment, both for growth sectors of the economy and in terms of skills within certain disadvantaged communities and areas. People in the workforce with no qualifications are at a rate 2.1% worse than the national average. At GCSE/GNVQ stage (16 year olds) the number of pupils achieving 5 grade A-Cs is nearly 6% below the national average.
- 6.2.8 In its publication "Projections for Selected Environmental Indicators for the North West using the REEIO Model" the NWDA prediction is for Gross Value Added (GVA) per capita is projected to grow at just over 2% pa.

### 6.3 Socio-Economic Analysis

- 6.3.1 Socio-economic conditions will impact on the types and quantities of waste arisings and the design and success of any new waste management provisions implemented as part of a new waste management strategy.
- 6.3.2 Whilst there are significant variations between local authorities within Greater Manchester, all Greater Manchester local authority areas come within the worst 33% of the Government's deprivation index.
- 6.3.3 Statistics taken from the 2001 census for a wide range of socio-economic indicators illustrate this position within the deprivation index and relative divergence from the national average.

**Table 5.3A: Socio-Economic Data for Greater Manchester**

<b>Socio-Economic Data for Greater Manchester (Met County, minus Wigan) (based on National Statistics Office Census Data 1991/2001)</b>			
<b>Socio-economic profiles</b>	<b>Greater Manchester</b>	<b>England Average</b>	<b>Variance %</b>
Single people (never married)	32.2%	30.1%	+2.1%
Married or re-married people	47.6%	50.9%	-3.3%
Separated or divorced	11.3%	10.6%	+0.9%
Widowed	8.8%	8.4%	+0.4%
Households with 1 car/van or more	67.2%	73.2%	-6%
Household with 1 car or van	43.0%	43.8%	-0.8%
Household with 2 or more cars/vans	24.2%	29.4%	-5.2%
One person households	32.0%	30.0%	+2%
Married couple households	34.2%	36.5%	-2.3%
Cohabiting couple households	8.6%	8.3%	+0.3%
Lone parent households:	11.5%	9.6%	+1.9%
All other households	13.6%	15.6%	-2%
Limiting long-term illness	20.4%	18.2%	+2.2%
<b>Work</b>			
Employed	58.2%	60.6%	-2.4%
Unemployed	3.5%	3.4%	+0.1%
Permanently sick or disabled	7.8%	5.5%	+2.3%

Other inactive	3.5%	3.1%	+0.4%
Average household size	2.35	2.36	-0.01%
Owner-occupied	65.4%	68.9%	-3.5%

6.3.4 Despite extensive remediation and redevelopment over past decades, there remain areas of dereliction and poor environment from the industrial legacy in some parts of the county. Health indicators show considerable inequalities, both in terms of access and provision of services and in the health of different sectors of its population. A sense of social and economic exclusion both within minority groups and in certain deprived neighbourhoods is reported<sup>1</sup> for many complex reasons including uneven patterns of economic growth. High incidences of crime compared to other areas of the North West provide a continuing problem of a perception of an area with community safety and crime problems.

#### 6.4 Diverse Communities

6.4.1 As a major trade centre many different communities settled in the area and have enhanced its diversity. Many of the people who have settled in the Greater Manchester area have been linked with particular industries and economic activity. This has affected the nature of their social and economic position and their aspirations. There are Jewish, Irish, Polish and Chinese communities. The Black and Caribbean communities in the area are also well established, making a significant contribution for many decades. There are diverse and significant Asian communities with people originally from Pakistan, India and Bangladesh in the conurbation. Finally, there are also other smaller but wide ranging communities, including a number of African and Eastern European people, who have made their home in the area.

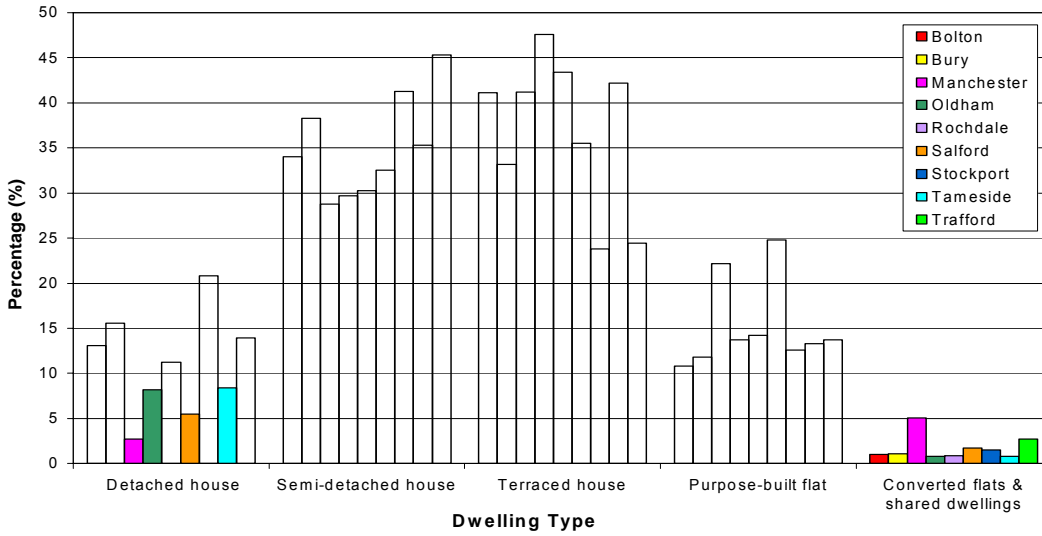
#### 6.5 Housing

6.5.1 The housing market in Greater Manchester exhibits extremes of quality and cost. Parts of Greater Manchester, particularly in the city centre, the south and peripheral areas have experienced increasingly buoyant housing markets in recent years. However, in contrast, many of the older inner areas surrounding the centre, where there is much pre-1919 housing stock of predominantly private terraced properties, have experienced poor quality of maintenance and surrounding environment with falling demand whilst poor quality of stock and environment are also issues facing many areas of social housing in Greater Manchester. The problem for all tenures is that poor housing and environmental quality has gone hand in hand with problems of social and economic deprivation, poor health and crime. Since the 1980's there have been successive attempts by Central Government to tackle these interrelated problems through a series of urban renewal and housing strategies, with increasing emphasis on community involvement. Whilst some refurbishment of existing properties and replacement of older terraced properties is planned in urban renewal strategies no overall change in the mix of housing type is indicated.

6.5.2 It is important to consider the housing characteristics in each district, for example the mix of housing types (proportion of flats, terraced and detached houses etc) as it will influence the collection infrastructure that it is practical to implement and the range of materials collected for recycling at the kerbside. It also will inform the planning of routes, decisions regarding container types and vehicles, and the phased development of the chosen collections in each area.

6.5.3 The housing make-up of each district is summarised below. This data is derived from 2001 census data which is the most recent available. It shows a relatively high proportion of terraced and semi-detached houses for all districts. Manchester City and Salford City have a high proportion of flats compared to other districts. In Manchester this is 27% of the housing stock compared to 26.5% in Salford.

<sup>1</sup> A Strategy for Greater Manchester Published by the Association of Greater Manchester Authorities 2003



6.5.4 Whilst there has been recent growth in the population living in Manchester City centre, this is not reflected in overall growth within the city of Manchester as a whole with an overall fall in population of almost 40,000 recorded between 1991 and 2001. However, the increase in single occupancy apartment living in the city centre may go some way to offset decline in the wider city area. Attention must be given to providing facilities and opportunities for recycling when old buildings are converted for residential living as well as in new housing developments.

**6.6 Transport**

6.6.1 Despite having one of the most comprehensive motorway networks in the UK, Greater Manchester still suffers from a congested road network, under investment in its rail links to other parts of the region and the UK in general. Whilst the rail network is presently in need of investment it offers the potential to contribute more to freight movement;

**6.7 Population**

6.7.1 Demographic data and trends are an essential component when developing models of projected waste arisings. The total population trend for Greater Manchester for the period 1991 to 2001 has been that of decline by 3.75% over the 10 year period. Demographic profiles for the 9 constituent WCAs are set out in Table 5.7A below.

6.7.2 Demographic Data for Greater Manchester (Met County, minus Wigan) (based on National Statistics Office Census Data 1991/2001):

**Table 5.7A: Demographic Data for Greater Manchester**

Total number of people 1991	2266000 <sup>2</sup>
Total number of people 2001	2180913 <sup>3</sup>
Males	1060321
Females	1120592
Aged 0 to 15	465392
Aged 16 to 74	1561686
Aged 75 and over	153835
Greater Manchester	-3.75% (-85087)

<sup>2</sup> Linking 1991 population census with 1998 LG boundary changes

<sup>3</sup> 2001 Census

NW Region	-1.7%
English Average	+ 2.75%
Number of people per hectare	19.5
Eng and Wales Average	3.4
Number of households with residents	915135
GM Average household size	2.35

- 6.7.3 The decline in population between has been most pronounced in Manchester and Salford although most of the constituent local authority boroughs have seen some significant decline. Only in Bury and Rochdale have seen increases although these are small and do not represent significant divergence from the general trend. This population trend must be considered in the light of the national trend which is for an average increase of 2.5% in England which corresponds to a relative decline of over 6% over ten years. Increases and decreases in population may be interpreted as significant factors influencing potential waste production. A relative decline in population in the order of 0.6% per annum is significant in terms of benchmarks against national trends. A decline in total population would therefore indicate a reduced pressure on waste growth arisings.
- 6.7.4 The likelihood of a continuance in this population trend must be examined as this will impact on the development and implementation of the waste management strategy. The decline in population may be attributed to the complex interaction of economic and social factors.
- 6.7.5 Increasing economic activity may not translate directly into economic growth and employment within the resident population. Whilst Greater Manchester has some 37% of the North West population it provides 46% employment of the region's employment and 42% of the region's GDP. This indicates that a substantial and perhaps increasing number of those employed within Greater Manchester are commuting from outside the conurbation. It must be noted however that the non-resident commuting working population will contribute to the total waste generated within Greater Manchester, although a significant level of uncertainty must remain about how much of such waste will be managed through the municipal waste stream. Much of this waste will arise within the commercial sector some of which will be managed through municipal waste collection, whilst there will also be impacts on general street litter.
- 6.7.6 The strategy published by the Association of Greater Manchester Authorities is for the population to be stabilised at 2002 levels<sup>4</sup>.

## 6.8 Context Analysis and Conclusions

### *Demographics*

- 6.8.1 The overall demographic trend on the basis of past projections is for a long term slow decline in population number. There are no factors apparent from current information which would predicate for a significant increase in population size. However, the strategy published by the Association of Greater Manchester Authorities is for the population to be stabilised at 2002 levels, although this may require some significant changes to the prevailing socio-economic conditions.
- 6.8.2 The implications of the demographic trend (for slow decline) for the MWMS are to reduce pressure on growth in waste arisings. Thus the practicality of the existing MWMS objective for reducing waste growth is supported by this evidence.

### *Economic and socio-economic indicators*

- 6.8.3 Economic and socio-economic indicators are all indicative of lower economic strength and greater social disadvantage than is found when benchmarked against national averages. These factors are significant in terms of the implications for waste arisings in terms of waste types and quantities.

<sup>4</sup> A Strategy for Greater Manchester Published by the Association of Greater Manchester Authorities 2003

- 6.8.4 Relatively high levels of economic and social disadvantage are indicative of lower average incomes and thus lower purchasing capacity. This should correlate with waste arisings per head of population that are lower than the national average benchmark and certainly lower that of more affluent areas.
- 6.8.5 Whilst positioning in the worst 33% of the Government's deprivation index should be indicative of lower levels of waste arisings it also raises issues for the design of waste collection systems for segregated collection for recycling and composting. The configuration of back to back terraced housing and multiple occupancy residences are often limiting factors for the provision of adequate waste storage and collection for recycle and compostable waste. These factors will be considered by each of the WCAs in detailed when designing and implementing their specific waste collection systems.
- 6.8.6 The implications of these factors are considered further in section 7 concerning forward projections of this Baseline Report and in the development of options in the main WMWS report and SEA documentation

Table 5.8A : Contextual Information (2001 Census)

										Trafford
<b>Resident Population</b>	<b>Population</b>	261,037	180,608	392,819	217,273	205,357	216,103	284,043	213,043	210,145
	Male %	49	49	49	48	49	48	48	49	49
	Female %	51	51	51	52	51	52	52	51	51
<b>Households</b>	<b>Total Households</b>	108,085	74,335	167,451	87,824	83,452	94,238	120,456	89,981	89,313
	% Detached	15.98	18.21	4.26	11.53	14.93	8.62	21.38	11.12	15.37
	% Semi Detached	35.30	38.89	32.23	33.60	33.27	37.00	42.25	38.61	44.83
	% Terraced	37.11	31.01	36.01	41.92	38.56	32.52	22.20	37.13	22.30
	% Flats/Apartments	11.61	11.89	27.50	12.95	13.24	22.00	14.17	13.14	17.50
	% With Gardens									
	% High Rise									
<b>Ethnicity (% by Group)</b>	White	89.02	93.88	80.96	86.14	88.57	96.13	95.68	94.57	91.64
	Mixed	0.97	1.09	3.23	1.13	0.93	0.99	1.06	0.79	1.52
	Asian or Asian	9.06	4.05	9.13	11.88	9.80	1.38	2.10	3.97	4.05
	British	0.62	0.47	4.52	0.57	0.32	0.58	0.42	0.27	1.95
	Black or Black	0.34	0.51	2.17	0.28	0.38	0.91	0.75	0.40	0.83
	British Chinese or other Ethnic Group									
<b>Employment (16-74 year olds)</b>	% Unemployed	3.47	2.78	5.02		3.89	3.81	2.47	3.26	2.70
	% Retired	13.34	13.3	10.24	13.02	13.03	13.53	14.75	13.26	13.86

## 7. Analysis of Waste Data, Composition and Material Captures

### 7.1 Quantitative Waste Data

7.1.1 Strategies should be based on sound data that have been thoroughly analysed. This section provides further information on the types of waste management data that should be collected and how this should be examined. In practice, some datasets are not disaggregated to the desired level. In these cases, waste collection authority data may be used to verify figures, and information from contractors and the voluntary sector, to fill gaps. Historic data is included in the following section on “Forward Projections (Section 7).

#### *Municipal Waste Classifications*

7.1.2 The basic components of the Greater Manchester municipal waste stream are classified as –

- household waste collected weekly by WCAs (classified as "household")
- bulky household and other waste collected by WCAs (classified as "bulky"), including street cleansing, gully emptying and fly-tipped material on adopted highways
- commercial/industrial waste collected by WCAs (classified as "commercial/industrial" and dispersed between "household" and "bulky" deliveries)
- waste delivered by members of the public to civic amenity sites (classified as "civics")
- clinical (yellow bag) waste delivered by WCAs (classified as "clinical")
- difficult, special and other wastes e.g. clinical "sharps", tyres, batteries etc collected by WCAs or delivered by members of the public to civic amenity sites
- household wastes collected by the WCAs for recycling and composting
- household wastes collected by voluntary groups and organisations for recycling
- District Council generated commercial wastes (e.g. parks, markets, grounds maintenance, office wastes).

#### *Limitations on sub-streams data availability and relationships*

7.1.2 Historically data collected by GMWDA was based on the requirements of a landfill disposal orientated system rather than the new waste strategy requirements. Information on litter, street sweepings, special bulky collections, fly tipping, and dedicated trade waste were not separated by sub stream, so that it is not possible to track or project trends in each of these waste streams or indeed to project the impact of particular policies and plans upon them. The deficiencies in sub stream data and information was recognised and composition studies undertaken to address this issue. The sub-streams are reviewed in section 6.3 on waste composition below.

7.1.3 2004/5 waste statistics *BVPs* – Table 16

BV 82a - Percentage of household waste recycled	<b>11.58</b>	%
BV 82b - Percentage of household waste composted	<b>4.92</b>	%
BV 82c - Percentage of household waste energy recovery	<b>8.40</b>	%
BV 82d - Percentage of household waste landfilled	<b>75.10</b>	%
BV 84 - Number of kilograms of household waste per head	<b>539</b>	
BV 87 - Cost of waste disposal per tonne municipal waste.	<b>£53.12</b>	

**Table 7.1A: GM Municipal Waste Summary 2004/5**

Figures in Tonnes	Total Arisings	Recycled	Composted	EFW	Landfill
Municipal waste	<b>1,407,000</b>	140,000	60,000	102,000	1,105,000
Household Waste	<b>1247,000</b>	140,000	60,000	102,000	908,000
Doorstep Household waste WCA /third party collected	<b>868,000</b>	106,000	36,000	102,000	624,000
Residual Waste Treatment	<b>736,000</b>	10,000	-	102,000	624,000
Household waste at HWRC sites	<b>308,000</b>	34,000	24,000	-	250,000
Other Municipal waste	<b>71,000</b>	-	-	-	71,000
Commercial/Flytipped Waste etc.	<b>161,000</b>	-	-	-	161,000

*Waste Arisings by Waste Collection Authority*

7.1.4 Waste arisings by Waste Collection Authority and BVPI data for each district are shown in Table 6A below. A further breakdown of waste arisings by subcategory is given in table 6B.



**Table 7.A Recycling and Composting BVPI Data**

**RECYCLING IN GREATER MANCHESTER 2004/05**

Calculation of Recycling and Composting for the Authority BVPI Nos. 82a and 82b

	WASTE ARISING FROM DISTRICT COLLECTIONS							HWRC					TOTAL			
	Residual	Bulky	Clinical	Total	Commercial /fly tip	GREEN	TOTAL Collected	Recycling	Recycling	OTHER	AMOUNT	Amount			%	
District	Collection	collection	WASTE	Receipts	WASTE	WASTE	Household	In	Credits	Recycling	received	recycle d			Recycling	
				(B+C+D)	To be deducted	To be added	[E minus (F+G)]	Plants	Claims	activities	(less rubble	excl. rubble			<b>(BV PI 82a)</b>	
												& green waste)			$(O \div N) \times 100$	
	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes	Tonnes			%	
Bolton	91015	27314	3	118332	18612	3188	102908	13	11530	288	29692	2966				
Bury	57446	19275	0	76721	12788	6245	70178	155	7852	235	23482	2942				
Manchester	154828	66268	60	221156	52034	916	170038	3333	9943	12092	44097	5851				
Oldham	70889	20834	0	91723	12239	2564	82048	290	6314	371	16862	1790				
Rochdale	63688	13644	6	77338	5977	2445	73806	250	6585	86	24897	3499				
Salford	84313	14113	12	98438	14090	666	85014	1739	7789	1206	24517	4312				
Stockport	66484	34075	220	100779	18119	19088	101748	1432	15227	554	42950	5863				
Tameside	71383	22775	170	94328	20212	919	75035	1491	7859	126	25077	3290				
Trafford	75143	13155	107	88405	6461	75	82019	1618	7520	185	39564	3433				
<b>TOTALS</b>	<b>735189</b>	<b>231453</b>	<b>578</b>	<b>967220</b>	<b>160532</b>	<b>36106</b>	<b>842794</b>	<b>10321</b>	<b>80619</b>	<b>15143</b>	<b>271138</b>	<b>33946</b>			<b>11.58%</b>	
	<b>Composting</b>															
	Green waste	Green	Total	Total	%											
	HWRCs	Waste	Household	Amount	Composted											
District			Arising	Composted	<b>(BV PI 82b)(E ÷ Δ) x 100</b>											
	Tonnes	tonnes	Tonnes	Tonnes	%											
Bolton	1807	3188	144418	4995												
Bury	2133	6245	101747	8378												
Manchester	3393	916	236170	4309												
Oldham	675	2564	105595	3239												
Rochdale	2625	2445	105374	5070												
Salford	2829	665	118526	3494												
Stockport	3541	19088	160479	22629												
Tameside	1172	919	108097	1985												
Trafford	5384	75	129288	5459												
<b>TOTALS</b>	<b>23,559</b>	<b>36106</b>	<b>1,209,694</b>	<b>59,558</b>	<b>4.92%</b>											

**Table 7.B - Summary by Category/code for year April 04 to March 05 - Data from GMWL (unverified)**

Bulky	Bolton	Bury	Manchester	Oldham	Rochdal	Salford	Stockport	Tameside	Trafford	Total
Household Bulky Waste	2416	987	14985	7734	2120	4016	2313	680	7691	42943
H/se Clearance Occupied		273			55	4	149	7	18	504
Free Tip	246	167	651	40	265	173	240	162		1943
Hse Clearance Unoccupied			1	245	104		72	11		432
pen Space recycling		49			341		91	32		513
⊙ Residents Clean Up		142	1769	5		16		29	15	1981
Street Cleaning Waste	5875	4442	8010	539	5213	4909	6141	1392	1711	38233
Gully Emptying			1945	746	300	1151	1055	769	1	5967
Open Space Maintenance		1285	11	6	3045	59	883	3	8	5300
FJy Tipped Waste (council	1468	1945	4310	776	1318	470	701	1868	116	12972
Flv Tipped Waste (private		2	10	241	100		103	40		497
α Fouled Recycling Banks					30			173		203
Fridge / Freezer Collection		234	652		82	9	44	33	49	1103
Dry Recyclables										
Kebside dry recyclables	8				243	128	97	24		501
Other dry recyclables						9		11		26
Green Waste Contaminated	30	126				9				165
Cullet rejected							233			233
⊙ Offices, shops and Traders	17144	6582	3729	6550	6	2815	19899	10025	3384	70133
Internal Council Waste		209		3147	156	104	1570	349		5535
Market Waste		939	14	769	3	112	130	416	91	2473
Property Maintenance		1805	3	4	228		284	6712		9036
Highway Maintenance		0	104		16		35		63	238
Manchester Commercial			41909							41909
	27187	19208	78102	20800	13632	13980	34044	22736	13148	242838

## Household Domestic

	Cat/code	Bolton	Bury	Manchester	Oldham	Rochdal	Salford	Stockport	Tameside	Trafford	Total
Household Weekly Waste <sup>2</sup>	0101	91128	56379	154771	70606	63687	83358	66448	70952	75143	732471
Education Establishment	0102		575	53	31				149		808
Hospital Collection	0103		445	14	252		923		292		1925
Nursing/Res Homes	0104		47						1		48
	Total	91128	57446	154837	70889	63687	84281	66448	71394	75143	735252

### Waste Collection Authority Recycling Activities

- 7.1.5 The quantities of municipal waste delivered to the Authority form the major element of the municipal waste stream. In order to complete the picture, the quantities of materials diverted upstream of normal collection need to be included. These quantities are confined to materials collected by the WCAs and third parties as part of established kerbside collection and bring systems for dry recyclables and green garden sourced wastes. These quantities are particularly relevant, given the continuing expansion of recycling and green waste diversion activities.

Table 7.1.B

	2002/03 Tonnes	2003/04 Tonnes	2004/05 Tonnes
WCA collected Upstream recycling etc.	57,000	90,000	132,000

- 7.1.5 The performance levels achieved by the Waste Collection Authorities can be represented as follows:-

Table 7.1.C

Material	2002/03 tes.	2003/04 tes.	2004/05 tes
Newspaper and magazines/Cardboard	36369	42214	46799
Ferrous/Aluminium cans	77	329	509
Textiles	514	719	499
Glass & Plastics	9304	12877	17082
Fridges & Freezers	1356	1446	2254
Other/Mixed	899	2361	23936
Green Waste	1640	22050	36106
<b>TOTAL</b>	<b>50159</b>	<b>81996</b>	<b>127185</b>

### Third Parties

- 7.1.6 The overall level of recycling performance relies upon continued activities of voluntary groups and organisations who are engaged in recycling and recovery of household waste. Their performance can be represented as follows:-

Table 7.1.D

Material	Actual Performance 2002/03 tes.	Actual Performance 2003/04 tes.	Target Performance 2004/05 tes.	Actual Performance 2004/05 tes	Target Performance 2005/06 tes
Newspapers and magazines	5280	4796	4800	2844	3000
Ferrous/ Aluminium cans	12	187	200	0	0
Textiles	1514	1837	2000	2307	2500
Glass & Plastics	470	488	500	0	0
Other	23	-		32	0
<b>TOTAL</b>	<b>7299</b>	<b>7308</b>	<b>7500</b>	<b>5183</b>	<b>5500</b>

- 7.1.8 In assuming that the overall performance of third party organisations would remain constant during 2004/05, it was highlighted that the further expansion of WCA kerbside services could have a bearing. This has been shown to be the case where quantities from paper collections have reduced and the level of recovery of textiles (currently excluded from WCA kerbside services) has not been affected.
- 7.1.9 The overall number of organisations registered under the recycling credits scheme remains fairly constant at 280. The Authority continues to pay disposal credits (@ £33.86 per tonne during 2005/06) to maintain support for third party activities.

## 7.2 Waste Composition

- 7.2.1 The municipal waste stream can be divided generally into the following main components:-
- WCA standard weekly collected household wastes, with some commercial and industrial wastes in the form of mixed collections;
  - WCA collected bulky household waste, including street cleansing wastes and fly tipped materials, with some commercial, industrial and other non-household wastes;
  - Household waste collected by WCA's (eg kerbside and bring site services) for reuse, recycling or composting and by voluntary groups and organisations for reuse or recycling; and
  - Civic amenity waste delivered by members of the public to civic amenity sites for reuse, recycling, composting or disposal.
- 7.2.2 Whilst the municipal waste stream comprises primarily of household-sourced wastes and materials, understanding the composition of the municipal waste stream is important. Any assumptions made regarding its composition will influence:-
- The outcome of capture rate analyses for targeted materials;
  - Selection of additional materials for reduction, reuse, recycling or composting;
  - Measures to increase the capture rate of targeted materials;
  - Promotion of participation etc via information campaigns; and
  - Selection of alternative collection/processing infrastructure for targeted materials.
- 7.2.3 More significantly, the composition of residual waste and material flows have a fundamental bearing on the provision of medium/long term waste management services under the PFI contract and a corresponding influence on LATS balances.

### *WCA Standard Collected Waste Stream*

- 7.2.4 This waste stream represents approx 52% of the total (2004/05).
- 7.2.5 A number of sources of compositional data are available for Greater Manchester:-
- Waste Strategy 2000 (WS20000) national 'average' waste composition
  - GM Waste Ltd estimates determined from national data and ACORN (see below) profiles for the Greater Manchester area
  - Hand sort analysis of samples of waste from Rochdale carried out by Emerge
  - Ecologika estimates based on the results for hand sort studies of waste in Lancashire
- 7.2.6 Work for GMWDA by consultants, Ecologika, in 2001 provides similar results to those obtained for the Rochdale area. A hand sort analysis of wheeled bin collected waste carried out in the Wirral also provides similar results to the Ecologika and Rochdale data.

WS2000 provides an average breakdown of the materials contained within UK municipal waste. The data vary primarily in terms of the estimates of the paper and putrescible fractions. The Ecologika analysis shows higher levels of putrescible waste and lower levels of paper than WS2000.

- 7.2.7 The average waste composition determined by Ecologika is summarised in Table G/1. This data was adopted in the 2004 MWMS and the PFI contract documentation during 2005/06. The Ecologika data was chosen as it had been tailored to be representative of a large urban conurbation and the methodology used was understood to provide a good reflection of household waste composition.

**Table 7.2.A : WDA Standard Collected Waste Composition**

	%
Paper	18.7
Card	6.3
Metals	9.0
Glass	3.6
Dense plastic	3.5
Plastic film	3.7
Textiles	2.5
Garden	16.9
Kitchen	22.5
Miscellaneous / Other	13.3
<b>TOTAL</b>	<b>100</b>

- 7.2.8 Accurate baseline data on waste composition is essential for the PFI procurement process and also the implementation of the MWMS. While the assumed waste composition data has been useful for developing the objectives of the MWMS, it does not represent the variations between and within individual authorities that influence waste composition eg social demographics, relative affluence etc. The Authority has recognised the limitations of the available data and with the benefit of Government funding, a full, year long, four season waste composition study has been commissioned.

- 7.2.9 The composition of household waste is known to vary in response to a number of socio-demographic parameters including affluence, lifestyles, proportion of houses with gardens etc. In order to capture the effect of these factors in the waste composition analysis, the sampling is based upon a system called A Classification of Residential Neighbourhoods (ACORN). This system classifies housing groups into five socio-demographic categories:-

1. Wealthy Executives
2. Urban Prosperity
3. Comfortably Off

4. Moderate Means
5. Hard Pressed

7.2.10 These groupings are subdivided into 56 sub groupings. The proportion of houses in Greater Manchester falling into each of the 56 categories has been identified. The total sample size is 300 houses and this is subdivided into the 56 categories according to the proportion of each category represented in Greater Manchester.

7.2.11 Samples are then collected by the WCA's during each sampling period for analysis to identify the proportion of materials falling into the following broad composition categories:-

- Paper
- Card
- Dense Plastic
- Plastic Film
- Textiles
- Ferrous Metal
- Non-ferrous Metal
- Glass
- Organic Catering
- Organic Non-Catering
- Electrical Goods
- Hazardous Materials
- Miscellaneous Combustibles
- Miscellaneous Non-Combustibles
- <10mm Fines

7.2.12 These 15 categories are further subdivided into sub categories, for example paper is subdivided further as follows:-

- Newspapers
- Magazines
- Other Recyclable Paper
- Other Non-Recyclable Paper

7.2.13 The analysis will be undertaken for the Spring, Summer, Autumn and Winter seasons of 2005/06. The cumulative data will then be used to derive an average composition that takes account of seasonal change and socio-demographic factors.

7.2.14 This information will be utilised in refining the modelling work for the MWMS, the PFI contract procurement and the development of future collection strategies by the WCA's.

#### *WCA Collected Bulky Waste Stream*

7.2.15 This waste stream represents approximately 17% of the total municipal waste (2004/05). Previous compositional analysis of the collected bulky waste stream has not been carried out. In order to provide an understanding of this stream, the waste authorities have decided initially to define the component parts by category and source. The primary objective has been to differentiate between the household and non-household waste arisings collected by the WCA's and to further identify the type and quantity of individual collected waste streams. The categories adopted in December 2003 are as follows:-

**Table: 6.7.B Waste Categorisation**

	Source
1	Household refuse collection
2	Educational establishment
3	Hospital
4	Nursing / Residential homes
5	Charity Institutions
6	Household bulky collection
7	Residents clean-up (community skips)
8	House clearance (occupied)
9	Fouled recycling banks
10	Fridge / Freezer collections
11	WEEE collections
12	Street cleansing / litter bins
13	Gully emptying
14	Kerbside dry recyclables
15	Other dry recyclables
16	Organic garden waste
17	House clearance (unoccupied)
18	Open space maintenance
19	Open space recycling
20	Offices, shops, traders etc
21	Internal Council waste (civic waste)
22	Market waste
23	Confidential waste
24	Condemned food
25	Fly tipped (adopted highway)
26	Fly tipped (private land)
27	Cement / asbestos collections
28	Property maintenance
29	Highway maintenance

6.2.16 Data is now being compiled under these categories which will be used to support initiatives to identify those elements that can be reused, recycled or composted and to help to ensure that the level of biodegradable household waste that is sent to landfill can be readily identified (for compliance with Landfill Directive requirements). Table represents a summary of bulky collected waste by category for 2004/05.

6.2.17 In order to support this initiative, and with Government funding assistance, a composition analysis of parts of the bulky waste stream was commissioned during 2005. Five of the nine WCA's participated directly and the analysis focused on the following categories:-

- Group 6 - Bulky household waste
- Group 7 - Community skips
- Group 12 - Street cleansing / litter

- Group 13 - Gully waste
- Group 20 - Commercial waste
- Group 21 - Civic waste
- Group 25/26 - Fly tipped waste

A brief summary of the findings of the study is set out below.

#### *Bulky Household Waste*

- 6.2.18 Approx 50% of this waste stream was found to be theoretically recyclable while approx 25% was potentially reusable (ie predominantly furniture and white goods). There was considerable variation in reusability and composition within the samples analysed and the composition set out in the table below should be treated as indicative only.

**Table 7.2.C: Bulky Household Waste Composition**

	%
Hard furniture	16
Soft furniture	30
Small household appliances	5
White goods	10
Bathroom items	1
Garden furnishings	4
Garden waste	5
Bulk material loads	10
Floor coverings	5
Other items	12
Mixed domestic refuse	2

#### *Community Skip Waste*

- 7.2.19 This waste stream contained a high degree of variation, according to area and the level of trade waste abuse.
- 7.2.20 The composition was complex, although some items had the potential to be recycled. The overall proportion of this stream is low and the compositional analysis obtained could not be commended.

#### *Street Cleansing / Litter Waste*

- 7.2.21 Litter bin and street sweeping waste have similarities in composition with the most dominant fractions being paper and plastics. Fast food and general putrescible waste also featured highly, with the remainder being composed of beverage and food cans, smoking-related wastes as well as a degree of leaf matter. Approximately 50% of the waste stream could be deemed commonly recyclable, signified by an abundance of newspapers and magazines, plastic bottles, glass bottles and beverage cans. There was likely to be a high degree of variation associated with the botanical component, depending upon leaf fall. However, the overall composition data for street cleansing waste was robust and could be used with relative confidence.

**Table 7.2.D : Overall Composition of Street Cleansing Waste**

	%
Botanical	7
Food	15
Paper	18
Cardboard	5
Glass	9
Plastics	20
Ferrous metals	6
Smoking related waste	2
Fast food related waste	9
Miscellaneous	8
Fine elements (<20mm)	1

*Fly Tipped Waste*

- 7.2.22 Fly tipped waste was the most varied of all the waste streams. Some samples were dominated by a specific material such as building rubble while others were composed predominantly of bagged domestic refuse. Much of the waste sampled appeared to be from domestic sources.
- 7.2.23 While many items had the potential to be recycled, it was difficult to predict an actual recyclable content for this waste stream due to its extreme variability. The study concluded that trying to profile an overall composition for fly tipped waste was very difficult based on such limited numbers of samples.

*Civic Waste*

- 7.2.24 Information on the size of the civic waste stream was limited. This was due to the fact that, as a general rule, civic waste is co-collected with other waste streams such as commercial waste. Based on the data available, civic waste typically reflected the content of waste emanating from an office environment. Approximately 55% was recyclable with paper, putrescible, cardboard and plastics occupying a sizeable proportion of the waste stream.

**Table 7.2.E : Composition of Civic Waste**

	%
Paper	43.5
Cardboard	12.6
Glass	2.1
Plastics	11.1
Ferrous metals	2.2
Putrescible	19.6
Office furniture / racking	0.6
Miscellaneous combustible	5.4
Miscellaneous non-combustible	1.4
Hazardous	0.5
WEEE	Nominal
Fine elements (<20mm)	0.8

*Gully Waste*

7.2.25 No compositional analysis was undertaken on gully waste. Instead a desk top review revealed that this waste stream exhibited a similar seasonal profile to street cleansing waste, with higher waste generation in the autumn when leaf fall was at its highest. All gully waste was collected by means of gully tanker and most WCA's delivered it to facilities where it was drained prior to disposal.

*Commercial Waste*

7.2.26 Commercial waste was the largest of the non-household waste streams. Due to the vast number of sources, commercial waste has the potential to be hard to predict. For the purposes of the study, commercial waste was collected from three primary sources; hospitality (cafes, bars and restaurants), retail and office sectors. Collectively, paper, putrescible, cardboard and plastics amounted to over half of the waste analysed.

7.2.27 Just under half of the waste stream could quite feasibly be recovered through the source separation of dry recyclable and the kitchen compostable fractions of the waste. However, in most cases, the paper was non-recyclable, often due to contamination from the putrescible fraction. Both cardboard and plastic film were present in the form of primary and transit packaging. In terms of robustness, the highest level of consistency was associated with the plastics, paper, miscellaneous combustible and putrescible fractions while the lowest degree of consistency was centred on glass, office furniture and WEEE.

**Table 7.2.F : Composition of Commercial Waste**

	%
Paper	24
Cardboard	15
Glass	1
Plastics	16
Ferrous metals	2
Putrescible	24
Office furniture / racking	1
Miscellaneous combustible	5
Miscellaneous non-combustible	4
Hazardous	2
WEEE	2
Fine elements (<20mm)	4

*Overall Analysis*

7.2.28 Overall the compositional analysis has provided an insight into a series of waste streams about which little was known. This is not a problem specific to Greater Manchester but one reflected throughout the UK. The results from the study, in terms of both compositional analysis and the degree of potential reuse, recycling or composting, should be treated as indicative only due to the variance associated with particular waste streams and the absence of seasonal influence. More confidence is associated with the street cleansing waste stream while less robustness is attributed to the more volatile bulkier waste streams, namely fly tipped and community skip waste. These wastes, in particular, are very unpredictable and vary enormously, depending primarily on the location and source. This has an impact on the possible treatment and disposal of such wastes. In particular, facilities will have to be designed to accommodate both bulky and non-bulky materials with the possibility of recovering non-conventional materials and items that can either be recycled, composted or possibly stabilised prior to disposal to landfill.

*'Upstream' Collection of Dry Recyclables and Green Waste*

7.2.29 The WCA's and the voluntary/community sectors are increasingly involved in the 'upstream' separate collection of dry recyclables and green waste. This material is generally sourced from the household waste stream and forms part of the municipal waste stream. It is collected primarily either at the kerbside/doorstep or via bring facilities. This waste stream represents approx 9% of the total (2004/05).

7.2.30 The range of materials collected comprise the following categories:-

WCA's / Commercial Organisations / Voluntary and Community Groups

- Newspapers and magazines

- Ferrous / Aluminium cans
- Textiles
- Glass
- Plastics
- Other / mixed items

WCA's

Green garden waste

#### *Civic Amenity Waste Stream*

7.2.31 The composition of the CA waste stream is different to household collected waste, showing a lower proportion of dry recyclables and a higher proportion of scrap metal and garden waste. The GMWDA has not undertaken any compositional analysis of CA site waste. Therefore the composition of this waste stream has been estimated based on survey work undertaken for the National Assessment of Civic Amenity Sites (2004). This waste stream represents approx 22% of the total (2004/05).

7.2.32 The estimated overall CA waste composition is shown in Table 6.26, together with feasible capture rates. There are shortcomings with the adoption of a 'national picture' applied to a mainly urban conurbation like Greater Manchester. However, in the absence of more definitive data, it provides a sufficiently sound indication upon which to base projections. The robustness of this assumption is also borne out by the recycling and composting levels achieved by the best performing WCA's in other mainly urban areas (eg Nottinghamshire). However, it must be acknowledged that there are some doubts about the contribution that the recovery of green waste can make towards the overall recycling/composting performance. There is only limited experience to date of the impact that the separate WCA green waste collection services is having upon the quantities of green waste deposited at the CA sites. Local sampling is likely to be required to confirm the impact that the planned expansion of kerbside collection services for dry recyclables and green waste is having on the composition of the CA waste stream.

**Table 7.2.G : CA Waste Composition and 'Feasible' Capture Rates**

			Contribution to CA Recycling (BVPI)
Green waste	24.6%	98%	27.8
Paper & Card	5.4%	85%	5.5 (3.6/1.8)
Timber	9.3%	66.7%	7.4
Furniture	4.0%	25%	0
Carpets	4.0%	25%	0
Metal	5.8%	95%	6.6
Electrical	3.1%	90%	3.3
Glass	1.9%	85%	1.9
Plastics	1.9%	50%	1.1
Textiles	1.9%	40%	0.9

Hazardous*	0.9%	80%	0.8
Inert	16.7%	95%	N/A
DIY & Fittings	8.9%	15%	0
Bagged Waste	6.5%	0%	0
Miscellaneous	5.0%	15%	0
BVPI RECYCLING RATE, excluding separated inert waste, 55.0% (2019/20 target)			

\*Hazardous: Batteries, Oil

## 8. Forward Projections

### 8.1 Introduction

8.1.1 Section 6 of this Baseline Report provides detailed information on waste arisings, composition and material captured. In this section this baseline information is used to forecast future arisings of municipal solid waste (MSW) over the MWMS period with a view to understanding what may happen in the future to waste types and quantities.

8.1.2 Forecasts of waste arisings are used to:

- Predict infrastructure requirements;
- Underpin the consideration of recycling and recovery targets, and what strategies might be pursued in respect of LATS (purchases, sales, banking and borrowing of allowances);
- Highlight the importance of, and the need for, waste minimisation; and
- Highlight the potential for variation in outcomes with estimated growth rates.

8.1.3 The forecasts include projection of what may happen in the future:

- in the absence of further interventions;
- taking into account interventions already planned; and
- through the implementation of options that may be required to meet MWMS waste management objectives, targets

8.1.4 A starting point for this analysis is an examination of historic trends in waste arisings. The key objective of this analysis is to seek to explain the sources of change, and the reasons for both change and movement across waste sub-categories.

8.1.4 The 2004 GMMWMS give waste reduction and minimisation the highest priority. The target is to arrest the increases in MSW arisings to no more than 2% per annum by 2010 and zero by 2020. The targets in this strategy were based on the municipal waste arisings for 2002/3 as the base year. Monitoring this target has revealed a reduction of almost 1% to year 2003/4 and a further fall of over 4% to year ending 2004/5.

8.1.5 It is recognised that the conventional approach to forecasting waste at a steady growth rate reflects the limits of understanding of the underlying factors influence waste growth. Whilst it is not statistically robust to make forward projections for twenty years or so, on the basis of even ten years' data, the MWMS must include such forward projection with the caveat of uncertainty about the long term implications of these projections. This

section analyses the factors underlying these trends and changes including those influences which are significant in predicting waste forecasts.

**8.2 Municipal and Household Waste Historic Trends**

8.2.1 The majority of municipal waste is collected from households (approx. 60%) with 20% collected through CA sites with the remaining 20% consisting of trade and bulky waste collections.

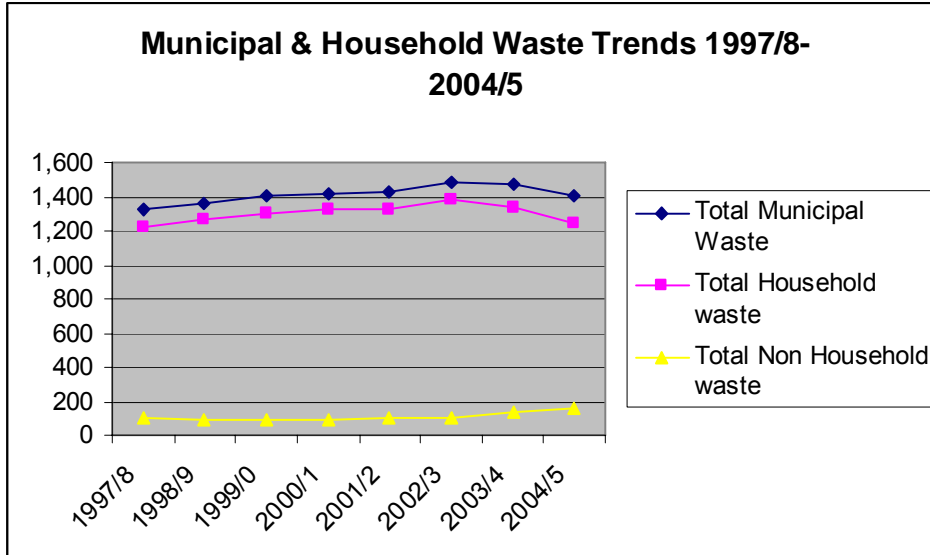
8.2.2 Municipal and household waste arisings for years 1997/8 to 2004/5 are given in table 7.2.A and plotted in chart 7.2.A.

**Table 8.2.A Municipal and Household Waste Arisings 1997-2005**

								2004/5
Household waste	1,223	1,267	1,305	1,328	1,331	1,386	1,334	1,247
Non Household waste	102	95	97	93	100	98	136	160
Municipal Waste	1,325	1,362	1,402	1,421	1,431	1,484	1,470	1,407

8.2.3 Whilst the trend in appeared to be that of a steady increase on municipal waste arisings up to 2002/3 the totals for both household and municipal waste then begin to fall in years 2003/4 and in 2004/5. This shows a 3.75% reduction to 2002/3 and 6.5% reduction to 2004/5 in household waste whilst the total for municipal waste has fallen by 1% and 4.5% respectively. These trends are illustrated in graph format in Chart 7.A below.

Chart 8.2.A



8.2.4 In order to gain an understanding of where and why these change in particular the waste reductions seen in recent years which appear to go against national trends and forecasts it is necessary to examine the component waste sub-streams that make up the total of municipal waste.

8.2.5 Whilst it is desirable to carry out analysis of past year-on-year changes through sub-stream analysis, it must be recognised that there are limitations on understanding the full picture due the inadequacies and inconsistencies of historic data recording and capture.

8.2.6 Table 7.2.B sets out the sub-stream totals for weekly collected household waste, WCA and other upstream recycled waste, WCA collected and bulky other waste (including in early years commercial waste), WCA collected commercial waste and HWRC waste.

**Table 8.2.B Municipal Waste Main Sub-Streams 2000-2005**

Waste Stream (tonnes '000)	Total Municipal Waste	Total Household Waste	Weekly Collected Household	WCA/ Upstream Recycled waste	WCA Recycled & Residual	WCA Collected Bulky & other	WCA collected commercial & fly-tipped	HWRC waste
2000/1	1,421	1,328	846	45	891	254		276
2001/2	1,441	1,331	828	51	879	256		306
2002/3	1,484	1,386	806	57	863	195	98	328
2003/4	1,470	1,334	778	90	868	152	136	314
2004/5	1,407	1,247	735	132	867	71	161	308

8.2.7 Table 8.2.B indicates there has been a decline in collected residual household waste, whilst the total collected household waste stream has remained at a very consistent level over the final three recorded years. There have been increases in the quantities taken to Household Waste Recycling Centres but a decrease in the quantity recorded as bulky waste but an increase in the recorded levels of WCA collected commercial and fly-tipped waste.

8.2.8 The reduction achieved during 2003/04 and carried forward through 2004/05 runs counter to the historic pattern of growth in municipal waste arisings experienced across the GMWDA area. As far as the main components of the waste stream are concerned, there has been a continued reduction in the quantity of weekly collected household waste delivered by the WCAs. This is principally as a result of the expansion of kerbside collection services for dry recyclables and the introduction in some areas of services for the separate collection of green garden waste. This reduction has been complemented by a 16.3% reduction in bulky collected household and other waste.

8.2.9 It is clear that the initiatives and investment put in place during 2003/04 to target the recycling and composting of materials deposited at civic amenity sites, to divert other materials from disposal by landfill and to intercept and divert trade waste have proved successful. The overall variations are shown below:-

**Table 8.2.C Variations in Municipal Waste Arisings Delivered to the Authority 2000/01-2005/06**

	District Collections		Civic Amenity Sites		Total	
	Tonnes 000's	% Change	Tonnes 000's	% Change	Tonnes 000's	% Change
2000/01 Actual	1104	+0.7	276	+4.2	1380	+1.4
2001/02 Actual	1084	-1.8	306	+10.9	1390	+0.7
2002/03 Actual	1099	+1.4	328	+7.0	1427	+2.7
2003/04 Actual	1066	-3.0	314	-4.3	1380	-3.3
2004/05 Actual	967	-9.3	308	-1.9	1275	-7.6
2005/06 Forecast	940	-2.8	308	0.0	1248	-2.1

8.2.10 The variations in household waste arisings can also be shown as kilograms per head per annum and as kilograms per household.

**Table 8.2.D Kg of Household Waste Collected per Capita and per Household (Performance Indicator BV 84a)**

				2004 /05
Total Household Waste K tes	1331	1386	1334	1247
Population K	2180	2180	2180	2180
Kg of Household Waste Collected/Head	610	635	612	572
% Change	0.7	+4.0	-3.6	-6.5
Households K	913	948	948	948
Kg Household Waste Collected/ Household	1458	1462	1407	1315
% Change	0.9	0.3	-3.7	-6.3

### 8.3 Household waste collected by the waste collection authority (WCA).

- 8.3.1 An examination of changes in waste arisings over time for each of the WACs in Greater Manchester reveals a more complex pattern of change. There is little available historic data on waste sub-streams; however a study carried out on behalf of the WDA does provide a limited sub-stream analysis for year 2000/1. This can be reasonably well compared with more recent data.
- 8.3.2 The Tables 7.3.A-C below provide a comparison of waste arisings by WCA between years 2000/1 and the most recent data for year 2004/5. Table 7.3.A shows Household Waste arisings by WCA 2000/1 and percentage change in main sub-streams to 2004/5. Table 7.3.B shows Household Waste arisings by WCA 2004/5 and sub-category and overall percentage change since 2001/2. Table 7.3.C shows Household Waste Arisings by WCA 2000/1 to 2004/5 by sub stream and percentage change by sub-stream
- 8.3.3 Whilst only a small decline in total municipal waste arisings (1.3%) over the span of the 4 year period is recorded there are significant variations between WCAs and waste sub-streams.
- 8.3.4 Bolton, Salford and Bury have seen significant growth in total municipal waste of 9%, 10% and 17% respectively. On the other hand Manchester City and Stockport record reductions of 10% and 17% in waste arisings.
- 8.3.5 The waste sub-stream with the greatest level of change is that of “bulky waste” including commercial waste and other waste (street sweepings and fly-tipped)”. This category of waste shows a very high level of variation between the two benchmark years. Salford, Bury and Stockport show increases of 40%, 46% and 88% respectively whilst Manchester and Trafford report falls of 25% and 71%. The changes in recorded bulky waste quantities is understood to be due to changes in the recording and collection of commercial or trade waste, together with changes to the charging and collection regimes for bulky waste direct from households.
- 8.3.6 Probing into the historic patterns of collection of commercial waste is complicated in that commercial waste is collected through both bulky waste and household waste collection

- streams. Specific commercial waste collections are classified under “bulky waste”, but commercial waste has also been collected as part of the general door to door waste collection service.
- 8.3.7 Any changes in commercial waste collection policy, charging regimes and local demand together with any alterations to the methodology for recording can produce significant differences year on year and between authorities. This is reflected in the wide variation seen in the reported figures. In particular step changes are seen in the reporting of commercial and fly-tipped waste arisings over year 2002/3, 2003/4 and 2004/5. The changes to waste arisings in the bulky waste classification can only be attributed to structural changes. There is no clear evidence of actual waste reduction through minimisation.
- 8.3.8 The introduction of source segregated collection of recyclables (and green waste) at kerbside has had a notable impact on residual waste arisings. Whilst the collection of recyclate has increased dramatically, this reflects a historically low level of recycling across almost the whole of Greater Manchester.
- 8.3.9 In reviewing the gross household waste arising captured by the collection system, the recycling and green waste collection must be taken into account. When added together the total collected household waste does appear to be more consistent in year by year arisings. Four WCAs record less than 2% variation between 2000/1 and 2004/5. Only Bolton +6% and Salford +4% show any increase over this period, whilst the remaining authorities show reductions of -4% Tameside, -6% Stockport and -8% Manchester City.
- 8.3.10 On aggregate over the combined totals for Greater Manchester kerbside household Waste arisings have remained at very consistent levels over the last three years; the variance being only 0.5%.

Table 8.A

**Household Waste arisings by WCA 2000/1 and percentage change in main sub-streams to 2004/5**

	Household Collection	Upstream recycled	Doorstep+ Recycled	Bulky (inc commercial)	HWRCs
2001 BOLTON	93447	6438	100000	26413	25700
2001 BURY	68054	3462	72000	13150	20741
2001 MANCHESTER	195231	5202	200000	90719	48414
OLDHAM	77852	3822	81000	17773	12916
ROCHDALE	70065	2558	72000	14856	20436
2001 SALFORD	87667	4282	92000	10206	23617
2001 STOCKPORT	92508	11217	103000	18025	60749
2001 TAMESIDE	80727	5767	86000	18110	24083
2001 TRAFFORD	82312	3641	86000	45610	39288
2001 Totals	847863	46389	892000	254862	275944
2005 totals	735191	141000	873000	231457	307741
% Change	<b>-13%</b>	<b>+200%</b>	<b>-2%</b>	<b>-9%</b>	<b>+11%</b>

Table 8.B

**Household Waste arisings by WCA 2004/5 and sub-category and overall percentage change since 2001/2**

	Household Collected	Upstream recycled	Doorstep+ Recycled	Bulky (Inc Comm'l)	Clinical	HWRCs	Green Waste	Recycled	Rubble	TOTAL 2004/5	Plus Upstream Recycled	2000/ 1 House	%change since 2000/1
BOLTON	91015	15000	106000	27314	3	24919	1807	2966	3349	151373	166,000	152007	<b>+9%</b>
BURY	57446	14000	71000	19275	NIL	18407	2133	2942	4714	104917	123000	105630	<b>+17%</b>
MANCHESTER	154828	30000	184000	66268	60	34853	3393	5851	8400	273653	303000	339612	<b>-10%</b>
OLDHAM	70889	10000	81000	20834	NIL	14397	675	1790	1468	110053	120000	112363	<b>+7%</b>
ROCHDALE	63688	9000	72000	13644	6	18773	2625	3499	2677	104912	114000	108035	<b>+5%</b>
SALFORD	84314	12000	96000	14113	12	17376	2829	4312	4923	127879	139000	126001	<b>+10%</b>
STOCKPORT	66484	31000	97000	34079	220	33545	3542	5863	3426	147157	178000	182688	<b>-2%</b>
TAMESIDE	71384	11000	82000	22775	170	20615	1172	3290	3797	123202	134000	128871	<b>+6%</b>
TRAFFORD	75143	9000	84000	13155	107	30747	5384	3433	3849	131818	141000	171009	<b>-17%</b>
Totals	735191	141000	873000	231457	578	213632					1,407,000	1426216	<b>-1.3%</b>

Table 8.C

## Household Waste Arisings by WCA 2000/1 to 2004/5 by sub stream and percentage change by sub-stream

	Household collected	Upstream	Doorstep+ Recycled	Bulky (Inc Comm'l)	Clinical	HWRCs	Green Waste	Recycled	Rubble	Total 2004/5	Plus Upstream Recycled	2000/ 1 House	%change 2000/1
BOLTON	91015	15000	106000	27314	3	24919	1807	2966	3349	151373	166,000	152007	<b>+9%</b>
2001	93447	6438	100000	26413		25700							
	<b>-2%</b>	<b>+130%</b>	<b>+6%</b>	<b>+4%</b>				<b>+27%</b>					
BURY	57446	14000	71000	19275	NIL	18407	2133	2942	4714	104917	123000	105630	<b>+17%</b>
2001	68054	3462	72000	13150		20741							
	<b>-16%</b>	<b>+304%</b>	<b>-1%</b>	<b>+46%</b>				<b>+33%</b>					
MANCHESTER	154828	30000	184000	66268	60	34853	3393	5851	8400	273653	303000	339612	<b>-10%</b>
2001	195231	5202	200000	90719		48414							
	<b>-20%</b>	<b>+576%</b>	<b>-8%</b>	<b>-27%</b>				<b>+8%</b>					
OLDHAM	70889	10000	81000	20834	NIL	14397	675	1790	1468	110053	120000	112363	<b>+7%</b>
2001	77852	3822	81000	17773		12916							
	<b>-9%</b>	<b>+163%</b>	<b>0</b>	<b>+16%</b>				<b>+38%</b>					
ROCHDALE	63688	9000	72000	13644	6	18773	2625	3499	2677	104912	114000	108035	<b>+5%</b>
2001	70065	2558	72000	14856		20436							
	<b>-9%</b>	<b>+300</b>	<b>0</b>	<b>-5%</b>				<b>-34%</b>					
SALFORD	84314	12000	96000	14113	12	17376	2829	4312	4923	127879	139000	126001	<b>+10%</b>
2001	87667	4282	92000	10206		23617							
	<b>-4.5%</b>	<b>+180%</b>	<b>+4%</b>	<b>+40%</b>				<b>-25%</b>					
STOCKPORT	66484	31000	97000	34079	220	33545	3542	5863	3426	147157	178000	182688	<b>-2%</b>
2001	92508	11217	103000	18025		60749							
	<b>-28%</b>	<b>+276%</b>	<b>-6%</b>	<b>+88%</b>				<b>-23%</b>					
TAMESIDE	71384	11000	82000	22775	170	20615	1172	3290	3797	123202	134000	128871	<b>+6%</b>
2001	80727	5767	86000	18110		24083							
	<b>-12%</b>	<b>+120%</b>	<b>-4%</b>	<b>+25%</b>				<b>+20%</b>					
TRAFFORD	75143	9000	84000	13155	107	30747	5384	3433	3849	131818	141000	171009	<b>-17%</b>
2001	82312	3641	86000	45610		39288							
	<b>-8%</b>	<b>147%</b>	<b>-2%</b>	<b>-71%</b>				<b>+10%</b>					
										<b>1,274,961</b>			
											<b>Plus Upstream recycling</b>		
										<b>132,000</b>			
										<b>1,407,000</b>			



## 8.4 Household Waste Recycling Centres (HWRCs)

- 8.4.1 Whilst quantities had increased up to 2002/3, the overall quantities of materials delivered by members of the public have fallen from this point and have continued to show no tendency to increase in the current year 2005/6. It is clear that the initiatives and investment put in place during 2003/04 to target the recycling and composting of materials deposited at civic amenity sites, to divert other materials from disposal by landfill and to intercept and divert trade waste have proved successful. There are thus no indications that increasing recycling and in particular the encouragement of segregation of green waste for composting has caused any significant rise in overall waste throughput at the HWRCs.

## 8.5 Factors Influencing Waste Growth

### *Demographic Change*

- 8.5.1 Census returns indicate that the population of Greater Manchester is in slow decline. Whilst the strategy of AGMA is to stabilise the population levels at those of 2002, socio-economic information indicates that this trend is likely to persist at least in the medium term and that there is little risk of any significant population growth impacting on waste arisings projections.

### *Changes to Housing Stock*

- 8.5.2 Whilst constituent authorities in the Greater Manchester area report new housing stock increases, these do not reflect population increase. These reports must be taken against a background of high levels of unoccupied housing in the most deprived areas, which are found in almost all of the Greater Manchester authorities as well as in the light of urban renewal projects replacing inadequate habitations.
- 8.5.3 The 2001 census also report a relatively high level of single occupancy habitations. Whilst this trend is likely to continue, it remains a matter of conjecture whether this trend will have an impact on total waste arisings. An example of this is the recent rapid increase in loft apartments, in single occupancy in the centre of Manchester. These have had no observable impact on the overall household waste in Manchester City, although the number change may be too small to produce an observable impact against larger scale structural changes to the waste collection systems. Diseconomies of economies of scale in single households may be offset by lifestyles which are focused away from the home residence.
- 8.5.4 Changes to the number and composition of housing in Greater Manchester will be a significant factor to monitor and report on throughout the implementation of the strategy in order to monitor the potential impact of any ongoing change in this factor.

### *Economic growth*

- 8.5.5 The strongest correlation for growth in waste quantities when observed at a national level is the correlation with economic growth (often expressed as GDP). The observed growth in municipal waste at a national level in recent years in the order of 2-3% correlates well with growth in GDP.
- 8.5.6 Research over recent years has also established a clear link between affluence and waste production and given the fact that Greater Manchester has relatively high average indices of multiple deprivation score, it would be logical to assume that Greater Manchester's waste arisings would fall below the national average. However, in comparative terms household waste arisings (572 Kg. per head of population) in Greater Manchester are over 10% higher than the national average (518 Kg.) and thus significantly higher than would be expected.
- 8.5.7 A number of factors may be involved. Urban areas in the north of England tend to have slightly higher waste arisings than their rural counterparts, which may have a distorting affect on the national average. Also, it has been shown by various research projects that the use of wheeled bins for refuse collection can cause waste arisings to increase, in some cases dramatically. As most households in Greater Manchester have wheeled bins, this may be a contributory factor, but is not likely to be that significant as a large proportion of English councils now also use wheeled bins. There also remains a

significant possibility that commercial waste is continuing to enter the household waste stream through WCA collections as well as through HWRCs despite the non acceptance policies given the difficulties of enforcement.

- 8.5.8 The relative levels of waste generation per capita therefore are high when considered against a background of relative economic deprivation. This benchmark therefore indicates that there may be structural reasons for the differences as well as socio-economic and geographic factors which should be expected to be the primary influence.
- 8.5.9 In considering the impact of economic growth on waste arisings the relative economic deprivation within the Greater Manchester area must be taken into account. This suggests that waste arisings growth would be lower than the national average.

#### *Waste reduction*

- 8.5.10 It is noted that producer responsibility legislation and national initiatives to minimise waste arising could be influential in limiting the linkage growth of waste arisings and economic development. This is both a national and European policy objective.
- 8.5.11 The MWMS strategy will contain initiatives to reduce the growth in waste arisings and to reduce the overall level of waste arisings. At a national level there is as yet little evidence of widespread success in the implementation of waste minimisation campaigns. However, there is undoubted potential for waste reduction through a wide range of techniques and by focusing in detail not only on reducing waste collected at the kerbside but by focusing in detail on all of the waste sub streams that make up the total of municipal waste.

#### *Commercial Municipal Waste Collection*

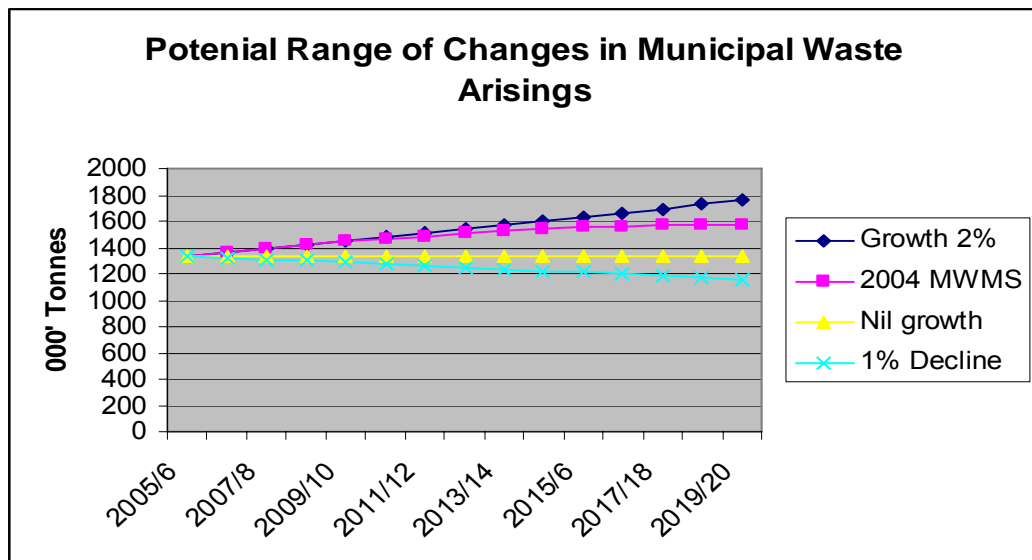
- 8.5.12 The Environment Agency's most recent survey of Commercial and Industrial waste indicated that in the North West region commercial waste has risen by 3% over a period of 4 years since the previous survey was completed. The rise has occurred almost entirely within the retail and wholesale sectors. It is these sectors, in particular retail, which are the principle components of commercial waste collected by WCAs.
- 8.5.13 The changing costs of commercial waste collection should be born in mind. WCA commercial waste collection services may become uncompetitive, if charges for commercial waste are set at a level that reflects rising costs of municipal waste disposal in future years. Private waste contractors will not be so constrained by municipal waste landfill allowances and may be able to offer cheaper collection and disposal. It must also be considered that much of the commercial waste currently produced could be diverted for recycling through private sector services and thus would no longer be considered within the municipal waste stream.

### 8.6 **Summary of Factors Influencing Changes in Waste Arising**

- 8.6.1 The analysis given above indicates that for the purpose of developing waste forecasts the influential factors will include:
- A probable continued decline in population is likely to have the impact of a small reduction in waste arisings
  - Changes in housing stock are unlikely to have a significant impact on overall waste arisings in the short to medium term but may be significant on a local scale for individual WCAs.
  - Economic growth is likely to increase municipal waste arisings; however the impact on waste arisings may be lower than that seen at a national level.
  - An increasing focus on waste reduction should impact in reducing waste growth rates.
  - Cost increases and resulting incentives for increased recycling of commercial waste should reduce the quantities of these wastes managed through the municipal waste stream and should offset continued growth in the wholesale and retail sectors.

### 8.7 **Future projections of waste growth**

- 8.7.1 The factors considered above suggest that there are no strong drivers for growth in municipal waste arisings. However, benchmarking of waste arisings against the national average indicates that whilst there have been structural changes largely affecting bulky and commercial waste, additional structural changes may still be possible which could introduce step change into the baseline. However, in the absence of detailed information on how these step changes could be identified and implemented, the forecast produced in this strategy review will be based on 2004/5 year as baseline waste arisings level, without step change.
- 8.7.2 The analysis given above indicates that the maximum level of increase that could be expected would be an increase in line with growth in GDP. However, the probability is that this will be slightly less than the national figure. Therefore a forecast based on the current waste strategy targets (2% per annum by 2010 and zero by 2020) but based on year 2004/5 could be indicative of a realistic projection. It can also be reasoned that the factors for growth and reduction are well balanced, given the uncertainties, and that a forecast of no overall growth can be modelled as a well founded projection. A combination of factors which contribute to waste reduction should also be incorporated into the sensitivity analysis in the medium term as the evidence suggests that there is a greater risk of the 2004 MWMS projection being too high rather than too low (Waste forecasts made in 2002 for the year 2004/5 were 12% higher than the actual total). The waste forecasts given below are therefore based on:
- 2% per annum increase by 2010 and zero by 2020
  - Waste growth in accordance with 2004 MWMS (baseline reset at 2004/5 actual performance)
  - No overall growth
  - 1% decrease until 2010 and then no overall reduction of growth
- 8.7.3 The chart below set the changes in municipal waste arisings to 2020 under each of these growth scenarios. Forward projection of how the waste will be managed (collected, recycled, composted, treated and otherwise diverted from landfill is given in section 8 considering the implications of LATs



- 8.7.4 The chart above indicates that changes in the projected change in waste arisings can produce a very wide variation over time. Even a 3 percent divergence would result in 50% more waste in the case of a two percent rise over a 1% fall. In practice the growth curve will not be smooth. There is some evidence that variation between years on the basis of weather may be significant year on year although this factor should not affect long term trends.
- 7.7.5 On the basis of the trend analysis and the underlying influences discussed indicate that it would be prudent to plan for a low growth rate in the order of 1% as a underlying long term trend but with system flexibility to manage waste at slightly higher or lower rates of change. However benchmarks indicate that municipal waste arisings per head of population are over 10% higher than the national average whilst socio-economic conditions indicate that this should be lower than the national average. There may be possibilities of further structural change in waste arisings which may vary from district to district when the underlying reasons for these variances are clarified.

## **9. 'Business as Usual' LATS Position**

### **9.1 Introduction**

- 9.1.1 Making use of the forward projection in the business as usual case, it is suggested also that the Baseline Report concludes with an analysis of the LATS balances projected for future years taking into account the existing levels of performance, and the likely levels of performance which would derive from implementing the initiatives already in the pipeline. This is effectively the first step in preparing a strategy for managing obligations under the LATS.

### **9.2 Landfill Directive**

- 9.2.1 The EU Landfill Directive requires all member states to significantly reduce the amount of biodegradable municipal waste (BMW) being sent to landfill. When wastes biodegrade in landfill sites they emit methane, a potent greenhouse gas. One of the objectives of the Landfill Directive is to reduce the contribution made by landfills to global climate change.
- 9.2.2 Under the Directive, targets have been set for the UK to reduce the amount of BMW going to landfill, as follows:-
- By 2010 to reduce the amount of BMW going to landfill to 75% of that produced in 1995;  
By 2013 to reduce the amount of BMW going to landfill to 50% of the 1995 figure;  
By 2020 to reduce the amount of BMW going to landfill to 35% of the 1995 figure
- 9.2.2 These targets are mandatory; failure to meet them will almost certainly mean the UK is infracted with subsequent fines from the European Court of Justice.

### **9.3 Landfill Allowances and the Trading Scheme**

- 9.3.1 The Landfill Allowance Trading Scheme (or "LATS") is the instrument that has been set up to regulate and monitor compliance with the Landfill Directive obligations in England. Legislation provides for a scheme of allowances for permitted quantities of BMW that can be landfilled. The scheme started in 2005/06 and allocates a landfill allowance for each WDA for each year of the scheme until 2020. WDA's are under a duty to ensure that the amount of BMW sent to landfill by them in any particular scheme year does not exceed the amount authorised by the landfill allowances available to them for that year.
- 9.3.2 Details of the allocation of allowances to GMWDA for the first five years of the scheme and for the two later target years are set out in the table below.

**Table 9.3.A: Landfill Allowances**

	LATS Allowances Allocated as Bio-degradable content tonnes
2004/05	-
2005/06	820,739
2006/07	776,832
2007/08	718,289
2008/09	645,111
2009/10 Target	557,297
2012/13 Target	371,200
2019/20 Target	259,740

- 9.3.3 Each WDA can determine how to use its allocation of allowances in the most effective way for itself. It can save unused allowances for use in later years (banking) or it can use up to 5% of its future year's allocation in advance (borrowing), subject to restrictions. Additionally allowances can be traded with other WDA's. A WDA with surplus allowances may choose to sell rather than bank its surplus or conversely a WDA with a shortfall will be able to buy allowances to meet its requirements.
- 9.3.4 There are three "Target Years" under LATS for which the total amount of allowances is fixed and which cannot be affected by banking or borrowing into or from other years. The only way a WDA can adjust its allowances in a "Target Year" is by trading in that year's allowances with another WDA. The "Target Years" are 2009/10, 2012/13 and 2019/20.
- 9.3.5 A WDA that landfills more BMW than it has allowances for (whether allocated, borrowed or bought) will suffer penalties of £150 per tonne on the excess effective from 2005/06 plus potential additional financial penalties in future years.

#### 9.4 Overarching Principles for GMWDA

- 9.4.1 The basic strategy of the GMWDA is to ensure that it meets its allocated allowances in each year without having to resort to buying additional allowances in the market. In order to achieve this it will be necessary to:-
- ensure each WCA and the GMWDA achieves the MWMS recycling targets of 20% for 2005/06, 33% for 2009/10 and 50% for 2019/20;
  - invest in new residual waste treatment facilities to maximise diversion of BMW;
  - invest in new recycling and composting facilities to support WCA collection systems where the WCA requires the GMWDA to provide such systems;
  - contain waste growth to a maximum 2% from 2009/10 incrementally decreasing to zero by 2020 and thereafter, irrespective of population or household growth;
  - ensure development of end markets for diverted waste
- 9.4.2 If it is established that there will be a shortfall of allowances in a particular year, then the WDA must use its best endeavours to buy sufficient allowances to cover the shortfall as soon as possible. This will avoid the imposition of penalties for failing to landfill within available allowances. The LATS financial penalties would be at a rate of £150 per tonne which will inevitably exceed of the cost of buying allowances in the market.
- 9.4.3 Government has also indicated that any fines from the EU for failing to meet national landfill targets would be passed on to failing WDA's in addition to the LATS financial penalties.

## **9.5 'Business As Usual' LATS Position**

- 9.5.1 The Authority is currently contracted to arrange for delivery of all of its municipal waste stream and residues (except waste which is recycled or used by the Authority or is specifically excluded e.g. some special and difficult wastes) to sites provided by Biffa Waste Services Ltd (BWSL). The arrangements are overseen by a joint venture company, GM Sites Ltd.
- 9.5.2 The reliance upon landfill will continue to reduce in the short term as a consequence of the expanding waste reduction, recycling and composting initiatives being pursued through the partnership and will be driven by the obligations of the LATS for the period up to 2019/20. The LATS governs the permitted quantities of biodegradable municipal waste (BMW) that can be landfilled in any one year and provides for opportunities to bank, buy or sell allowances under specified terms and conditions.
- 9.5.3 As indicated in Section 5, compliance with the landfill allowances represents a considerable challenge. The projections set out in figure 18 demonstrate the margins that face the Authority, even with a recycling performance that doubles for 2009/10 (i.e. from 16.5% to 33%) and a nil rate of growth in arisings that must be sustained, if compliance is to be achieved. The Authority will be looking to maximise the value of any relevant surpluses that may be accumulated during the intervening period to 2009/10.



**Table 9.5.A GM LATS Allocations 2005/6-2019/20**

Year	'000 Tonnes
2005/6	820
2006/7	776
2007/8	718
2008/9	645
2009/10	557
2010/11	495
2011/12	433
2012/13	371
2013/14	355
2014/15	339
2015/16	323
2016/17	307
2017/18	291
2018/19	275
2019/20	259

9.5.4 In order to establish a 'business as usual' position and a forward projection of the implications of the Landfill Allowances, Table 9.5.B below contains a projection of the LATS balances up to and including 2009/10. The projection is based upon -

- a forecast reduction of 5% in total arisings in 2005/06
- a forecast increase of 3% in total arisings in 2006/07 reducing thereafter to 2% in 2009/10 (ie nil growth between 2004/05 base and 2009/10)
- a forecast incremental reduction in commercial waste delivered by WCAs to 25,000 tonnes in 2009/10

**Table 9.5.B: Biodegradable Municipal Waste and Projected Performance**

000 tes	2001/02 Base Year	2004/05 Actual	2005/06 Forecast	2006/07 Forecast	2007/08 Forecast	2008/09 Forecast	2009/10 Forecast
TOTAL MSW	1438	1407	1,336	1,358	1,376	1,392	1404
TOTAL MSW RECYCLED/ COMPOSTED	87	200	265	312	349	393	439
TOTAL BMW RECYCLED/ COMPOSTED	60	113	190	230	261	298	338
MSW LANDFILLED	1255	1105	961	936	917	889	855
TOTAL BMW (@ 68%)	978	957	908	923	936	947	955
MSW DISPOSED	1,351	1,207	1071	1046	1027	999	965
BMW DISPOSED	918	844	718	693	675	649	617
BIODEGRADABLE % OF MSW DISPOSED	68.0	69.9	67.0	66.3	65.7	64.9	63.9
BMW LANDFILLED	853	772	644	620	602	577	546
LATS ALLOWANCE	850	850	821	776	718	645	557
VARIATION	-	78	177	156	116	68	(11)

9.5.5 Table 8.5.B takes into account the existing levels of performance and the likely levels of performance which derive from implementing the initiatives already in the pipeline. It is based upon:-

- an incremental improvement from a minimum 18% for WCA's in 2005/06 and 35% for HWRC's to achieve an overall performance of 33% for 2009/10, as shown below:-

			<b>Overall %</b>
2005/06	18	35	21.6
2006/07	21	42	25.5
2007/08	24	43	28.0
2008/09	27	44	30.7
2009/10	30	45	33.1

- the prescribed performance level for Stockport for 2005/06 is 33%. The calculations used in the model do not take account of any performance which may be achieved by individual WCA's above the thresholds. Equally, no account has been taken of any potential under-performance by any WCA;
- projections of quantities of diverted materials, ie paper, card, textiles, wood and green waste founded on best available and forecast data.

9.5.6 The no change scenario indicates a potential shortfall in allowances for 2009/10. The position for that year, and subsequent years, will be dependent upon measures taken by the WCA's in conjunction with the PFI main services contract.

9.5.7 Chart 8.5.A illustrates the gap between residual waste arisings and the landfill allowances under LATS up to year 2020 based on a nominal 1% growth in municipal waste arisings with recycling and composting continuing at the current (2004/5) rate.

9.5.8 Chart 8.5.B illustrates the gap between residual waste arisings and the landfill allowances under LATS up to year 2020 based on a nominal 1% growth in municipal waste arisings with recycling and composting continuing at the levels specified by the 2004 MWMS.

9.5.9 These tables and charts illustrate that even if the current targets for recycling and composting are achieved that residual waste treatment will be required by 2010 and before this date if waste growth exceeds projections or diversion rates (recycling and composting) fall short. An acceleration of recycling and composting performance would offset this risk.



Chart 9.5.A

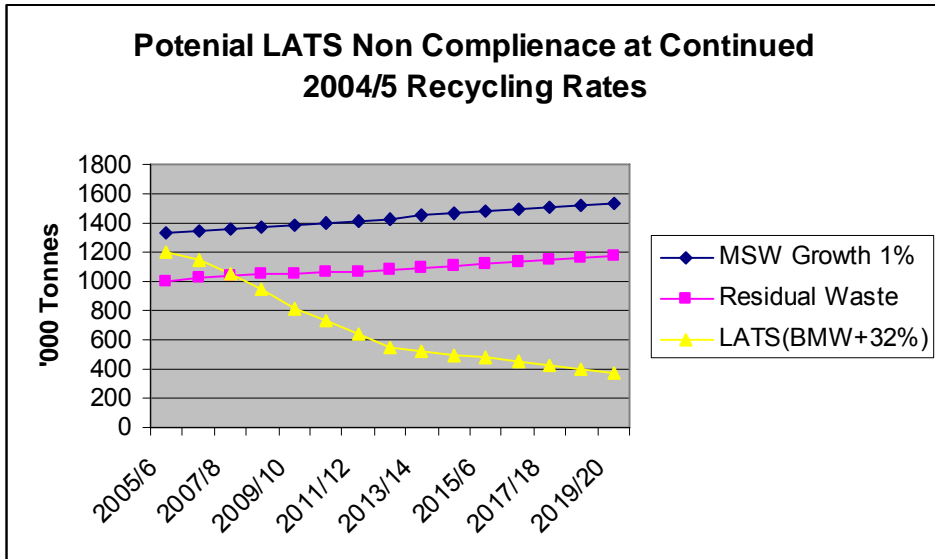
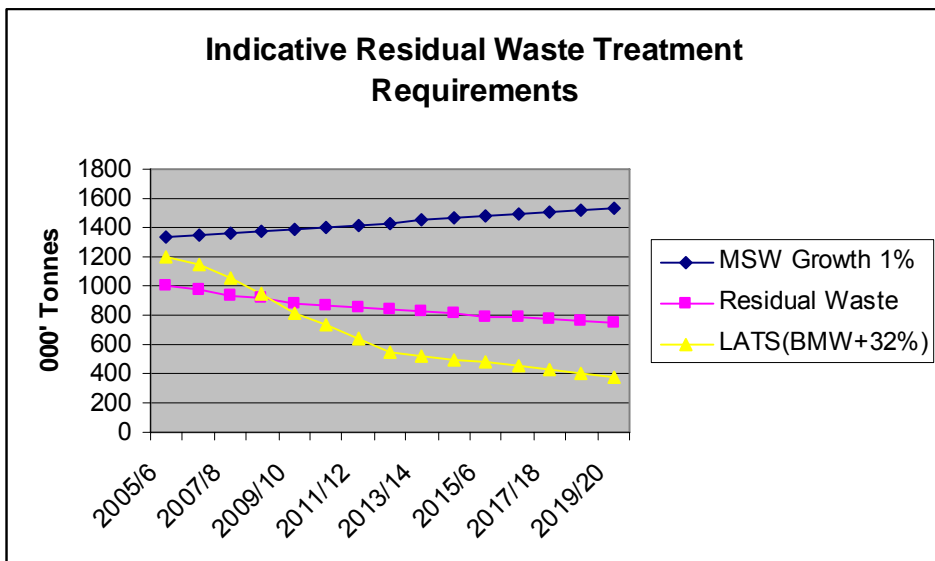


Chart 8.5.B



## **9.6 Trading**

- 9.6.1 The primary route by which the GMWDA will ensure it meets its landfill targets is to organise the waste hierarchy to ensure maximum diversion of waste. It is however implicit within the system that for any year there will be a surplus or deficit of available allowances and in order to maximise its assets/minimise its liabilities, the GMWDA will need to trade in LATS allowances.
- 9.6.2 As with any free market the price of allowances will fluctuate according to supply and demand. Whilst it is a requirement that the GMWDA achieves best value for its assets, forecasting the price of LATS allowances to ensure that the best price is achieved is at best an inexact science. The aim of the scheme is to ensure that the GMWDA has sufficient allowances for its landfill needs.
- 9.6.3 Therefore, the GMWDA has decided that any trading is carried out as soon as possible after the requirement for such is established, without having undue regard to the price available.
- 9.6.4 Decisions regarding trading in LATS allowances will be taken jointly by the Director and Treasurer to the GMWDA and all trading so reported to the Authority.
- 9.6.5 The GMWDA will record any allowances borrowed or traded on the Electronic Register of Landfill Allowances and, together with its partner WCA's, the GMWDA will submit quarterly returns of waste arising and movements etc via the Waste Data Flow recording system.

