

# **Kent Minerals and Waste Local Plan**

*Planning for the future of minerals and waste in Kent*

## **Evidence Base for the Draft Minerals and Waste Plan**

### **Strategic Transport Assessment**



**September 2013**





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## i Abbreviations

**Table 1**

AHT	Ashford Highways & Traffic Study
AQMA	Air Quality Management Area
BRT	Bus Rapid Transit
C&D	Construction & Demolition Waste
C&I	Commercial & Industrial Waste
CDE	Construction, Demolition & Excavation Waste
CO <sub>2</sub>	Carbon Dioxide
DaSTS	Delivering a Sustainable Transport System
DPD	Development Plan Document
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
ELV	End of life vehicles eg scrapped cars
FTA	Freight Transport Association
HA	Highways Agency
HCA	Homes and Communities Agency
HGV	Heavy Goods Vehicles, over 7.5 tonnes gross weight
KCC	Kent County Council
KSI	Killed or Seriously Injured
LDF	Local Development Framework
MSW	Municipal Solid Waste eg household waste
Mtpa	Million tonnes per annum
MWDF	Minerals and Waste Development Framework
NO <sub>2</sub>	Nitrogen Dioxide
PM <sub>10</sub>	Particulate Matter
QBP	Quality Bus Partnership

## i Abbreviations

RHA	Road Haulage Association
SO <sub>2</sub>	Sulphur Dioxide
STIP	Strategic Transport Investment Package
UTMC	Urban Traffic Management and Control
Vissim	Verkehr In Städten – SIMulation (meaning: Traffic In Towns – SIMulation), modelling software developed by PTV
Vissum	Verkehr In Städten – UMLegung (meaning: Traffic In Towns – Assignment), modelling software developed by PTV

# 1 Introduction

## 1.1 Overview

This topic paper is the Strategic Transport Assessment for Kent's Minerals and Waste Plan <sup>(1)</sup>. The purpose of the Strategic Transport assessment is to support the Kent Minerals and Waste Plan and outline the potential effects on Kent's transport network as a result of policies contained within the Kent Minerals and Waste Plan, the Minerals Plan and the Waste Plan up to 2031.

**1.1.1** As the strategic authority for Kent; Kent County Council (KCC) is responsible for the administration of Kent's minerals and waste. The purpose of the Strategic Transport Assessment is to assess what effects any proposed minerals and waste facilities will have on the transport network of Kent and on the quality of life of its residents over the plan period up to 2031.

**1.1.2** This report is comprised of five sections:

- Section 1 provides an overview and outlines the purpose of a Strategic Transport Assessment
- Section 2 provides a context that this study is set against in terms of the policy and the overarching plan structure;
- Section 3 provides an assessment of the current transport baseline in Kent, looking at Kent's existing transport infrastructure network, existing traffic flows and network constraints with regards to minerals and waste transport;
- Section 4 forecasts where future congestion hotspots are likely to occur and the potential impact of Minerals and Waste sites;
- Section 5 concludes the findings of this assessment.

## 1.2 The Plan Area

**1.2.1** The Kent Minerals and Waste Plan (KMWP) covers sites within the administrative boundary of Kent County Council (KCC) and not those within Medway Council <sup>(2)</sup>. Likewise the Strategic Transport Assessment only applies to KCC area, however it is acknowledged that some transport links within the KCC area do serve minerals and waste sites within Medway, and vice versa.

**1.2.2** The plan area of this report comprises the administrative areas of the following authorities, as listed below and shown in figure 1:

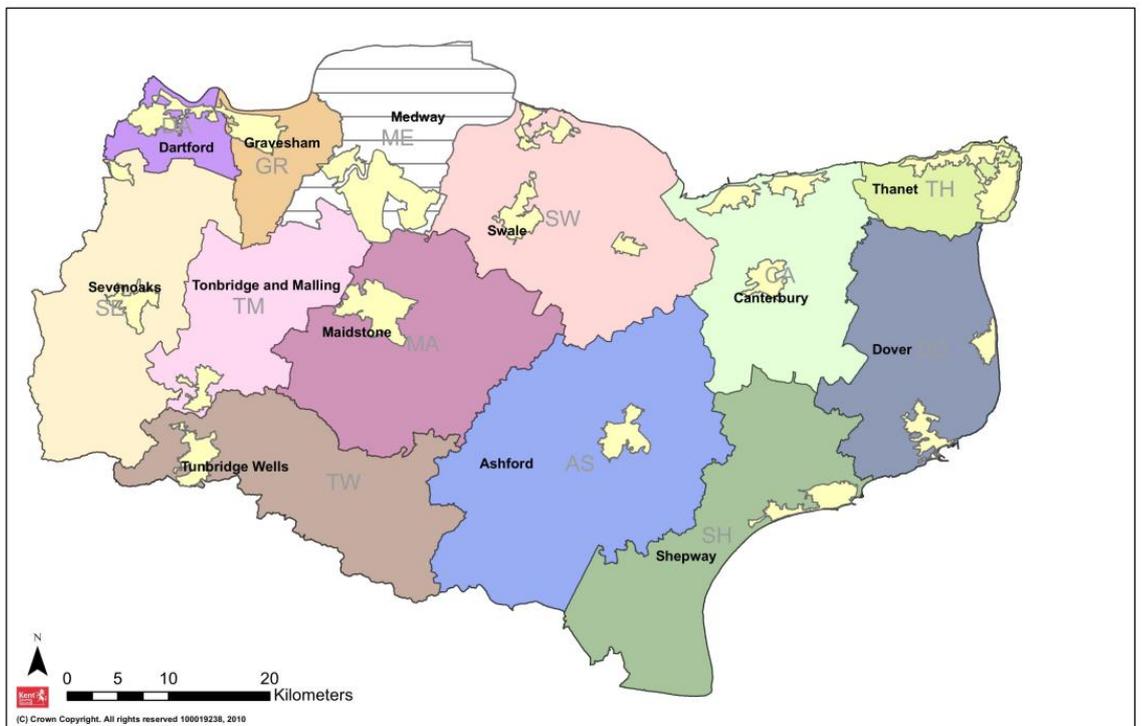
- Ashford Borough Council.

1 previously referred to as the Minerals and Waste Development Framework (MWDF)

2 Medway is a Unitary Local Authority - A unitary authority is a type of local authority that has a single tier and is responsible for all local government functions within its area or performs additional functions which elsewhere in the relevant country are usually performed by national government or a higher level of sub-national government.

## 1 Introduction

- Canterbury City Council
- Dartford Borough Council
- Dover District Council
- Gravesham Borough Council
- Maidstone Borough Council
- Sevenoaks District Council
- Shepway District Council
- Swale Borough Council
- Thanet District Council
- Tonbridge and Malling Borough Council
- Tunbridge Wells Borough Council



Kent Districts

## 2 Policy Context

### 2.1 National Planning Policy

Looking at the policy context enables us to consider the theory underlying minerals and waste transportation. This section introduces key elements of national, regional and local policy in regards to the transportation of minerals and waste and from these sources Kent County Council can establish the main transport issues that should be considered when developing its spatial strategy for minerals and waste sites throughout Kent.

**2.1.1** 'Securing the Future: delivering UK sustainable development strategy' was published by Defra in 2005 and represented central government's overarching strategy for promoting sustainable development. The report sets out three priorities, all of which have areas of relevance to this paper<sup>(3)</sup>:

- Sustainable consumption and production - has obvious implications for waste and also introduces the idea of lifecycle planning<sup>(4)</sup>.
- Climate Change - Greenhouse gas emissions from waste management should be a consideration when assessing the impact of minerals and waste transportation. However, the environmental impact of waste transport to a treatment facility needs to be weighed against what the impact would be if waste were disposed of in a landfill.
- Natural resource protection - developments should avoid adversely affecting the natural environment. This has a bearing on waste management facilities and any transport used to access them.

### Localism Act 2011

#### *Duty to Cooperate*

**2.1.2** The Duty to Cooperate (DTC) came in to effect on 15th November 2011, when the Localism Act received Royal Assent. The DTC in relation to planning of sustainable development relates to the use of land that would have a significant impact on at least two local planning areas or on a planning matter that falls within the remit of a county council, such as minerals and waste planning.

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3 Securing the future - delivering UK sustainable development strategy (2005)

4 life cycle planning is where the impact of the whole process from production through to end-of-life and then recycling and reuse should be considered. Life cycle planning should include the environmental, economic and social costs of transporting waste, and should be considered against the benefits of the other options being considered

**2.1.3** In order to encourage joint working and assist in the development of sound Local Plans, Section 110 of the Act requires local authorities to "engage constructively , actively and on an ongoing basis" with neighbouring councils and prescribed bodies (i.e the environment agency, Natural England, The Homes and Communities Agency, highways authority etc... <sup>(5)</sup> .

**2.1.4** This is reinforced by Paragraph 156 of the NPPF which outlines the key strategic priorities that should be considered under the DTC, which includes:

- The provision of infrastructure for transport, telecommunications, waste management, water supply, wastewater, flood risk and coastal change management and the provision of minerals and energy (including heat).

**2.1.5** The DTC can therefore help to mitigate the effects that the transportation of minerals and waste may have on the transport network of Kent by requiring Kent County Council and the Districts in Kent to cooperate on promoting more sustainable modes of transport.

### **National Planning Policy**

**2.1.6** In March 2012 the Government published the National Planning Policy Framework (NPPF), which replaced the vast majority of pre-existing Planning Policy Guidance (PPG's) and Planning Policy Statements (PPS'S). However PPS 10 <sup>(6)</sup> remains extant and it is intended to be replaced by the National Waste Management Plan. NPPF Paragraph 32 states that strategic policies to deliver transport infrastructure should be made within Local Plans and that all developments that generate significant amounts of movement, as determined by local criteria, should be supported by a Transport Statement or a Transport Assessment.

**2.1.7** The NPPF aims to to help achieve sustainable development through planning and provides a framework within which local people and their accountable councils can produce their own distinctive local and neighbourhood plans, which reflect the needs and priorities of their communities. The NPPF sets out a set of core land-use planning principles that should underpin both plan-making and decision-taking. Paragraph 17 sets out 12 principles, including the following, which are of relevance to the transportation of minerals and waste:

- proactively drive and support sustainable economic development to deliver the homes, business and industrial units, infrastructure and thriving local places the country needs;

5 Full list available at <http://www.legislation.gov.uk/ukxi/2012/767/regulation/4/made>

6 PPS 10-Planning for Sustainable Waste Management<sup>1</sup>

- supporting the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change, and encourage the reuse of existing resources, including conversion of existing buildings, and encourage renewable resources;
- contribute to conserving and enhancing the natural environment and reducing pollution.

**2.1.8** More specifically in relation to minerals and waste, the NPPF states the following:

#### **NPPF - Paragraph 30**

"Encouragement should be given to solutions which support reductions in greenhouse gas emissions and reduce congestion. In preparing Local Plans, local planning authorities should therefore support a pattern of development which, where reasonable to do so, facilitates the use of sustainable modes of transport".

#### **NPPF - Paragraph 143**

- "safeguard existing, planned and potential rail heads, rail links to quarries, wharfrage and associated storage, handling and processing facilities for the bulk transport by rail, sea or inland waterways of minerals, including recycled, secondary and marine-dredged materials'

**2.1.9** Planning Policy Statement 10: Planning for Sustainable Waste Management (2005) provides policy and guidance on identifying the need for considering transport issues in the planning of waste facilities.

#### **Paragraph 21 of PPS10 states:**

In searching for sites and areas suitable for new or enhanced waste management facilities, waste planning authorities should:

- Assess the capacity of existing and potential transport infrastructure to support the sustainable movement of waste, and products arising from resource recovery seeking where practicable and beneficial to use modes other than road transport.

## 2.2 Local Transport Policy

### 2.2.1 Strategic Transport Plans

**2.2.1.1** Regulation 10 in Town and County Planning Regulations (2012) <sup>(7)</sup> requires Local Plans and supplementary planning documents to have regard to policies developed by a local transport authority in accordance with section 108 of the Transport Act 2000(a).

**2.2.1.2** Section 108 of the Transport Act (2000) <sup>(8)</sup> requires each local transport authority <sup>(9)</sup> to develop policies for the promotion and encouragement of safe, integrated, efficient and economic transport facilities services to, from and within their area. Each local transport authority must prepare a document to be known as the local transport plan containing their policies.

**2.2.1.3** Kent County Council therefore has a statutory duty to prepare and update its Strategic Transport Plan. The most recent version of the document was adopted in 2011, the Local Transport Plan for Kent 2011-2015'. This document explains how the County Council will work towards a transport vision over a five year plan period using the funding that it receives from Government. KCC has also prepared a transport delivery plan 'Growth without Gridlock' which focuses on the key strategic transport improvement areas required in Kent, including the Thames Gateway, relieving pressure on the Channel Corridor, cutting congestion in West Kent along the A21, a solution in East Kent for Operation Stack and an integrated public transport network.

**2.2.1.4** The Kent Freight Plan Plan was adopted by KCC in 2012. It contains the County Council's objectives to tackle issues and find solutions to a number of matters related to lorry movements in Kent, including the problem of overnight lorry parking, finding a solution to 'Operation Stack' <sup>(10)</sup>, managing the routing of Heavy Goods Vehicles (HGV's) to ensure they remain on the Strategic Road Network for as much of their journey as possible, addressing problems caused by freight traffic in communities, ensuring that KCC uses its control powers in reducing the impact of freight traffic and encouraging sustainable distribution.

### **Kent's Local Transport Plan (2011-2016)**

**2.2.1.5** Kent's Local Transport Plan (2011-2016) <sup>(11)</sup> is Kent's third Local Transport Plan and sets out the County Council's policies for local transport investment for the period 2011-2016. The LTP proposes various initiatives which supports the movement of freight around the county, the most relevant policies for the movement of Minerals and Waste in Kent are:

7 [http://www.legislation.gov.uk/ukxi/2012/767/pdfs/ukxi\\_20120767\\_en.pdf](http://www.legislation.gov.uk/ukxi/2012/767/pdfs/ukxi_20120767_en.pdf)

8 [http://www.legislation.gov.uk/ukpga/2000/38/pdfs/ukpga\\_20000038\\_en.pdf](http://www.legislation.gov.uk/ukpga/2000/38/pdfs/ukpga_20000038_en.pdf)

9 Local transport authority means a county council in England, a council of a non-metropolitan district in England comprised in an area for which there is no county council

10 Operation Stack is the name given to the process used to stack lorries on the M20 when cross channel services from the Port of Dover or through the Channel Tunnel are disrupted

11 <https://shareweb.kent.gov.uk/Documents/roads-and-transport/road-policies/local-transport-plan-3/final-ltp3.pdf>

- Establish a Freight Quality Partnership for Kent
- 24 Hour lorry route network and map
- Zoning system in urban areas with signage to direct HGV's to industrial estates and town centres by the most suitable routes

### **Kent's Freight Action Plan (2012-2016)**

**2.2.1.6** Kent's Freight Action Plan <sup>(12)</sup> sets out a number of objectives that will help the County Council to effectively address the concerns with the movement of freight both through and within Kent. The most relevant objectives that relate to minerals and waste transport are:

- Objective 3: To effectively manage the routing of HGV traffic to ensure that such movements remain on the Strategic Road Network for as much of their journey as possible. Objective 3 is the most relevant to this paper and the transportation of Minerals and Waste around the County as strategic routes are preferred, as they are designed to withstand the pressure of heavier and wider vehicles and they are generally segregated from housing. Therefore the impact of freight on communities is minimised.
- Objective 4: To take steps to address problems caused by freight traffic to communities.
- Objective 5: To ensure that KCC continues to make effective use of planning and development control powers to reduce the impact of freight traffic. KCC is the planning authority for minerals and waste and County Council development applications, therefore in such cases KCC can impose conditions on planning consents/or enter in to legally binding agreements. These conditions/agreements can be for the construction and/or the operational phases of the site. Such conditions can be made with the aim to minimise any impact on the physical road network as well as the surrounding properties.
- Objective 6: To encourage sustainable distribution.

### **Growth Without Gridlock**

**2.2.1.7** Growth without Gridlock (December 2010) <sup>(13)</sup> pulls together the big strategic transport solutions for the county and highlights the schemes that KCC feels can be delivered by creative and innovative means. The document contains a variety of projects that will help the County Council to achieve their ambition of creating a high quality integrated transport network which will enable economic growth and regeneration throughout Kent.

### **Impact of Minerals and Waste Sites**

12 <https://shareweb.kent.gov.uk/Documents/council-and-democracy/policies-procedures-and-plans/plans/Freight%20Action%20Plan.pdf>

13 <https://shareweb.kent.gov.uk/Documents/News/growth-without-gridlock.pdf>

**2.2.1.8** In terms of minerals and waste related transport, the draft KMWP aims to recognise that the supply of minerals and the management of waste resources are dependant on a variety of transport infrastructures that need to be considered. Transport infrastructure of all types needs to be maintained and developed to maintain a sustainable supply of minerals and support the sustainable management of waste in Kent.

**2.2.1.9** Due to their bulky nature and relatively low value, minerals and waste materials are predominately transported using heavy good vehicles (HGV's) along both local and strategic road networks. Despite the impacts that this form of transport may have, especially in the case of mineral workings in remote locations, KCC recognise that finding suitable alternatives to road transport is often not possible or viable.

**2.2.1.10** Impact arising from the transport of minerals and waste materials by road can, if not controlled, have a significant impact on the environment and on communities including those not in the immediate vicinity of the development. Impacts such as noise, dust, vibration traffic congestion and vehicle CO<sub>2</sub> emissions can arise from transportation. In 2010, emissions from road transport account for 31% of Kent's total CO<sub>2</sub> emissions. As such, the minimisation and management of of emissions is a key priority.

#### *Sustainable Transport of Minerals & Waste*

**2.2.1.11** The KMWP encourages the use of more sustainable transport modes for the transportation of minerals by rail and water wherever possible. By encouraging the transportation of minerals and waste off of roads and on to alternative transport modes this can help to reduce the need for the transportation of minerals and waste by road, thus minimising the impact on communities and supporting objective 3 and 4 of the Kent Freight Action Plan. KMWP Draft Policy CSM10 states:

### **Safeguard Wharves and Railheads**

Applications for development adjacent to or opposite the following safeguarded importation facilities will need to demonstrate that acceptable levels of noise, dust, light and air emissions derived from the current importation site would be experienced at the development. Vehicle access to and from the wharf or railhead must not be jeopardised by the development.

The following sites are safeguarded for their continued use for the importation of minerals into Kent:

- Allington Rail Sidings
- Sevington Rail Depot
- Hothfield Works
- East Peckham
- Ridham Dock (both operational sites)
- Johnson's Wharf Greenhithe
- Robins Wharf, Northfleet (both operational sites)
- Denton Wharf
- East Quay, Whitstable
- Red Lion Wharf
- Ransgate Harbour
- Wharf 42, Northfleet
- Dunkirk Jetty (Dover Western Docks)
- Sheerness
- Botany Marshes

Applications for development adjacent to or opposite a safeguarded importation facility will need to demonstrate that acceptable levels of noise, dust light and air emissions derived from the current importation site would be experienced at the development. Vehicle access to and from the wharf or railhead must not be jeopardised by development.

**2.2.1.12** This is supported by Draft Policy CSM9 which assists in the delivery of Objective 3 of the Kent Freight Action Plan by reducing road miles, stating that planning permission will be granted for new wharf and railhead importation operations which include the transport of minerals by more sustainable modes (i.e. rail, sea or inland waterways)

### Sustainable Transport of Minerals

Planning permission for any new wharf and railhead importation operations or for wharves and railheads which have been operational in the past (which have since fallen out of use) which include the transport of the minerals by sustainable means (i.e. sea or rail) as the dominant mode of transport will be granted, where:

- They are well located in relation to the Key Arterial Routes across Kent; <sup>(14)</sup>
- Environmental impacts can be controlled so that there is no significant effect upon sensitive receptors.

**2.2.1.13** Draft Policy DM10 of the KMWP aims to minimise road miles in relation to the transportation of minerals and waste across Kent. This policy assists in the delivery of Objective 5 of the Kent Freight Plan and Kent's Local Transport Plan by supporting initiatives for the movement of minerals and waste around the county and reducing their impact on the environment and communities. Draft Policy DM10 states:

### Transportation of Minerals and Waste

Minerals and waste development will be required to minimise road miles except where there is no practicable alternative to road transport which would be environmentally preferable. Where new development will require significant road transport:

- The proposed access arrangements must be safe and appropriate to the proposed development and the impact of the traffic generated would not be detrimental to road safety; and
- The highway network must be able to accommodate the traffic that would be generated and the impact of the traffic generated would not have an unacceptable impact on the environment or local community.

**2.2.1.14** It is therefore beneficial for minerals and waste development to be located where it:

- Is well located close to the strategic road network;

14 These are made up of Motorways and Trunk Roads, County Primary Routes and County Principle Routes. County Primary Routes link major urban centres, including the A228/A26 between Medway and Tonbridge, the A229 between Medway and East Sussex, the A256 between Dover and Thanet, the A268 between Thanet and East Sussex, the A256 between Dover and Thanet, the A26 between Tonbridge and Tunbridge Wells and the A25 between Wrotham and Sevenoaks. County Principal routes are generally A class roads with relatively high traffic flows, including the A225 between Sevenoaks and Dartford and the A251 between Faversham and Dartford

- Has potential for the sustainable movement of materials (i.e. Rail, sea or inland waterways); and/or
- Can minimise operational road miles.

## 3 The Transport Baseline in Kent

### 3.1 Existing Transport Infrastructure

**3.1.1** Current minerals and waste traffic in Kent is predominately through the use of HGV's. Although this type of transportation is undertaken by relatively common HGV types, whose routing would normally be controlled by signing and width/height/weight restrictions, such measures are not always applicable for minerals and waste transportation.

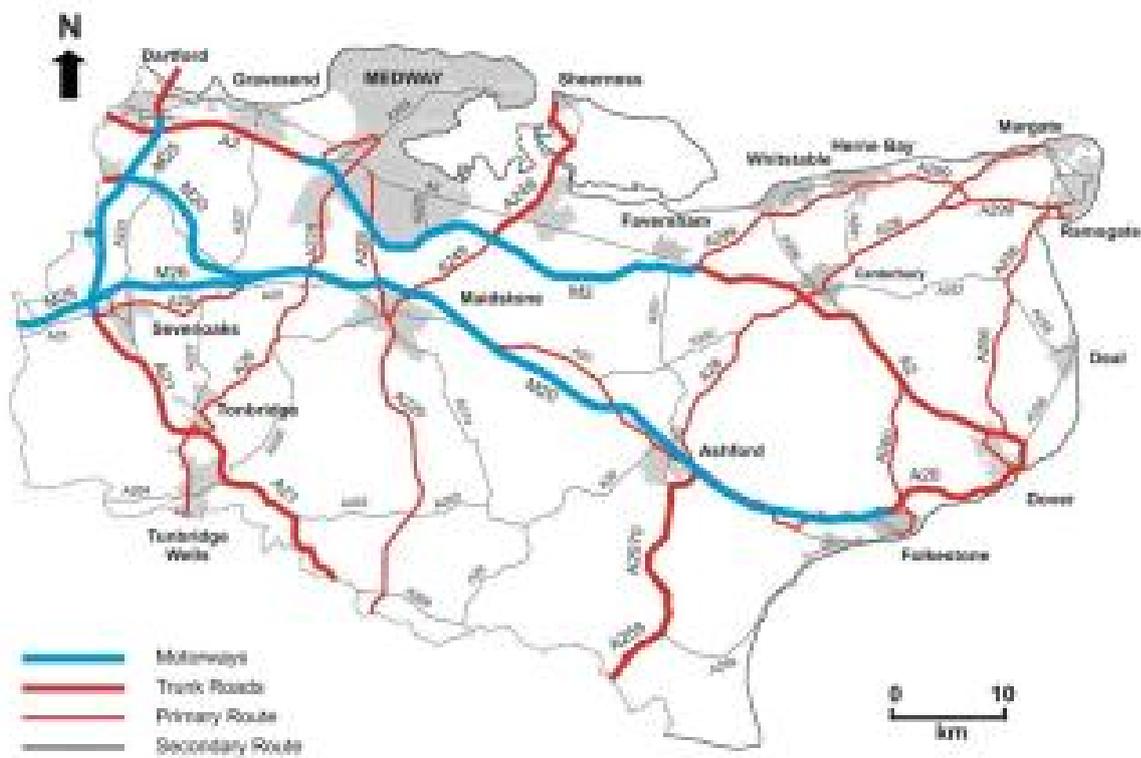
**3.1.2** Typically minerals sites, and some waste sites are located in relatively rural locations. Therefore restrictions on width/height/weight are not appropriate for minerals and waste traffic. The current approach is instead to consider each proposed new site, on its own merits, and on a case by case basis, taking in to account issues such as daily lorry movements or routing to and from a site.

#### Kent's Road Network

Kent's highway network consists of the following class of routes:

- **Motorways and Trunk Roads** which collectively form the strategic national highway network and are managed and maintained by the Highways Agency <sup>(15)</sup>. Kent's motorway and trunk road network is over 250 miles in length and includes the M25, M26, M20/A20, M2/A2, A21, A249 and A2070.
- **County Primary Routes** linking major urban centres, for which KCC is the local transport authority. Routes include the A228/A26 between Medway and Tonbridge, the A229 between Medway and East Sussex, the A229 between Faversham and Thanet, the A28 between Thanet and East Sussex, the A256 between Dover and Thanet, the A26 between Tonbridge and Tunbridge Wells and the A25 between Wrotham and Westerham.
- **County Principal Routes** are generally 'A' class roads with relatively high traffic flows, for which KCC is the local transport authority. County principal routes include the A225 between Sevenoaks and Dartford and A251 between Faversham and Ashford.

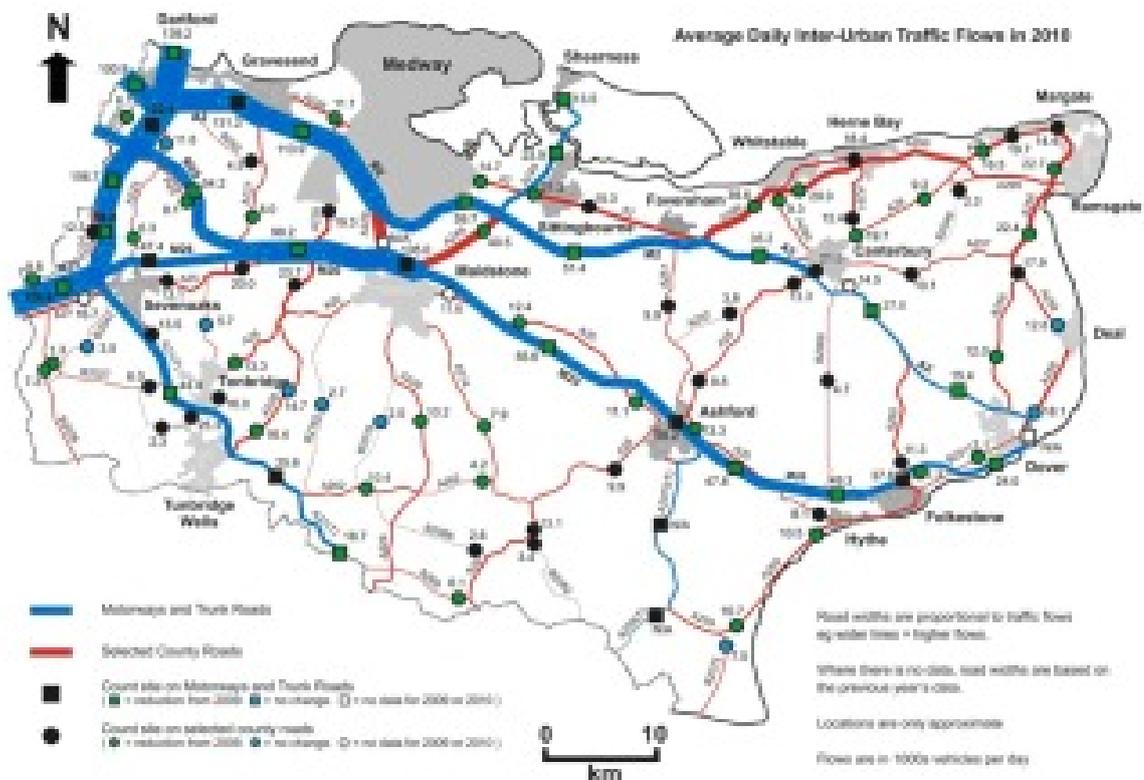
**3.1.3** Other County Roads cover the majority of the 'B' roads and all other roads which provide local access to rural settlements and urban estates. KCC maintains around 5,000 miles of roads. Due to Kent's location it also serves as the main gateway to Europe from the rest of the UK.



Source: Local Transport Plan for Kent 2011-2016

## Traffic Flows

3.1.4 Traffic monitoring throughout Kent shows that traffic flows on KCC's roads have shown little change in recent years <sup>(16)</sup>. Between 2007 and 2010, traffic levels on monitored roads in Kent has fallen by an average of 4.2%. By contrast, between 1999 and 2007 traffic was increasing by 1.3% per year on average.

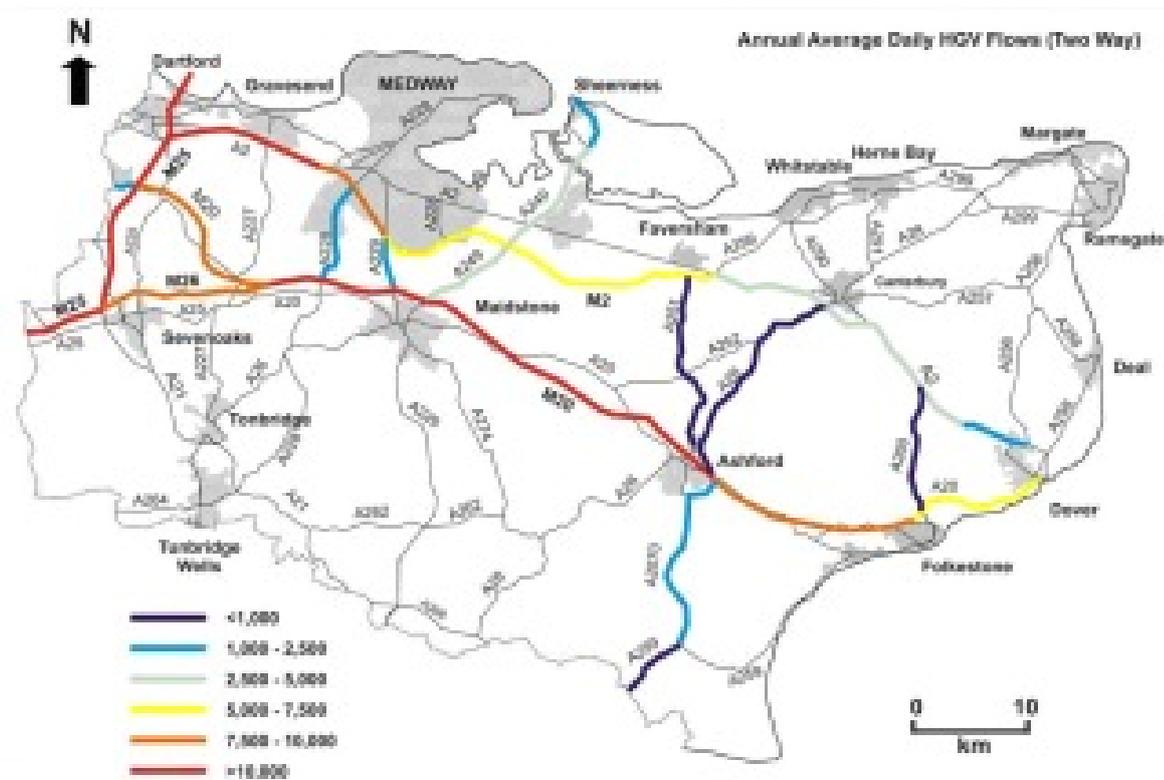


Source: Kent Travel Report 2010

## Traffic Congestion

3.1.5 In Kent, congestion occurs mainly in the morning peak (7am to 9am) in urban areas.<sup>17</sup> KCC has developed an Urban Traffic Management and Control system (UTMC) located within its Traffic Management Centre (TMC) which measures journey times in Maidstone and Gravesham and intervenes as incidents occur. KCC's objective is to improve journey time reliability where UTMC systems are in operation.

<sup>17</sup> Congestion is defined and measured in a number of ways but the standard approach is to compare the average journey time per vehicle mile in the am/pm peak in minutes with in minutes with free flowing conditions



Source: Jacobs Engineering UK Ltd (2010), Delivering a Sustainable Transport System: London to Dover/Channel Tunnel

## Rail Freight

**3.1.6** The transportation of freight by rail is still a relatively small share of the overall surface freight market. However, growth in demand for rail freight is expected, with more retailers and other businesses looking to make their supply chain more sustainable

### *Impacts of use for Minerals and Waste Planning Policy*

**3.1.7** The use of rail and sea for the transportation and distribution of minerals and waste is more sustainable than road haulage and reduces pressure on the road network. For example, one freight train can typically remove around 60 lorries and produces fewer carbon emissions and air pollutants per tonne of freight than road haulage.

**3.1.8** Kent has about 464 miles of railway and 100 stations, which are owned and maintained by Network Rail. In Kent, freight is restricted to four main routes, due to its larger loading gauge which cannot be accommodated on some track sidings, tunnels and bridges.

The four freight routes in Kent are:

- Channel Tunnel - Ashford - Maidstone East - Swanley

- Margate - Canterbury West - Ashford - Tonbridge - Orpington
- Dover - Canterbury East - Faversham - Chatham - Swanley (or Dartford)
- Ashford - Tonbridge - Redhill - East Croydon

### *Railheads*

**3.1.9** Within the County of Kent there is currently four railheads. These are rail terminals (end of spur) used for loading locally sourced aggregates for export, but also for transferring imported aggregates from other parts of the UK onto lorries for use in the County. The existing railheads are located at Allington, East Peckham, Hothfield and Sevington.

The existing railheads are served by roads as follows:

- Allington (Hansen Aggregates) is served by the M20
- Hothfield Works (Tarmac Ltd) is served by the A20
- East Peckham (J Clubb Ltd) is served by the A228
- Sevington (Brett Aggregates Ltd) is served by the M20

Sales of crushed rock and marine dredged aggregates supplied from Kent's wharves and railheads continue to play an important role in the supply of aggregates to Kent's economy<sup>(18)</sup>. In 2010 there was a total of 313,007 tonnes of crushed rock and 43,408 tonnes of aggregates transported using the four railheads<sup>(19)</sup>. The location of Kent's existing rail depots is shown below.

### **Sea Ports and Wharfs**

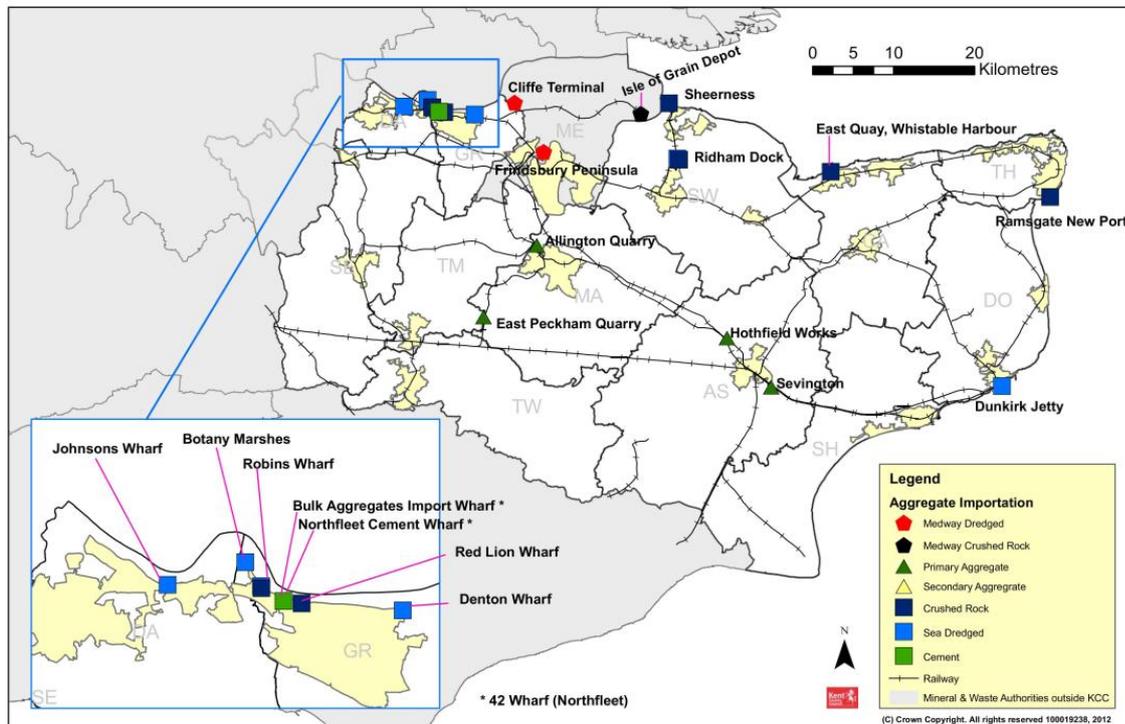
In addition to the main ferry ports, there are currently fifteen active aggregate importation wharves in Kent and Medway (three of which are in Medway - Cliffe (Site 1), Eurowharf, Frindsbury (Site K) and Isle of Grain (Site M), and an additional one Kent which has been granted planning permission but is not operation for aggregates - Wharf 42 (Northfleet). The location of Kent's existing wharves is shown below.

### **Air Freight**

Kent is served by two airports, Manston Airport and London Ashford Airport at Lydd. Manston airport handles passengers and freight. However, the low value of minerals and waste combined with the high cost of air transportation mean that it is uneconomical cargo to be transported by air.

18 KCC (2012) 1st Local Aggregate Assessment for Kent

19 KCC (2010) Aggregated Monitoring Survey



Existing Wharves and Rail Aggregate Depots in Kent and Medway

Source: Kent Local Aggregate Assessment (December 2012).

## 3.2 Existing Minerals and Waste Movements in Kent

### 3.2.1 Current Waste Movements in Kent

**3.2.1.1** Kent currently achieves a net self-sufficiency in waste management facilities from all waste streams. The continued achievement of this principle throughout the plan period is a goal for the KMWP as it shows that Kent is not placing any unnecessary burden on other Waste Planning Authorities to manage its waste.

**3.2.1.2** For this to continue Kent will require different types of waste management facilities to be located around the county. The preference identified in response to consultation during the formation of the KMWP was for a mix of new small and large sites for waste management. This mix gives flexibility and assists in balancing the benefits of proximity to waste arisings whilst being able to enable operators of large sites to exploit economies of scale.

**3.2.1.3** The location of current strategic waste facilities is shown in Appendix 1, this shows that the majority of facilities are now located in or near the urban areas of Kent. At present, in Kent, waste has been transported almost entirely by road. The Draft Minerals and Waste Plan encourages the use of sustainable transportation

methods, including by rail and water. However in view of the limited opportunities that are available within the county to increase the use of sustainable transportation methods, it is acknowledged that the transportation of waste across Kent will continue to be predominately by road.

**Table 2 - Existing Major Waste Sites in Kent**

Site Name	District	Waste Category
Ridham Composting, Ridham Dock Road	Swale District Council	Existing in Vessel Composting
Greatness Quarry	Sevenoaks District Council	Existing Landfill - Non Hazardous
Allington WfE Plant 20/20 Industrial Estate	Tonbridge and Malling Borough Council	Energy from Waste MSW
Shelford Landfill	Canterbury City Council	Existing Landfill - Non Hazardous
Blaise Farm Composting Facility	Tonbridge and Malling Borough Council	Existing in vessel composting
Pinden Quarry (Asbestos Only)	Dartford Borough Council	Existing landfill - Hazardous
Norwood Quarry and Landfill - Isle of Sheppey	Swale Borough Council	Strategic Site (Waste), Existing Landfill - Hazardous

**Table 3 - Waste Management Capacity in Kent**

Type of Facility	Number of Sites	Number of Sites where capacity is unknown	Capacity (Tonnes)
Composting/Anaerobic Digestion	10	1	237,720
Recycling	20	0	1,256,000
C&D Recycling	21	0	2,200,534
Metal/ELV Facility	47	0	1,151,476
Treatment	16	1	964,008
Incineration/Energy Recovery	8	2	1,233,915

Type of Facility	Number of Sites	Number of Sites where capacity is unknown	Capacity (Tonnes)
Inert Landfill	14	1	22,298,682
Non-Hazardous Landfill	2	0	3,721,465
Hazardous Landfill	3	0	1,282,050
Transfer <sup>(20)</sup>	67	1	2,239,534
Other <sup>(21)</sup>	100	82	1,834,443
Total Landfill Capacity	19	1	27,302,197
Total Capacity per year of facilities other than landfill	289	87	11,121,630

Source: KCC Planning Applications Monitoring Data 2012

**3.2.1.4** From the previous years Annual Monitoring Report there has been a decrease in landfill capacity, this reflects a change in the county in line with the principles of the waste hierarchy <sup>(22)</sup> away from landfill which is at the bottom of the hierarchy. This is due to new applications not being made to develop landfills and at the same time the void space in the existing landfills being used up.

**3.2.1.5** The impact of this on Kent's road network in that the historic route for the disposal of waste was via landfill which have traditionally been located in worked out mineral workings, so their location was similar to that of the mineral quarries. However, over the last two decades, national and European policy has demanded a change from this pattern towards greater levels of reuse and recycling, or recovery of energy from waste where reuse/recycling is not possible. This has brought about a significant change in the location of sites for the treatment of waste, moving from the former landfill sites which were mainly in rural or urban fringe areas to built facilities, located primarily in urban fringe areas, which are often closer to the strategic road network and able to accommodate the use of HGV movements.

**3.2.1.6** Kent's waste falls into four main categories:

- 
- 20 Transfer stations are the second most numerous in terms of numbers and all districts in Kent have this type of facility. This reflects the economies of the waste management industry where relatively small specialised vehicles collect waste and the waste is then bulk loaded at Transfer Stations into larger vehicles for transport to other waste management facilities. Usually a proportion of this activity results in the recovery of materials for recycling and the differentiation between this type of waste management and the recycling category is quite often minor.
- 21 Other consists of Wastewater Treatment, Mobile Plant, Animal Crematoria and Cemeteries, and Dredging Sites
- 22 See Glossary for Definition

- Municipal Solid Waste (MSW)
- Commercial and Industrial Waste (C&I)
- Construction, Demolition & Excavation (CDE)
- Hazardous Waste

### **Municipal Solid Waste**

**3.2.1.7** The amount of MSW <sup>(23)</sup> generated in 2011/12 was 715,258 tonnes <sup>(24)</sup>. Of this:

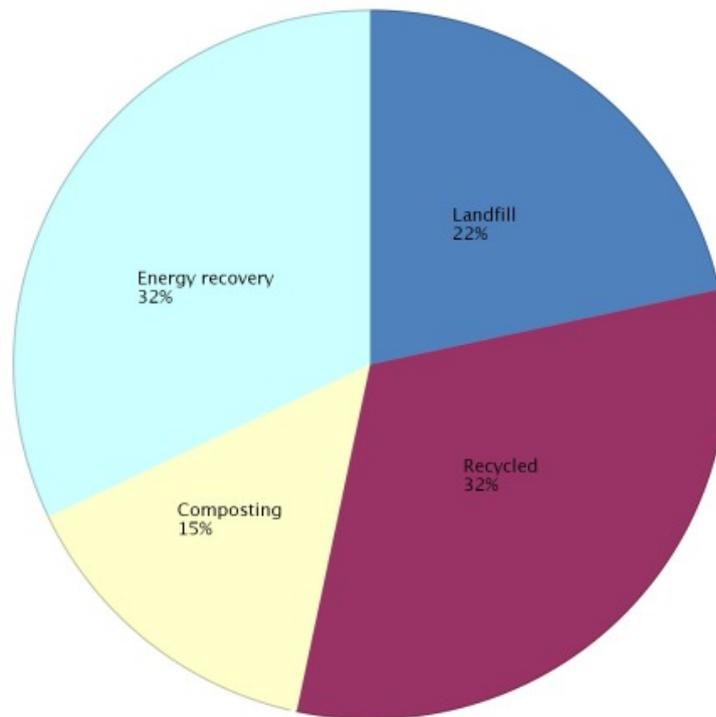
- 226,720 tonnes were recycled (31.7% of total MSW);
- 104,448 tonnes were composted (14.6% of total MSW);
- 229,512 tonnes were sent for energy recovery (32.1% of total MSW) and
- 154,539 tonnes were sent to landfill (21.6% of total MSW).

**3.2.1.8** When compared with the previous monitoring period, the amount of MSW sent to landfill has decreased by around 26.7%, while waste sent for energy recovery and composting have both increased by around 12.6% and 10% respectively.

23 Municipal solid waste is the waste which is collected and disposed of by or on behalf of a local authority. It will generally consist of household waste, some commercial waste and waste taken to civic Municipal Solid Waste (MSW) amenity waste collection/disposal sites by the general public. In addition it may include road and pavement sweepings, gully emptying wastes, and some construction and demolition waste arising from local authority activities. It is typically made up of card, paper, plastic, glass, kitchen and garden waste

24 KCC Annual Monitoring Report (2011 - 2012)

chart1



### Management of Kent MSW Arisings 2011/12

**3.2.1.9** One of the fundamental aims of the Core Strategy is to reduce the amount of MSW and C&I waste being sent to non hazardous landfill. It is anticipated that over the life of the plan that the majority of new development will occur by improvements to existing sites to enable an increase in the rate of recycling. However, there are two developments that will require new sites: Tonbridge and Malling is the only borough in Kent where there is no HWRC and the borough of Ashford which at present does not have a waste transfer station to enable the bulking up of waste for transport.

**3.2.1.10** The graph above shows the amount of MSW being sent for energy recovery has increased by 12.61% and composting has also increased by almost 9.99% since the previous year's AMR.

### Commercial and Industrial Waste

**3.2.1.11** There is no data available on the amount of C&I waste produced in Kent each year. However an estimate of C&I waste arising in Kent has been made using a national survey of C&I waste to predict annual growth rates and produce an estimate of C&I waste arisings in Kent for each year of the MWLP plan period.

**3.2.1.12** The most recent national survey of C&I waste arisings was conducted for the year of 2009 for DEFRA <sup>(25)</sup>. This data has been used by Jacobs to estimate the amount of C&I waste that will be produced in Kent during the MWLP period based upon the business mix in the Kent economy in 2009.

**3.2.1.13** The estimated amount of C&I waste produced in Kent for the base year of 2009 is 961,000 tonnes. Two different annual growth scenarios have been used to assist with planning for new facilities for C&I waste. These are a low growth scenario of 0% per year and a high growth rate of 2.5% per year initially, which decreases to 1.5% in 2016 and to 1% in 2021. The projected tonnages of C&I waste arisings by the different methods are shown in the following table.

**Table 4 Projected Tonnages of C&I waste (rounded to 1,000 tonnes)**

	2011	2016	2021	2026	2031
High Growth	1,005,000	1,104,000	1,183,000	1,243,000	1,307,000
Low Growth	961,000	961,000	961,000	961,000	961,000

**3.2.1.14** Kent has the benefit of a major EfW plant at Allington, which features heavily in the WMU contracts for residual MSW. Whilst this plant currently has spare capacity, additional EfW facilities will be required during the plan period to deal primarily with the volumes of C&I waste arising in Kent which are currently sent to landfill.

### **Construction, Demolition & Excavation Waste**

**3.2.1.15** The most recent national study on inert CDE waste arisings that has been disaggregated to show waste arisings for the Kent subregion (i.e. the area of Kent and Medway), was conducted in 2005 by Capita Symonds for DCLG <sup>(26)</sup>.

**3.2.1.16** The estimated amount of inert CDE waste that was produced in Kent in 2011/12 is 2,600,000 tonnes. As the relevant survey work relates only to inert CDE waste, no separate assessment of non-inert CDE waste is possible. However, the KMWP is being prepared on the assumption that the non-inert CDE waste is included in the forecast for C&I waste as in reality it is very difficult to differentiate between the two waste types as both waste types can be handled by the same type of waste management facilities.

25 DEFRA (May 2011) Survey of Commercial and Industrial Waste Arising 2010

26 Capita Symonds (February 2007) Survey of Arisings and Use of Alternatives to Primary Aggregates in England, 2005: Construction, Demolition and Excavation Waste

## Hazardous Waste

**3.2.1.17** At present, there are three hazardous landfill sites in Kent: Pinden Quarry (near Dartford) accepts asbestos and is of regional significance, the strategic site for waste at Norwood Landfill (Sheppey) that accepts hazardous flue ash from Allington EfW <sup>(27)</sup> and Margett's Pit, Burham <sup>(28)</sup>.

**3.2.1.18** If the 2008 rate of infilling continues, Pinden hazardous landfill could be full by 2018. Planning permission for the site does not expire until 2042 and as the annual arisings of asbestos are unpredictable the site could remain operational for a much longer period. An extension to Pinden Quarry for both chalk extraction and restoration with asbestos landfilling is being promoted by the site operator. The site has been allocated in KCC's Waste Sites Plan <sup>(29)</sup> and this would extend the operational life of the site beyond the end of the plan period.

**3.2.1.19** The landfill site at Nowood, Sheppey accepts the hazardous flue ash residues from Allington, but it has limited consented void space remaining. The Draft KMWP allocates the Norwood Landfill site as a strategic allocation in order to make provision for this waste stream for the duration of the plan and other possible new waste streams from new EfW plants that may become operational during the plan period, as it is essential that Kent has the capacity to deal with these residues. Enabling the continued management of hazardous flue ash within Kent has the added benefit of contributing to Kent achieving continued net self-sufficiency in hazardous waste facilities.

### 3.2.2 Kent Waste Provision and Requirements

**3.2.2.1** To help achieve economic growth, local planning authorities must plan proactively to meet the development needs of business and support an economy fit for the twenty-first century. Draft Policy CSW1 is based upon the policy prepared by the Planning Inspectorate and addresses the requirements of the presumption in favour of sustainable development required by national policy.

**3.2.2.2** For the plan period an assessment has been made of the new types of facilities which will be required using broad categories of waste facilities such as landfill, recycling and composting, and other recovery which roughly correspond to stages in the waste hierarchy. The Draft KMWP assessment of need for different categories of facilities has been based upon the targets for recycling and recovery (and by deduction for landfill) as set out in the Kent Joint Municipal Waste Management Strategy, and its Refreshed Objectives and Policies the revised Waste Framework Directive, and the now abolished Regional Spatial Strategy.

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27 Kent Minerals and Waste Development Framework Waste Topic Paper 5 - Hazardous Waste Management

28 8th Annual Minerals and Waste Monitoring Report - 1st April 2011 to 31st March 2012

29 Kent County Council Waste Sites Plan - Preferred Options Consultation (May 2012)

**Table 5**

<b>Waste Stream</b>	<b>2011</b>	<b>2016</b>	<b>2021</b>	<b>2026</b>	<b>2031</b>
MSW	724,352	746,883	788,872	847,746	913,264
C&I (High Growth)	1,004,726	1,103,860	1,183,313	1,243,674	1,307,114
C&I (Low Growth)	961,000	961,000	961,000	961,000	961,000
CDE	2,600,000	2,600,000	2,600,000	2,600,000	2,600,000
Hazardous (High Growth)	158,174	173,780	186,289	195,791	205,779
<b>Hazardous (Low Growth)</b>	144,000	144,000	144,000	144,000	144,000

**3.2.2.3** The KMWP is therefore planning for some growth in MSW, C&I (High Growth) and Hazardous (High Growth).

#### MSW

**3.2.2.4** It is anticipated that over the life of the plan that the majority of new development will occur by improvements to existing sites to enable an increase in the rate of recycling. However, there are two developments that will require new sites: Tonbridge and Malling is the only borough in Kent where there is no HWRC and the borough of Ashford does not have a waste transfer station to enable the bulking up for transport of residual waste and doorstep segregated recyclable for onward transport to the central facilities at the Allington EfW and MRF plants. The county has an existing well established network of facilities for MSW and it is not envisaged that the forecast growth in MSW will significantly impact on the highway network.

#### C&I

**3.2.2.5** Kent has the benefit of a major EfW plant at Allington, which features heavily in the WMU contracts for residual MSW. Whilst this plant currently has spare capacity, additional EfW facilities will be required during the plan period to deal primarily with the volumes of C&I waste arising in Kent which are currently sent to landfill.

#### Hazardous Waste

**3.2.2.6** The landfill at Norwood, Sheppey accommodates the hazardous flue ash residues from Allington, but it has limited consented void space remaining. In order to make provision for this waste for the duration of the plan and for other possible new waste streams from new EfW plants which become operational during the plan period, it is essential that Kent has the capacity to deal with these residues. Enabling

the continued management of hazardous flue ash within Kent has the added benefit of contributing to achieving the continued net self-sufficiency in hazardous waste facilities.

**3.2.2.7** Only one site was put forward in the "Call for Sites" in 2010 for the disposal of flue ash. The submission was for an extension to the existing facility at Norwood Quarry. As this is a site already in use for the proposed use, KCC do not envisage any additional impact on highway network, the environment or quality of life for Kent residents from HGV movements to and from this site.

#### Location of Non Strategic Waste Sites

**3.2.2.8** A further preference identified in the consultation on the KMWP was for the location of waste uses onto appropriate industrial estates as this also has benefits of utilising previously developed land and enabling waste uses to be located proximate to waste arisings as there is a plethora of vacant employment land throughout Kent. Whilst high turnover at the industrial estates generally precludes identification of any particular unit unless it is being promoted by an operator, whole industrial estates may be identified as a suitable location. However, industrial estate locations may not be suitable for some types of waste uses, due to high land and rent costs, or because of their limited size or close proximity to sensitive receptors.

**3.2.2.9** Industrial estates are often located on the edge of urban areas and are better suited to HGV movements. This ensures that HGV's remain on the Strategic Road Network for as much as of their journey as possible, addressing problems caused by freight traffic to communities and by avoiding roads not suitable for HGV's.

#### **3.2.3 Current Minerals Movements in Kent**

**3.2.3.1** The annual production of primary land-won aggregates in Kent for 2011 was approximately 1,660,000 tonnes for all sand, gravel and crushed rock, which is a decrease of around 500,000 tonnes from production in 2010<sup>(30)</sup>. This equates to approximately 92,000 lorry movements per annum on Kent's road network, assuming an average payload of 18 tonnes per lorry.

**3.2.3.2** The reserves of land-won sand and gravel for aggregate use in Kent stood at 18.7 million tonnes on the 31st December 2011. The NPPF requires the sand and gravel landbank<sup>(31)</sup> for Kent (which includes both soft sand and sharp sand and gravel), to be based on the latest rolling ten year sales average. The rolling 10 year sales average (from 2002 to 2011), for all land-won sand and gravel is 1,602,562 million tonnes per annum. Therefore the landbank for Kent for land-won sand and gravel is 11.7 years at the end of 2011 (using the rolling 10 year sales figure<sup>(32)</sup>).

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30 8th Annual Minerals and Waste Monitoring Report

31 A stock of mineral reserves with planning permission for their winning and working

32 Table 3 - Average Sales of Land-won Sand and Gravel: Kent Area - 8th Annual Minerals and Waste Monitoring Report 1st April 2011 to 31st March 2012

**3.2.3.3** Kent's existing major minerals sites are listed below and their location in relation to the strategic road network and other transportation facilities is shown in Appendix B.

**Table 6 - Existing Minerals Sites in Kent**

<b>Site Name</b>	<b>District</b>	<b>Minerals Type</b>
Sevenoaks Quarry	Sevenoaks District Council	Building Sand
Ightham Sand Pit	Tonbridge and Malling Borough Council	Building Sand
Scotney Court Quarry	Shepway District Council	Sand and Gravel - Flint
Denge Pit	Shepway District Council	Sand and Gravel - Flint
Hermitage Quarry	Tombridge and Malling Borough Council	Crushed Rock
Aylesford Sand Pit West	Tonbridge and Malling Borough Council	Building Sand
Joyce Green Farm Quarry	Dartford Borough Council	Sand and Gravel - Flint
East Peckham Quarry	Tonbridge and Malling Borough Council	Sand and Gravel - Sandstone
Stonecastle Farm Quarry	Tonbridge and Malling Borough Council	Sand and Gravel - Sandstone
Lenham (Shepherds Farm) Quarry	Maidstone Borough Council	Building Sand
Charing Sand Pit	Ashford Borough Council	Building Sand
Blaise Farm Quarry	Tonbridge and Malling Borough Council	Crushed Rock
Land North and East of Joco Pit	Tonbridge and Malling Borough Council	Building Sand
Addington Sandpit	Tonbridge and Malling Borough Council	Building Sand
Winterbourne Quarry West	Swale Borough Council	Building Sand
Ham Hill Quarry	Tonbridge and Malling Borough Council	Building Sand

Site Name	District	Minerals Type
Allens Bank	Shepway District Council	Sand and Gravel - Flint
Nepicar Farm Quarry	Tonbridge and Malling Borough Council	Building Sand
Ightham Sand Pit Works	Tonbridge and Malling Borough Council	Brickworks
Nepicar Farm Quarry	Tonbridge and Malling Borough Council	Industrial Sand
Aylesford Sand Pit East	Tonbridge and Malling Borough Council	Industrial Sand
Addington Plant Site	Tonbridge and Malling Borough Council	Industrial Sand
Hempstead House Bapchild	Swale Borough Council	Brickearth - Extraction
Claxfield Farm	Swale Borough Council	Brickearth - Extraction
Pinden Quarry	Dartford Borough Council	Chalk - Extraction
Smeed Dean Works	Swale Borough Council	Brickworks
Medway Works, Holborough	Tonbridge and Malling Borough Council	Strategic Site (Minerals for Cement)

### Crushed Rock

**3.2.3.4** National minerals policy in the NPPF requires the maintenance of a land bank of at least 10 years for crushed rock. Using the assumed 10 year rolling average sales figure over the period to the end of 2030 as the drawdown rate, existing reserves would provide a land bank of 14mt at the end of the plan period. This is equivalent to a residual land bank of at least 17 years<sup>(33)</sup>.

**3.2.3.5** Chalk is used in agriculture and engineering in Kent, as well as being used in the production of bricks, tiles and cement. Clay is also used in some engineering processes.

**3.2.3.6** The most recent survey of land-won chalk extractors in Kent for the 2011 calendar year indicated that sales in 2011 were considerably higher than previously estimated due to a large volume of sales from one site. If the 2011 sales are not an

unusual occurrence, and future sales are expected at this higher level, the remaining chalk reserves of 2.63 million tonnes (recorded at the end of 2011) would be sufficient for a land bank of 13 years.

#### Marine Dredged Aggregates

**3.2.3.7** The 2010 Kent and Medway Mineral Imports Study identifies that since 1999, wharves in Kent have enabled the county to be biggest importer of marine dredged sand and gravel in the South East Region (in 9 out of 10 years up to 2008)<sup>(34)</sup>. In addition Medway is now the second biggest importer of marine dredged sand and gravel in the South East.

#### Imported Aggregates

**3.2.3.8** The construction aggregate sales (from both land-won and marine sources) at Kent's wharves in 2011 were as follows:

- 1,972,653 tonnes of sand and gravel (14.1% increase from 2010)
- 807,373 tonnes of crushed rock (15.1% increase from 2010)

**3.2.3.9** This adds up to a total of 2,780,026 tonnes of construction aggregates sold at Kent's wharves in 2011, a notable increase of 411,775 tonnes (14.8% rise) from 2010 sales.

#### Rail Depots

**3.2.3.10** Construction Aggregate Sales (from both land-won and marine sources) at Kent's rail depots in 2011 were as follows:

- 56,921 tonnes of sand and gravel (23.7% increase from 2010).
- 389,006 tonnes of crushed rock (19.5% increase form 2010).

**3.2.3.11** The total sales of construction aggregates sold at Kent's rail depots in 2011 is therefore 445,927, an overall increase of 89,512 tonnes (20.15% rise) from sales in 2010.



### 3.2.3.12 Sales of Construction Aggregates at Rail depots in Kent (2006 - 2011) (35)

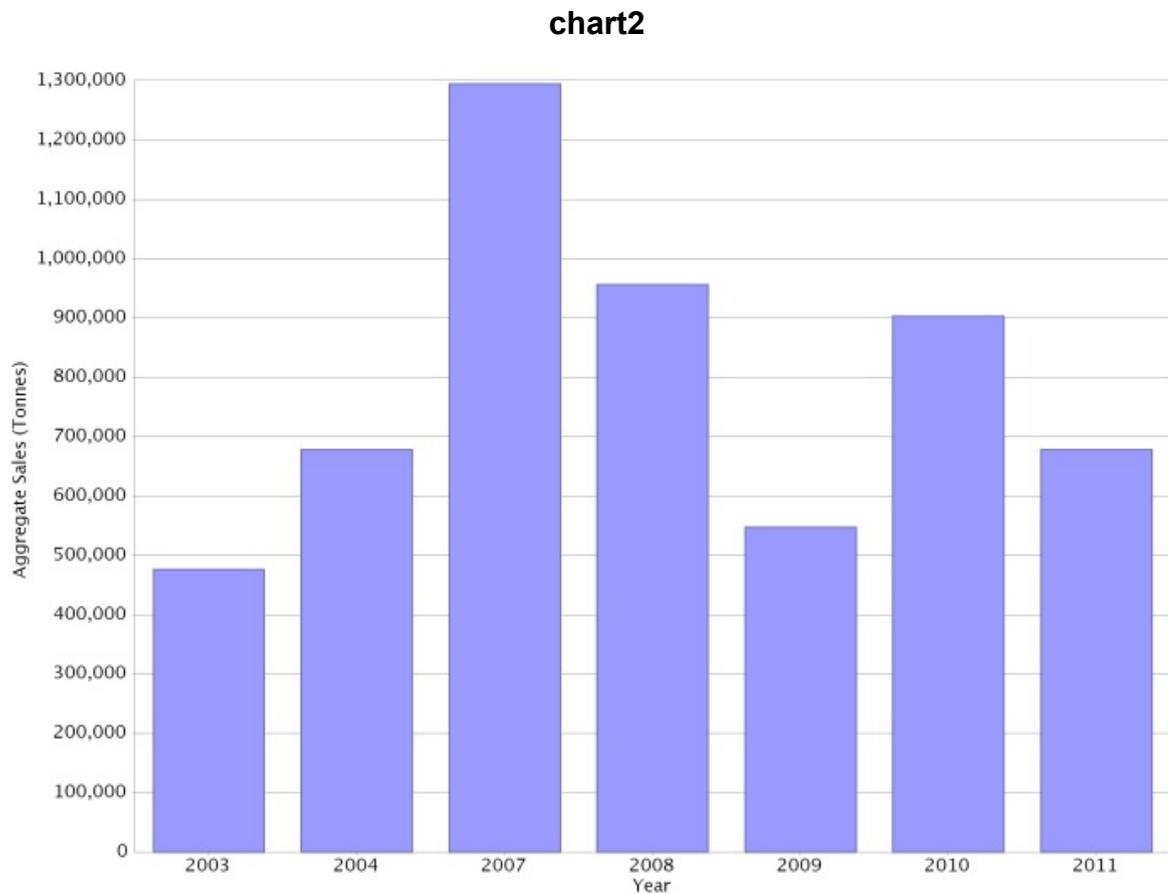
#### Secondary and Recycled Aggregates

3.2.3.13 The 2011 aggregate monitoring survey indicated that the production of secondary and recycled aggregates in Kent was 678,405 tonnes. After reaching a peak in 2007, the 2011 figures indicate overall drop in sales which can be partly attributed to the closure of three sites during 2011.

### 3.2.3.14 Sales of Secondary and Recycled Aggregate Sales in Kent between 2003 and 2011 (36)

35 Source: KCC 8th Annual Minerals and Waste Monitoring Report

36 Source: KCC 8th Annual Minerals and Waste Monitoring Report



### 3.2.4 Kent Mineral Provision and Requirements

**3.2.4.1** Minerals are essential to support sustainable economic growth and quality of life. It is important that there is a sufficient supply of minerals to provide the infrastructure, buildings, energy and goods that the country needs. However, since they are a finite natural resource, and can only be worked where they are found, it is important to make best use of them to secure their long-term conservation.

**3.2.4.2** The type, number and size of mineral sites considered for the Mineral Plan will depend on the anticipated requirements in Kent as set out in the KMWP and its evidence base. The needs for the plan period are largely determined by Kent's stock of mineral planning permissions to provide for national landbank requirements, as directed by National Policy. An overview of the current situation regarding anticipated levels of mineral supply required for the plan period for County is summarised in the table below <sup>(37)</sup>:

**Table 7**

<b>New Allocations Required</b>	<b>No Further Allocations Required</b>
Sand and Gravel (including Soft Sand)	Crushed Rock
Silica Sand (Industrial Sand)	Materials for Cement Manufacture
Brickearth	
Importation Facilities	
Secondary and Recycled Aggregates	
Chalk for Agricultural and Engineering Use	
Clay for Engineering Use	

**3.2.4.3** The Kent Minerals Plan Preferred Options document identifies 7 Soft Sand Sites, 5 sharp sand and gravel sites, 1 crushed rock (ragstone). Although the KMWP identifies the need for new minerals sites. It is important to understand that there is a continuum of production to maintain levels of minerals supply. Once a site's reserves are exhausted, there is a switch in production to a new site resulting in no net increase in material volumes and no overall impact on the highway infrastructure.

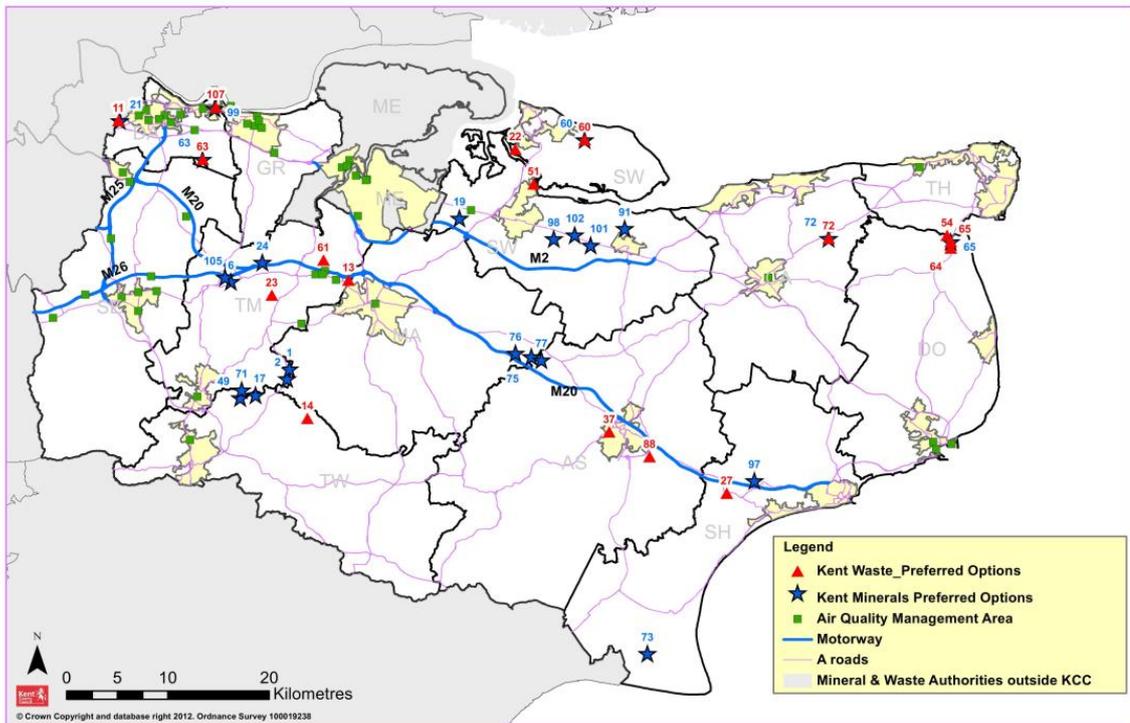
### 3.2.5 Air Quality Management Areas

**3.2.5.1** Since December 1997 each local authority in the UK has been carrying out a review and assessment of air quality in their area. This involves measuring air pollution and trying to predict how it will change in the next few years. The aim of the review is to make sure that national air quality objectives will be achieved throughout the UK by the relevant deadlines. These objectives can assist in enhancing residents quality of life's and help to protect the natural environment. Should a local authority identify a place where Air Quality Objectives are not likely to be achieved, it must declare the area an Air Quality Management Area (AQMA) and produce an Air Quality Action Plan <sup>(38)</sup>.

**3.2.5.2** Most parts of Kent enjoy good levels of air quality. However 38 AQMA's have been declared in Kent, with a further 3 in Medway. Within Kent, road traffic is the main source of air pollution, particular problem sites are urban areas and the main transport corridors. However some of the 38 AQMAs in Kent include non-traffic AQMAs at Dover Eastern Docks (shipping emissions of SO<sub>2</sub>) and Northfleet Industrial Area (PM<sub>10</sub> emissions from industry).

38 A document in which a district council sets out measures to achieve its air quality objectives

**3.2.5.3** Traffic relating to minerals and waste development can also cause air pollution, especially in areas where multiple sites are located in close proximity to one another (i.e. Cluster sites) and for sites which are located in or close to an existing Air Quality Management Area. The location of existing AQMA's and the minerals and waste proposals at Preferred Options stage are shown in below.



Air Quality Management Areas with Preferred Options - Minerals and Waste

**3.2.5.4** Measures taken by KCC and district councils could include lorry routing and traffic management measures to reduce congestion in urban areas, especially with AQMAs. Traffic Management measures encourage lorries to use main roads, reducing the impact on local neighbourhoods.

#### *Trends in Air Quality*

**3.2.5.5** Monitoring of air quality in Kent <sup>(39)</sup> shows that the level of nitrogen dioxide has decreased by 9% since 2004, while the level of particulates have also decreased by 21%.

**3.2.5.6** To further help improve air quality there have been increasingly strict emission standards put in place which are set by the European Union. The current exhaust emission standard is "Euro 5" which came in to force in 2009 with a higher standard, "Euro 6" is due to come in to force in 2014 <sup>(40)</sup>.

39 See <http://www.kentair.org.uk>

40 European Commission <http://ec.europa.eu/environmental/air/transport/road.htm>



**3.2.5.11** In order to mitigate the negative impacts on the environment of transporting minerals and waste, the Minerals and Waste Local Plan and the Waste Sites Plan and Minerals Sites Plan will need to <sup>(44)</sup>:

- Integrate consideration of carbon emissions and air pollution associated with the transportation of minerals and waste alongside the cumulative impacts of other key strategies for Kent, taking into account:
  - a. Increased volumes of traffic; and
  - b. Increased pollution, particularly for multiple sites located in close proximity to one another (cluster sites) and sites located in or close to an existing Air Quality Management Area.
- Include policies which <sup>(45)</sup>:
  - a. Support the transport of minerals and waste by rail, sea or inland waterways; and
  - b. Support the minimisation of road miles, except where:
    - I. There is no practicable alternative to road transport which would environmentally preferable.
    - II. The proposed access arrangements would be safe and appropriate to the proposed development and the impact of the traffic generated would not be detrimental to road safety to an unacceptable degree; and
    - III. The highway network is able to accommodate the traffic that would be generated and the impact of the traffic generated would not have an unacceptable impact on the environment or local community.

44 Climate Change and the Kent MWLP Topic Paper

45 See Policy DM10 of the Draft Minerals and Waste Plan

## 4 Forecast Impact on Kent's Road Network

### 4.1 Assessment of Preferred Options Sites

**4.1.1** As explained in the Appendix A, there is no county wide model in place for Kent that can provide an informed long-term traffic forecast for key routes or predict where congestion will happen. Indeed, levels of congestion will depend on the extent to which new capacity is provided and if this capacity is not forthcoming, it is not known how this will influence future demand and potential economic growth. Therefore, based on the national forecast for population and housing growth and the modelling (where in existence) for each district, a high level subjective assessment for the County suggests the following as potential congestion hotspots on existing roads in the future.

#### 4.1.2 Ashford Growth Area

- M20 junction 9 through to the A28 Chart Road
- M20 junction 10, A2070 and A2042

#### 4.1.3 Thames Gateway Kent Growth Area

- M25 and A282 Dartford-Thurrock Crossing
- A2 (Kent Thameside) and A2 Bean Junction, A2 Ebbsfleet Junction
- A226 Thames Way
- A226 London Road
- A206 University Way
- B262 Hall Road
- M2 Junction 5

#### 4.1.4 Maidstone Growth Point

- Maidstone Town Centre Gyratory
- M20 junctions 4 to 8

#### 4.1.5 Dover Growth Point

- A20 Townwall Street

#### 4.1.6 Canterbury

- M2 Brenley Corner
- Key routes into the city centre and the ring road

#### 4.1.7 Thanet

- A254/A256 Westwood Cross

#### 4.1.8 Tunbridge Wells

- A21 Tonbridge to Pembury
- A21 Kippings Cross to Lamberhurst
- A26 Tunbridge Wells to Southborough
- A264 Pembury Road

**4.1.9** The above list of potential congestion hotspot on existing network shows that the Kent's highway network is already overloaded at these critical points and the network would have less resilience to provide for efficient and reliable journeys. These critical points are identified based on background traffic growth, without using a county-wide transport model. It is now essential to undertake a high level assessment of planning policies in this Mineral and Waste Core Strategy and site allocation proposals (shown in Appendix C) with respect to their impact on the Kent's road network conditions. The assessment for each district in Kent County is provided below.

#### **4.1.10 Ashford**

**4.1.11** Site 37 – Cobbs Wood Industrial Estate, Ashford (Waste): The site further adds traffic to the A28 which is identified as a congestion hotspot. This site needs to be further examined.

**4.1.12** Site 88 – Sevington Rail Depot, Ashford (Waste): It is unlikely that the site will have any significant impacts. The access to the site will be made via Bad Munstereifel Road and Ashford to Folkestone Railway Line. It is close to the M20 Junction 10, A2070 and A2042 congestion hotspots.

**4.1.13** Site 77 – Burleigh Farm and Tile Lodge, Charing (Mineral): The generated traffic will get improved access to the A20, it is unknown how much traffic impact this site will have on the nearby identified congestion hotspots at the M20 Junctions 8 and 9.

#### **4.1.14 Canterbury**

**4.1.15** Site 72 – Unit 14 Canterbury Industrial Park, Hersden (Waste and Mineral): There are unknown planned developments which are likely to impact on road capacity, however, the site is close to the A28 Sturry Road and the ring road. There is a need to further investigate the impact of the proposed site on the A28 Sturry Road and the ring road which are congestion hotspots in Canterbury.

#### **4.1.16 Dover**

**4.1.17** Site 65 – Land North of Stevens and Carlotti, Richborough (Waste and Mineral): It is unlikely that the site will have any adverse impact on road capacity; the site is not close to any identified congestion hotspot.

**4.1.18** Site 64 – Richborough Hall, Sandwich (Waste): Adequate capacity is available on adjoining road network and the site falls within area of East Kent Access Phase 1C. The site is not close to any identified congestion hotspot.

4.1.19 Site 54 – Richborough Power Station A, Minster (Waste): same as Site 64

#### 4.1.20 Kent Thameside (Dartford and Gravesham)

4.1.21 Site 11 – Lees Yard and Adjacent Land, Rochester Way, Dartford (Mineral): The site is near to the A282 Dartford Tunnel Approach Road AQMA and will not have any adverse impact on identified congestion hotspots.

4.1.22 Site 21 – F M Conway Rochester Way, Dartford (Waste): same as Site 11

4.1.23 Site 63 – Pinden Quarry and Landfill Extension (Waste): This development site is likely to reduce the capacity however this site is not close to any identified congestion hotspot.

4.1.24 Site 63 – Pinden Quarry and Landfill Extension (Mineral): No likely impact on road capacity and this site is not close to any identified congestion hotspot.

4.1.25 Site 107 – Land at Lower Road, Swanscombe (Waste): This site is close to the A226 London Road congestion hotspot and the likely impact of the generated traffic needs to be examined.

4.1.26 Site 99 – Broomway Ltd, Swanscombe (Mineral): Same as Site 107.

#### 4.1.27 Maidstone

4.1.28 Site 75 – Boltens Field, Lenham Heath (Mineral): The generated traffic will get improved access to the A20, it is unknown how much traffic impact this site will have on the nearby identified congestion hotspots at the M20 Junctions 8 and 9.

4.1.29 Site 76 – Chapel Farm, Lenham (Mineral): same as Site 75.

#### 4.1.30 Shepway

4.1.31 Site 27 – Otterpool Quarry, Sellindge (Waste): There is sufficient spare capacity on the A20 and this site is not close to any identified congestion hotspot.

4.1.32 Site 97 – Shrine Farm, Postling (Mineral): The site is immediately adjacent to the M20 and the traffic generated from the site will access M20 Junction 11. This site is not close to any identified congestion hotspot.

4.1.33 Site 73 – Lydd Quarry Extensions (Areas A-D), Lydd (Mineral): The traffic generated from the site is unlikely to have any significant impact on the road capacity, however, there is a need for further assessment. This site will not affect any identified congestion hotspot.

#### 4.1.34 Swale

**4.1.35** Site 19 – Paradise Farm, Hartlip and Newington (Mineral): This site will only be worked for six weeks per year it is considered that it will result in a negligible change in traffic flows on the M2. This site is close to the identified M2 J5 congestion hotspot.

**4.1.36** Site 91 – Animal Products Site, Faversham (Mineral): This site is not close to any identified congestion hotspot.

**4.1.37** Site 101 – Barbary Farm, Norton Ash (Mineral): There is sufficient capacity at the A2 London Road, this site may require mitigations at junction on the A249. This site is not close to any identified congestion hotspot.

**4.1.38** Site 102 – Barrow Green Farm, Teynham (Mineral): There is sufficient capacity at the A2 London Road, this site may require mitigations at junction on the A249. The proposal will likely increase traffic flow on the A2 at Ospringe where there is an AQMA. This site is not close to any identified congestion hotspot.

**4.1.39** Site 98 – Jefferies Site, Teynham (Mineral): No additional lorry movements are to be generated over and above the existed consented daily levels (circa 140 per day). This site is not close to any identified congestion hotspot.

**4.1.40** Site 60 – Norwood Quarry and Landfill Extension, Minster (Waste and Mineral): An increase in lorry activity is expected and this impact on the A249 needs to be investigated. However, the site is not close to any identified congestion hotspot.

**4.1.41** Site 51 – Ridham, Iwade (Waste): The highway network is likely to have enough capacity. Significant traffic on Sittingbourne Northern Relief Road may impact on junctions along Barge Way and Swale Way. The site is not close to any identified congestion hotspot.

**4.1.42** Site 22 – Rushenden Marshes (Waste): Lorry movements to the site would be kept to a minimum with only the amount needed to build up the bunds. The site is not close to any identified congestion hotspot.

#### 4.1.43 Tonbridge and Malling

**4.1.44** Site 17 – Moat Farm, Capel (Mineral): No adverse impact on the road capacity. Lorry movements will take place along B2017 and A228. The site is not close to any identified congestion hotspot.

**4.1.45** Site 71 – Stonecastle Farm Quarry, Whetsted (Mineral): Less likelihood of any adverse impact on road capacity. The site is not close to any identified congestion hotspot.

**4.1.46** Site 1 – East Peckham Rail Depot, East Peckham (Mineral): The likelihood of adverse impact on the road capacity is minimal as the lorry movements will take place at the A228. The site is not close to any identified congestion hotspot.

**4.1.47** Site 2 – Beltring Green Farm, East Peckham (Mineral): There is a need to further investigate the impact of extra traffic from the site on adjoining A228. The site is not close to any identified congestion hotspot.

**4.1.48** Site 24 – Land North of Addington Lane, Trottiscliffe (Mineral): No adverse impact on the road capacity and the site is not close to any identified congestion hotspot.

**4.1.49** Site 105 – Borough Green Sand Pit Extension, Wrotham (Mineral): Air quality impacts need to be considered in light of the M20 AQMA and the impact on the adjacent road network needs to be examined. The site is not close to any identified congestion hotspot.

**4.1.50** Site 6 – Land Adjacent to Platt Industrial Site, Platt (Mineral): The nearby M26 is subject to an AQMA so site traffic impacts on local air quality need to be examined. The site is not close to any identified congestion hotspot.

**4.1.51** Site 61 – SCA Packaging, New Hythe, Aylesford (Waste): There is a condition on the development of this site not to generate more traffic movements than can be accommodated without significant adverse effects on the local highway network and the AQMA. The site is not close to any identified congestion hotspot.

**4.1.52** Site 13 – Allington Waste Management Facility, Aylesford (Waste): The impact of site traffic on air quality is a key concern due to its location within the town centre AQMA, especially due to the large capacity of the proposed site. However, the number of lorry traffic movements in combination with the existing waste operations will not exceed the maximum allowed movements both per day and peak periods. The site is not close to any identified congestion hotspot.

**4.1.53** Site 23 – Blaise Farm, Offham (Waste): The site will be accessed by lorries along the A228. The nearby proposed developments within Kings Hill would increase vehicular traffic. The site is not close to any identified congestion hotspot.

**4.1.54** The above high level assessment shows that most of the proposed sites are located away from the identified congestion hotspots. Few of these sites require air quality assessment due to their proximity to AQMA. The sites located near to the identified congestion hotspots need further assessment keeping in view the planned highway interventions in the area. The next section discusses a way forward of delivering highway interventions to remove congestion hotspots from our highway network.

#### **4.1.55 Tunbridge Wells**

**4.1.56** Site 14 – Longfield Farm, Paddock Wood (Mineral): There is potential of increased traffic that could cause impact on transport and community well being. There are some local concerns regarding capacity on Pearsons Green Road. The site is not close to any identified congestion hotspot.

**4.1.57** Site 49 – Land North and South of Hammer Dyke, Capel (Mineral): The traffic impact would be kept to a minimum level by operating only one site of the three sites (site 17, existing site and the proposed extension) situated in the vicinity of Stonecastle Farm Quarry. The site is not close to any identified congestion hotspot.

## 5 Conclusion

### 5.1 Conclusion

**5.1.1** The outcome of the assessment demonstrates the impact on the highway network and environment of the KMWP. While there will be some growth in the amount of waste in the county that will place an increased demand on Kent's transport network, this assessment shows that the KMWP will put in place policies to mitigate this impact and help to protect the environment from the transportation of minerals and waste, as outlined in the draft policies below:

- Draft Policy CSM9 promotes the approval of planning permission for any new wharf and railhead importation operations or for wharves and railheads which have been operational in the past (which have since fallen out of use) which include the transport of the minerals by sustainable means (i.e. sea or rail) as the dominant mode of transport will be granted. In order to reduce any detrimental impact to road safety and to the local environment;
- Draft Policy DM10 requires road miles to be minimised to and from minerals and waste sites, except where there is no practical alternative to road transport;
- Draft policy CSM10 encourages the use of more sustainable transport modes for the transportation of minerals by rail and water.

**5.1.2** In relation to the transportation of minerals, the KMWP identifies the need for new minerals sites. It is however important to understand that there is a continuum of production to maintain levels of minerals supply. For instance, once a site's reserves are exhausted, there is a switch in production to a new site resulting in no net increase in material volumes and no overall impact on the highway infrastructure.

**5.1.3** Furthermore, to help deliver the proposed mineral and waste sites in a sustainable manner, Kent County Council devised a long term delivery plan ('Growth without Gridlock') in 2010 to implement transport solutions over the next 20 years. This plan will enable Kent to support an integrated transport network with sufficient capacity and resilience to provide for efficient and reliable journeys. Furthermore, by delivering 'Growth without Gridlock' plan, Draft Policies CSM9 and DM10 can be achieved to improve road safety and cut carbon emissions due to road transport.

**5.1.4** Kent County Council is working with the government, South East Local Enterprise Partnership and private sectors to find potential sources of funding to deliver transport solutions mentioned in 'Growth without Gridlock' and other local transport solutions to deliver an integrated transport network in Kent.

**5.1.5** Therefore despite some issues with junction capacities and congestion that will need to be overcome at some locations, the assessment demonstrates that the mitigation and policies implemented by the KMWP will help to mitigate against any additional impact on the highway network, the environment and protect the quality of life of Kent's residents.

## Appendix A: Transport Predictions

### A.1 Road Transport and Traffic Modelling

**A.1.1** Predicting future traffic is an extremely complex and subjective process. The usual approach is through computer modelling, whereby a network consisting of nodes and links is created and trips on this network are generated for different future land use scenarios to model the impact. The size and complexity of these models can vary greatly, from a national model of motorways and trunk roads to a local model for one development site.

**A.1.2** These models cost up to £500,000 for a single urban area, since it can take up to two years to collect data and build a base model before any forecasting is done, with an additional ongoing maintenance cost to keep them up to date. Therefore, there is a general lack of road traffic forecasts in Kent due to this high cost. There was a countywide traffic model developed in the early 1990s but it was very complicated and expensive and had to be abandoned. A study by KCC in 2008 concluded that a countywide model should not be developed.

**A.1.3** Some district councils, in partnership with KCC and others, have been commissioning traffic modelling to inform the evidence base for their Local Development Frameworks. A variety of models have been used depending on the complexity and level of development proposed for the areas and private consultants are usually commissioned to carry out the work. Ideally, in the future all districts should have compatible models that can eventually be linked to each other and to models developed by the Highways Agency. However, the high cost of traffic modelling is preventing this at the moment. As well as existing traffic levels, these models also take into account future growth in population and national traffic forecasts and these are considered below.

### A.2 Population Projections

**A.2.1** Between 2011 and 2031, the population of Kent (KCC area excluding Medway) is due to grow by 13.6% from 1,466,500 to 1,665,700<sup>(46)</sup>. This growth is not distributed uniformly, with Ashford and Dartford taking the largest increases with 43.7% and 39.1%, reflecting their status as Growth Areas. Sevenoaks is predicted to grow by only 0.3% due to its location within the Metropolitan Green Belt.

### A.3 National Traffic Forecasts

**A.3.1** Between 2010 and 2030, English total traffic is forecast to increase by around 36%, from 261.2 billion vehicle miles to 354.7 billion vehicle miles<sup>(47)</sup>. As traffic demand increases, congestion is also forecast to rise, with seconds lost per mile due to congestion rising from 19.2 seconds in 2010 to 29.2 seconds in 2030. Journey times are also forecast to increase, with an average mile taking around 1 min 54

46 KCC Strategy Forecast (Oct 2011), Research & Evaluation, Kent County Council

47 DfT (2012) - Road Transport Forecasts 2011, Results from the Department for Transport's National Transport Model

seconds in 2010 but 2 mins 6 seconds in 2030. The National Transport Model can disaggregate its traffic forecasts by the types of vehicles using the road network, as well as area and road types. The fastest growth in road traffic is forecast to take place on Motorway and Trunk roads, with 40% growth and 38% growth respectively by 2030.

#### A.4 National Freight Forecasts

**A.4.1** Forecasts of demand for port capacity in the period up to 2030 by MDS Transmodal (MDST) were published on behalf of the Department for Transport in 2006 and updated in 2007. The central GB-wide forecasts suggested increases by 2030 over a 2005 base of:

- 182% in containers, from 7m to 20m teu (excluding transshipment);
- 101% in ro-ro traffic, from 85m to 170m tonnes; and
- 4% in non-unitised traffic, from 411m to 429m tonnes.

#### A.5 International Traffic through Dover

**A.5.1** The Port of Dover and the Channel Tunnel are the UK's principal passenger seaports. In 2009, Dover handled 13 million passengers and almost 2.8 million cars. An additional 6.9 million passengers crossed the Channel using 'Le Shuttle' train services through the Channel Tunnel.

**A.5.2** Dover Harbour Board operates Europe's biggest Ro-Ro ferry port for both freight and passenger traffic. It handled 13.8 million passengers, 2.8 million cars and 2.3 million HGVs in 2008<sup>14</sup>, with the UK strongly dependent on the capacity provided at Dover. Government forecasts suggest an 85% growth in cross-Channel (Ramsgate, Dover, Channel Tunnel) freight between 2005 and 2030, with a short term forecast of 2% per annum<sup>(48)</sup>. This represents an increase in HGVs from 3.8 million in 2005 to 7.1 million in 2030. This growth needs to be largely shared by the Port of Dover and the Channel Tunnel, as these offer the shortest and most attractive routes.

**A.5.3** The Government believes that there is a compelling need for substantial additional port capacity over the next 30 years. In response, Dover Harbour Board undertook a comprehensive master planning exercise to understand how best to cope with this increased demand. This identified the Western Docks as providing the strongest opportunities for expanding Dover's ferry operations and proposed a second Terminal (T2) at this location. This will provide four additional berths to handle Ro-Ro ferries carrying passenger and freight cargoes, whilst retaining the cruise and marina functions. Dover Harbour Board predicts a high growth forecast of 2.5% per annum, and sees an increase of approximately two thirds to 3.75 million lorries by 2037 (2005 base year)<sup>(49)</sup>.

48 DfT (2007), *UK Port Demand Forecasts to 2030*

49 Dover Harbour Board (2010), *Our Plan for the Next Generation – Ferry Terminal Two*

## A.6 Regional Traffic Forecast

**A.6.1** The DfT Regional Traffic Forecasts<sup>(50)</sup> of 2011 gives traffic predictions (in terms of vehicle miles) up to 2035 by region from a baseline year of 2003. The South East region (not London) has been given growth figures of 7% in 2015, 18% in 2020 and 38% in 2030. These forecasts show that the ability to travel around the South East region will increase substantially by 2030. Kent has South East England's greatest potential to deliver economic growth to the UK economy and to stimulate private-sector-led recovery<sup>(51)</sup>. In response to potential growth in our economy and traffic, Kent County Council has devised a plan (Growth without Gridlock – A transport delivery plan for Kent) to meet the future traffic needs to enable its residents and businesses to travel easily, safely and quickly.

## A.7 Local Development Frameworks and Associated Traffic Modelling

### Ashford

**A.7.1** In 2003, Ashford was designated as one of four South East Growth Areas in the Government's Sustainable Communities Plan<sup>(52)</sup>. Ashford Borough Council's Local Development Framework Core Strategy, adopted in July 2008, proposes 16,770 new dwellings within the Growth Area itself, together with an additional 1,180 in the rest of the Borough<sup>(53)</sup>. Following the town's Growth Area designation, a number of studies were commissioned to capture the transport planning implications of the town's expansion. These include the Highways Agency's Ashford Highways & Traffic Study (AHTS), which was published in 2006<sup>(54)</sup>. As part of the AHTS, which supported the LDF Core Strategy, a strategic highway model was developed, in SATURN package, for the Ashford urban area, based on extensive survey data collected by KCC.

**A.7.2** The model assessed highway needs for the forecast years 2011, 2021 and 2031. It identified a 50% overall increase in highway trips from 2003 to 2031 in the morning peak hour, and a 54% increase in the inter-peak and evening peak hour. Trips wholly within Ashford were forecast to increase by 85% in the morning peak hour, 66% in the inter-peak hour, and 91% in the evening peak hour, while those to and from external areas were expected to increase by between 42% and 44% in the peak direction. Trips passing through Ashford were modelled to increase by approximately 50% in all time periods, 60% of which was expected to be M20 traffic, which was forecast to increase by 60% between 2003 and 2031.

**A.7.3** The directional distribution of traffic in the 2031 morning peak hour indicated that the three proposed urban villages around Ashford would generate substantial traffic volumes to and from the town centre and the M20. The combined effect of

50 <http://assets.dft.gov.uk/publications/road-transport-forecasts-2011/road-transport-forecasts-2011-annex-miles.xls>

51 Growth Without Gridlock: A transport delivery plan for Kent, Kent County Council (December 2010)

52 Office of the Deputy Prime Minister (2003), *Sustainable Communities: Building for the Future*

53 Ashford Borough Council (2008), *Ashford Local Development Framework: Core Strategy*

54 Highways Agency (2006), *Ashford Highways & Traffic Study*

these residential developments was found to be significant additional traffic on the M20, A28, A2070 and Romney Marsh Road. Traffic distribution to proposed new employment areas also highlighted substantial movements from the new residential areas and the town centre<sup>(55)</sup>.

**A.7.4** On the basis of the model outputs, a number of transport infrastructure enhancements have been identified and progressed by KCC and the Highways Agency since 2003, focussing on the M20 junctions and the town centre. The principal improvement schemes include:-

- **Ashford Shared Space** – involving reverting to two-way operation on the town centre ring road, to improve traffic flow
- **Victoria Way**– providing a new route to the south of the town centre linking Beaver Road and the A28 Chart Road
- **M20 Junction 9 and Drovers Roundabout** – involving the signalisation of Drovers Roundabout, the widening of approach roads and the provision of a new bridge over the M20 for pedestrians and cyclists, linking the town centre with the Eureka Park business area and Repton Park residential development
- **M20 Junction 10A** – encompassing a new motorway junction to the east of Junction 10, together with a link road to the A2070, to support the planned housing and employment growth to the south and east of Ashford
- **Smartlink Bus Rapid Transit Network** – providing frequent, high-quality bus services with extensive priority measures between the town centre, railway station and existing and future growth areas

It should be noted that the evidence underpinning the Ashford SATURN model is now eight years old and that the model was based on the assumption that the proposed new M20 Junction 10A would be opened in 2012, which will not now be achieved. In the wake of the economic downturn and the 2010 Comprehensive Spending Review, there is considerable uncertainty over the deliverability of both this project and the Smartlink Bus Rapid Transit scheme. The AHTS reported that, in the absence of Junction 10A, traffic inflows at Junction 10 would increase from 5,085 to over 7,000 vehicles an hour in the morning peak in the period 2003 to 2031. This would cause considerable congestion at Junction 10, as well as knock-on effects in other areas of Ashford. General network performance would deteriorate and traffic conditions would be unacceptable<sup>(56)</sup>.

## Canterbury

**A.7.5** Following consultation on its LDF Core Strategy Options document in 2010, Canterbury City Council intended to issue a combined Core Strategy and Land Allocations Development Plan Document for consultation in mid-2012. Since the introduction of Localism Bill, there has been a lot of uncertainty about the development of planning process. The council is expected to adopt the Local Plan by April 2014<sup>(57)</sup>.

55 Ibid

56 Highways Agency (2006), *Ashford Highways & Traffic Study*

57 <http://www.canterbury.gov.uk/main.cfm?objectid=951>

The South East Plan made provision for 10,200 new dwellings in Canterbury in the period 2006-2026.<sup>(58)</sup> After taking account of completions, undeveloped Local Plan allocations and permissions granted since 2006, the residual requirement for the district at April 2010 was 7,000 dwellings. The Core Strategy Options document focussed on accommodating 4,000 dwellings in the period 2016-2026, having taken account of the previously committed land supply.<sup>(59)</sup>

**A.7.6** The Canterbury District Transport Action Plan, *Unlocking the Gridlock*, was prepared in 2004 by Canterbury City Council and KCC following extensive public consultation. Many of the traffic congestion and transport problems in the district are centred on Canterbury, which acts as an employment, education and leisure centre for much of East Kent. *Unlocking the Gridlock* therefore focuses on the city. The Action Plan was based on data from the Canterbury VISSIM micro-simulation model, created in 2003, and the strategic highway SATURN model, created in 1993 and modified in 1999 and 2004. The Action Plan had three main objectives:

- **To extend Park and Ride provision** – through the development of a fourth site to the north-west of the city centre, in order to satisfy the future parking needs of the city in a sustainable manner
- **To improve access to the A2** – by building new slip roads at all three junctions serving Canterbury, thereby reducing the need for some cross-city trips to be made using the inner routes and ring road
- **To give priority to bus, walking and cycling routes** – by introducing phased traffic management schemes in priority areas.<sup>(60)</sup>

**A.7.7** A London-bound on-slip to the A2 at Wincheap, funded by KCC, is currently under construction. The scheme has been designed to alleviate traffic congestion within Canterbury city centre by removing the need for motorists wishing to access the London-bound A2 from the south and west of the city having to travel to the Harbledown junction via the inner ring road.<sup>(61)</sup> Canterbury City Council is continuing to pursue a fourth Park and Ride site for the City.

A VISUM multi-modal strategic transport model was commissioned by the City and County Councils in 2008 to support the LDF process. The baseline model has since been completed but option testing, which will inform an update to *Unlocking the Gridlock* has not yet commenced.

## Dover

**A.7.8** The Dover District LDF Core Strategy was adopted in February 2010. The Core Strategy makes provision for 14,000 homes and 6,500 jobs, with the objective of delivering at least 10,100 new dwellings by 2026. A significant proportion of the

58 Government Office for the South East (2009), *The South East Plan*

59 Canterbury City Council (2010), *Canterbury Local Development Framework: Core Strategy Options Report*

60 KCC/Canterbury City Council (2004), *Unlocking the Gridlock: Canterbury District Transport Action Plan*

61 KCC (2011), *Local Transport Plan for Kent (2011-16)*

housing development is to be concentrated within Dover town; principally in an urban extension at Whitfield (5,750 homes) with the remaining 4,000 houses planned for Deal, Sandwich and the surrounding rural areas.<sup>(62)</sup>

**A.7.9** Dover is also home to Europe's busiest Roll-on Roll-off (Ro-Ro) ferry port. The Port of Dover handled 12 million passengers, 2.4 million cars and 2 million road haulage vehicles in 2012.<sup>(63)</sup> Government forecasts in 2007 indicated that cross-Channel freight would increase by 85% between 2005 and 2030.<sup>(64)</sup> however the Department for Transport (DfT) has since reported that the economic downturn will delay the projected growth rate by several years.<sup>(65)</sup> The Government nevertheless believes that there is a compelling need for substantial additional port capacity over the next 30 years. In response, Dover Harbour Board (DHB) undertook a comprehensive master planning exercise, which identified that the Western Docks provided the strongest opportunity to expand the Port's ferry operations. DHB subsequently proposed a second ferry terminal (T2) at this location, which would provide four new Ro-Ro berths. T2 would be accessed from the A20 west of Townwall Street and would provide additional storage capacity for HGVs prior to boarding ferries.<sup>(66)</sup> DHB submitted a Harbour Revision Order to implement T2 in December 2009. The Secretary of State for Transport<sup>(67)</sup> made a decision in December 2012 not to go ahead with T2, there is no longer necessary and urgent given the economic situation since 2008.

**A.7.10** Dover District Council commissioned a VISUM multi-modal transport model for Dover town in 2007 to underpin the Dover Transport Strategy (2008). The Strategy provides a comprehensive access strategy for Dover to 2026, taking account of planned housing and commercial development<sup>(68)</sup>. The Dover Transport Strategy reported that trips with an origin and/or destination within Dover were forecast to increase by approximately 90% in the morning peak and 140% in the evening peak to 2026, taking into account the LDF housing growth target of 14,000 dwellings and projected cross-Channel traffic growth. The VISUM model was used to assess highway junction performance over the period of the LDF and to identify those that required further attention, with a view to designing improvement schemes. Junctions identified for improvements were:

- **Whitfield Roundabout**
- **A2/A256 Whitfield junction**
- **A2/A258 Guston Roundabout**
- **Town Centre – One Way System:-**
  - Folkestone Road Roundabout
  - Brookfield Avenue/Buckland Avenue

62 Dover District Council (2010), *Dover Local Development Framework: Core Strategy*<sup>y</sup>

63 <sup>k</sup>CC (2012), *Transport Strategy Delivery*

64 Department for Transport (2007), *UK Port Demand Forecasts to 2030*

65 Department for Transport (2009), *Draft National Policy Statement for Ports*

66 Dover Harbour Board (2010), *Our Plan for the Next Generation - Ferry Terminal 2*

67 [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/49017/dover-harbour-board-transfer-20121220.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/49017/dover-harbour-board-transfer-20121220.pdf)

68 Dover District Council/WSP (2008), *Dover Transport Strategy*

- Maison Dieu Road/Park Street
- Maison Dieu Road/Castle Street
- Old Charlton Road/Connaught Road.<sup>(69)</sup>

**A.7.11** The Transport Strategy made several key recommendations for the development of an integrated transport network for Dover capable of support planned growth whilst encouraging modal shift. These included:-

- **A strategic and dynamic routeing strategy for Port traffic** – involving a system of bifurcation between the M2/A2 (for the Eastern Docks) and M20/A20 (for the Western Docks) to reduce traffic congestion and air pollution on the A20 Townwall Street
- **A Bus Rapid Transit (BRT) system** – providing high-frequency public transport links between Whitfield, the Port, town centre and Dover Priory railway station
- **Park and Ride sites** – at Whitfield and Farthingloe
- **A car parking strategy** – to manage the demand for town centre car trips.<sup>(70)</sup>

Given the current pressure on public spending, it is anticipated that these projects will be progressed primarily with contributions from local developers, as housing and commercial development comes on stream in the town centre and at Whitfield.

### **Kent Thameside (Dartford and Gravesham)**

**A.7.12** Kent Thameside, which incorporates the Boroughs of Dartford and Gravesham, forms part of the Thames Gateway Growth Area. Dartford Borough Council submitted its LDF Core Strategy and accompanying Proposals Map to the Secretary of State for Communities and Local Government (CLG) for independent examination in February 2011 and it was adopted in September 2011. The Core Strategy makes provision for 17,300 homes up to 2026, and 750,000 m<sup>2</sup> of employment land with an expected net growth of up to 26,500 jobs. New housing will be focussed in three areas on previously developed land (Dartford Town Centre and the Northern Gateway, Ebbsfleet Valley, and the Thames Waterfront)<sup>(71)</sup>.

**A.7.13** Gravesham Borough Council is currently preparing its LDF Core Strategy. The Council's preferred option is the provision of 9,300 new homes and 10,000 new jobs to 2026. The housing allocation will be concentrated to the north of the A2, with the exception of approximately 100 which will serve the needs of the rural community. The majority of new development will be concentrated at four sites within the existing urban area on previously developed land (Gravesend Town Centre, Ebbsfleet, Northfleet Embankment East and West, and Gravesend Canal Basin)<sup>(72)</sup>.

69 Dover District Council/WSP (2008), *Dover Transport Strategy*

70 Ibid

71 Dartford Borough Council (2010), *Dartford Local Development Framework: Core Strategy*

72 Gravesham Borough Council (2009), *Gravesham Economy and Employment Space Study*

**A.7.14** Kent Thameside is covered by a number of micro-simulation VISSIM and PARAMICS models funded by various public and private sector bodies. These are underpinned by the Kent Thameside strategic highway SATURN model, which was recalibrated to be multi-modal in 2001 and 2005/06 and was recently updated following the completion of capacity improvements to the A2. The SATURN model has been used to assess the impact of the large-scale development planned for Dartford and Gravesham. This modelling informed the preparation of a draft Kent Thameside Transport Strategy by KCC in 2008<sup>(73)</sup>. The Strategy concluded that, even when a number of committed and funded transport schemes are taken into account, and despite generally good public transport provision, the level of development planned for Dartford and Gravesham would significantly affect the operation of the highway network. A number of strategic locations were identified where infrastructure improvements are needed to accommodate projected traffic flow and to mitigate its impact. These formed the basis of the Strategic Transport Investment Package (STIP), developed by KCC, Dartford and Gravesham Borough Councils, the DfT, the Homes and Communities Agency (HCA)<sup>(74)</sup> and the Highways Agency (HA).

**A.7.15** The STIP consists of the following schemes:

- **A2 Bean Junction improvements** – to improve access between the A2, Eastern Quarry and Bluewater
- **A2 Ebbsfleet Junction improvements** – to improve access between the A2, Ebbsfleet International Station and Eastern Quarry
- **A2 Demand Management** – involving the provision of variable speed limits, ramp metering and Variable Message Signs (VMS)
- **A226 Thames Waydualling** – to improve access to Ebbsfleet International Station
- **Rathmore RoadLink, Gravesend** – involving the provision of a new section of one-way system to support a the development of a public transport interchange north of Gravesend Station
- **Fastrack: Northfleet to Garrick Street, Gravesend** – involving the provision of a dedicated Fastrack route from the Northfleet Embankment development area to Gravesend Town Centre
- **A226 London Road/B255 St Clements Way Junction improvements** – to provide enhanced junction capacity
- **Dartford Town Centre improvements** – involving revised traffic circulation on the town centre ring road and improved bus access to support development proposals
- **A206 Bob Dunn Way Junction improvements** – involving the conversion of Marsh Street Roundabout to a signalised junction

73 KCC (2008), *Kent Thameside Transport Strategy*

74 For details see [www.homesandcommunities.co.uk](http://www.homesandcommunities.co.uk)

- **B262 Hall Road Junction improvements** – to provide enhanced junction capacity and traffic calming and Springhead Road
- **Urban Traffic Management and Control (UTMC)** – involving the introduction of active traffic flow monitoring using Closed Circuit Television (CCTV), additional signalised junctions, VMS and Real-Time Information<sup>(75)</sup>.

**A.7.16** The Kent Thameside multi-modal SATURN model suggests that if all of the STIP schemes could be implemented, they would help to reduce congestion at over-capacity junctions by approximately 21% in the evening peak by 2025 and reduce journey times by 3% or more. Significant growth in public transport patronage is also predicted, due to the expansion of the Fastrack BRT network, High Speed rail services from Ebbsfleet and Gravesend, and increased highway network costs relative to public transport fares, with rail and bus use expected to account for some 27% of journeys to work by 2025, compared to 18% in 2008<sup>(76)</sup>.

**A.7.17** The total value of the STIP is estimated at £200 million. It was anticipated that the programme would primarily be funded through grants from the DfT, the HCA and developers. The public sector funding contribution was subject to the 2010 Comprehensive Spending Review, which confirmed that £13 million of HCA funding which had been allocated to the STIP up to the end of March 2011 had been safeguarded. However, the remaining £10 million funding commitment to the programme by the HCA is subject to further review and is unlikely to be made available before 2014..

An Initial Delivery Programme has been agreed with the HCA that will utilise £13 million of the Agency's funding in conjunction with developer contributions to implement transport improvements focussed on the existing town centres of Dartford and Gravesend. This is viewed as an initial stage of the STIP that will help to bring forward development in the town centres, providing regeneration and employment benefits. Whilst the IDP is being implemented, the public sector partners will continue to review the STIP with regard to the timing of its implementation in relation to development in Kent Thameside and future funding opportunities<sup>(77)</sup>.

## Maidstone

**A.7.18** The draft Maidstone LDF Core Strategy was issued for public consultation by Maidstone Borough Council in September 2011, the consultation was completed in 2012. The South East Plan imposed a housing allocation of 11,080 new homes. However, following extensive work to determine a local housing target for the plan period, the Borough Council resolved to consult on an option of 10,080 new dwellings and 10,000 new jobs to 2026. The Core Strategy proposes a dispersed pattern of

75 KCC (2011), *Local Transport Plan for Kent 2011-16*

76 Ibid

77 KCC (2011), *Local Transport Plan for Kent 2011-16*

development, with 80% of sites within and adjoining the Maidstone urban area and the remaining 20% in the principal rural settlements ie Harrietsham, Headcorn, Lenham, Marden and Staplehurst<sup>(78)</sup>.

**A.7.19** Peak-time traffic congestion is already a significant issue on and around the Maidstone Town Centre Gyratory, where four key inter-urban roads (the A20, A249, A229 and A26) converge. The primary capacity constraint is the single crossing point of the River Medway, where east-west movements meet those going from north to south. The resulting congestion and air quality problems (including a town centre-wide Air Quality Management Area) contribute to a lack of market interest in office redevelopment in the town centre<sup>(79)</sup>. However, there is no simple and cost-effective solution to relieving these issues. Thus, whilst the draft Core Strategy emphasises that the transport strategy for Maidstone will not be founded on a 'predict and provide' approach, it acknowledges that it will be difficult to accommodate future growth without exacerbating existing traffic congestion<sup>(80)</sup>.

**A.7.20** A multi-modal VISUM model was commissioned by KCC and Maidstone Borough Council in 2007. The transportation aspects of the draft Core Strategy are underpinned by this modelling. Based on the Borough Council's preferred development option, it is reported that morning peak flows of cars and buses would increase by 20% in the period 2007 to 2026. Inner cordon growth is projected to be 34% and outer cordon growth is expected to be 24%. This scenario assumes that a range of mitigation measures are put in place, including:

- **A robust town centre car parking strategy** – involving a reduction in long-stay parking spaces and an increase in charges
- **A Travel Plan requirement for all large development sites** – including reduced car parking provision
- **Enhancements to the Maidstone cycle network** – involving improvements to the existing network, extensions to serve new developments, and improved cycle parking facilities in the town centre
- **New Park and Ride sites** – at the A274 Sutton Road and A229 radial routes, together with enhancements to the existing sites at London Road and Willington Street
- **Maidstone East Bus/Rail Interchange improvements** – to be carried out in conjunction with the proposed railway station redevelopment
- **Quality Bus Partnership route improvements** – including enhanced frequencies on the core route network as development comes forward.

78 Maidstone Borough Council (2011), *Core Strategy 2011: Regulation 25 Public Participation Consultation*

79 KCC (2011), *Local Transport Plan for Kent 2011-16*

80 Maidstone Borough Council (2011), *Core Strategy 2011: Regulation 25 Public Participation Consultation*

**A.7.21** The Borough and County Councils are also lobbying Government and the Highways Agency to commit to the provision of Thameslink rail services from Maidstone East to the City of London from 2018, together with capacity improvements at the M20 junctions serving the town<sup>(81)</sup>.

As in other Kent districts, Maidstone Borough Council's Outline Infrastructure Delivery Plan acknowledges the current pressure on public funding sources and is based on the assumption that developer contributions (via Section 106 Agreements<sup>(82)</sup> and/or the Community Infrastructure Levy) will be the primary funding source for new infrastructure over the course of the plan period<sup>(83)</sup>. However, it should be noted that there will inevitably be many calls on the CIL from other service areas, which will require the Borough and County Councils to identify additional sources of funding to enable development to proceed.

### Sevenoaks

**A.7.22** The Sevenoaks LDF Core Strategy was adopted in February 2011 following independent examination by the Planning Inspectorate. The Core Strategy proposes modest development of 3,300 new homes over the period 2006-2026, which is broadly consistent with the South East Plan allocation. Approximately 2,000 of these dwellings have already been constructed or have planning permission. Development will be focussed in the urban areas of Sevenoaks and Swanley. No strategic site allocations are proposed and no review of the Metropolitan Green Belt is envisaged<sup>(84)</sup>.

**A.7.23** The Core Strategy complements the Sevenoaks District Strategy for Transport (2010), produced by KCC. Due to the modest level of development proposed for the district, it was decided that a transport model was not required to underpin the Strategy. However, it is noted that the area's proximity to London, adjoining counties and the rest of Kent by road and rail has promoted significant levels of outward and inward commuting, which places pressure on the strategic and local highway networks and has contributed to the designation of 11 Air Quality Management Areas (AQMAs) in the district<sup>(85)</sup>.

**A.7.24** The M25 suffers from severe congestion during peak periods, particularly between Junctions 5 and 7, which can also impact the A25 through Sundridge, Brasted, and Westerham. A scheme to widen this section of the M25 has been developed by the Highways Agency, with a view to introducing a Managed Motorway scheme (involving hard shoulder running during peak periods). It was confirmed as part of the 2010 Comprehensive Spending Review that funding for the scheme had

81 Maidstone Borough Council (2011), *Core Strategy 2011: Regulation 25 Public Participation Consultation*

82 See Glossary for explanation of Section 106

83 Maidstone Borough Council (2011), *Core Strategy 2011: Regulation 25 Public Participation Consultation*

84 Sevenoaks District Council (2010), *Core Strategy Draft for Submission*

85 KCC/Sevenoaks District Council (2010), *The Sevenoaks District Strategy for Transport 2010-2026*

been secured and that construction would commence after the London Olympic Games in October 2012 (or August 2013 should the project require consideration by the Infrastructure Planning Commission)<sup>(86)</sup>.

**A.7.25** The provision of slip roads between the A21 and the M26 could also provide significant capacity relief for the A25. The M25 ORBIT Multi-Modal Study (2003) recommended that consideration be given to this option and the Secretary of State for Transport subsequently instructed the Highways Agency to further develop an appropriate scheme. The Sevenoaks District Strategy for Transport reports that the Highways Agency will shortly be undertaking traffic analysis to establish the flows and destinations of traffic on the A25 to fully understand the benefits to nearby settlements<sup>(87)</sup>.

**A.7.26** Pressure on the strategic and local highway networks is likely to increase as development within Sevenoaks and neighbouring authorities is progressed. The Highways Agency has raised concerns about the impact of proposed development at Swanley on the operation of the M25 Junction 3. Basic modelling is therefore likely to be undertaken in order to better understand and mitigate these impacts.

**A.7.27** The Sevenoaks District Strategy for Transport identifies several priority transport initiatives to be delivered through the Local Transport Plan and developer contributions, including:

- **Urban Traffic Management and Control (UTMC)** – covering the principal road network in Sevenoaks District and Sevenoaks and Swanley Town Centres to improve traffic flow and improve air quality
- **A Sevenoaks Quality Bus Partnership (QBP)** – to promote modal shift through improved local bus services and supporting infrastructure; particularly north-south services and routes to the new Tunbridge Wells Hospital, railway stations and rural service centres
- **An improved Bus/Rail Interchange at Sevenoaks Station** – to encourage sustainable access to railway stations
- **A Freight Quality Partnership** – including the designation of advisory lorry routes within Sevenoaks District.<sup>(88)</sup>

### Shepway

**A.7.28** The pre-submission Shepway LDF Core Strategy was issued for public consultation by Shepway District Council in July 2011. The Core Strategy Examination was suspended to allow time for the Council to respond to the [Inspector's Interim Conclusions](#), issued at the hearings held in May 2012. A list of proposed modifications was developed to address the concerns in the Inspector's report. Following public consultation on the modifications, the hearings has resumed in March 2013<sup>(89)</sup>. The Core Strategy makes provision for 8,000 new homes to 2026, which is significantly

86 See: [www.highways.gov.uk/roads/projects/5735.aspx](http://www.highways.gov.uk/roads/projects/5735.aspx)

87 KCC/Sevenoaks District Council (2010), *The Sevenoaks District Strategy for Transport 2010-2026*

88 KCC/Sevenoaks District Council (2010), *The Sevenoaks District Strategy for Transport 2010-2026*

89 <http://www.shepway.gov.uk/content/view/200313/206/>, accessed on 19 March 2013

greater than the South East Plan allocation of 5,800 dwellings, in order to support a higher economically active population and to assist regeneration. It is proposed that development be concentrated along a 'strategic corridor' mirroring the main east-west transport routes through the district. Within this corridor, strategic sites have been allocated at Folkestone Seafront, Shorncliffe Barracks, and Folkestone Racecourse<sup>(90)</sup>.

**A.7.29** Given the relatively modest level of development proposed by the Shepway Core Strategy, it was decided that a spreadsheet model would provide a sufficiently detailed level of assessment to inform the Shepway Transport Strategy (2011). A review was undertaken of the existing operation of the local highway network under the 2010 Baseline scenario, which suggested that the majority of the identified locations were predicted to operate within their ideal operational capacities in both the AM and PM peak hours. Analysis was also undertaken of the predicted operation of the identified junctions and links under the 2026 Do Minimum and 2026 Do Something scenarios<sup>(91)</sup>. This indicated that 13 of these locations were predicted to operate over capacity in the morning and/or evening peak hours in the 2026 Do Minimum (i.e. 'without interventions') scenario, due to background traffic growth:-

- A20/A261/Stone StreetJunction, Newingreen (Ashford Road/Hythe Road)
- A20/A261/Stone StreetJunction, Newingreen (Ashford Road/Stone Street)
- Cheriton High Street/A20 Cheriton High StreetJunction, Cheriton
- A2034 Cheriton Road/A20 Cherry Garden Avenue/B2064 Beachborough RoadJunction, Folkestone
- A259 Sandgate High Street, Sandgate
- Foresters Way/Grace Hill, Folkestone
- Grace Hill/Foord Road/New Street, Folkestone
- A260 TheTram Road/A260 Harbour Street, Folkestone
- A259 Lydd Road/B2075 Romney Road, New Romney
- A259 High Street/B2071 Station Road, New Romney
- A260 Spitfire Way/Canterbury Road/A20/A260 Canterbury Road
- Hawkinge
- A260 Alkham Valley Road/A20, Hawkinge
- A260 Alkham Valley Road/A260 Canterbury Road, Hawkinge.

**A.7.30** Under the 2026 Do Something ('with interventions') scenario, the addition of traffic associated with the three strategic sites was predicted to result in four of the identified junctions and links operating over capacity in the morning and/or evening peak hours:

- A20/A261/Stone StreetJunction, Newingreen (Ashford Road/Stone Street)
- A259/A261 Scanlons Bridge, Hythe
- A259 Sandgate High Street, Sandgate
- A259 High Street/B2071 Station Road, New Romney<sup>(92)</sup>.

90 Shepway District Council (2011), *Shepway Core Strategy Proposed Submission Document*

91 See Glossary for "Do Minimum" and "Do Something"

92 Shepway District Council/URS-Scott Wilson (2011), *Shepway District Council Transport Strategy*

**A.7.31** The Transport Strategy recommends that further investigations are undertaken to identify potential improvements at these junctions, to ensure that they are able to accommodate both background traffic growth and the additional traffic associated with the strategic site allocations. At each of the strategic sites, it would be necessary for the respective developer to prepare detailed Transport Assessments to consider and analyse the expected level of impact that the development will have on the local transport network. Once agreed with the relevant authorities, the Transport Assessment would form the basis of the agreed mitigation package for the development.

**A.7.32** Having acknowledged that it is highly unlikely that all of the desired transport measures will be implemented during the plan period due to funding constraints, the Transport Strategy provides a list of priority improvements, based on their ability to deliver the over-arching objectives of the Strategy and their conformity with wider planning policy. These are as follows:

- **Promote integration of rail stations and Station Travel Plans** – to improve multi-modal access to rail stations
- **Promote cycle parking at destinations** – to encourage cycling for work, education and leisure
- **Promote cycle safety awareness** – to provide routes which are suitable for different cycle user groups
- **Review bus routes** – to provide an enhanced bus network which builds on the existing five key inter-urban corridors and improves accessibility
- **Encourage Travel Plans for businesses, health facilities and service providers** – to inform those who travel of the choice that is available
- **Manage on-street parking and encourage better utilisation of car parks** – to balance supply and demand of parking<sup>(93)</sup>.

### Thanet

**A.7.33** Thanet District Council is now producing a new Local Plan<sup>(94)</sup>. The Plan will set out policies and proposals that will be used to guide decisions and investment on development and regeneration over the period to 2031. This will replace the [Saved Policies](#) from the 2006 Local Plan. The Stage 1 Options consultation is planned in summer 2013, dealing with options on strategic matters relating to the amount of development (including jobs and homes), options for locating the development, as well as general policy options. The Stage 2 consultation will start early 2014 and will be based upon the preferred option and will set out site allocations for development and other more detailed policies.

**A.7.34** The South East Plan imposed a housing allocation of 7,500 new homes to 2026; however this figure will be reviewed as the LDF process progresses. The Core Strategy Preferred Options document (2009) focused on regeneration and job opportunities; including realising the potential of Manston Airport, developing

93 Shepway District Council/URS-Scott Wilson (2011), *Shepway District Council Transport Strategy*  
 94 [http://www.thanet.gov.uk/environment\\_planning/planning/ldf\\_and\\_local\\_plan/thanets\\_new\\_local\\_plan.asp](http://www.thanet.gov.uk/environment_planning/planning/ldf_and_local_plan/thanets_new_local_plan.asp)

Westwood as both a residential community and employment centre, reshaping Margate Town Centre, bringing forward regeneration opportunities in central Margate, and diversifying the commercial function of Ramsgate Port. It concentrated new development on the existing urban area and previously developed land, although it proposed an allocation of housing on greenfield land at a single location adjoining the urban area at Westwood<sup>(95)</sup>.

**A.7.35** Thanet has benefitted from significant investment in transport infrastructure in recent years, including the completion of the new A299 Thanet Way from the M2 to Minster Roundabout and the Ramsgate Harbour Approach Road. Phase 2 of the East Kent Access scheme, between the A256 and the A299, completed in 2012. The Thanet Transport Plan (2005) identified improved road links between the A256/A299 Lord of the Manor Roundabout and Westwood Cross as a further priority action to support the development of the shopping centre, adjacent business parks and leisure facilities<sup>(96)</sup>.

Thanet is covered by a strategic highway SATURN model dating from 1999, which has since been updated to support the East Kent Access project. KCC developed a multi-modal VISUM model for the district as part of the evidence base for the LDF. The model is based on 2011 data and can provide forecasts for the period 2012-2033. The future year model will be used to test various development scenarios, including the expansion of activities at Manston Airport and the Manston and Eurokent Business Parks, the provision of additional retail outlets and up to 1,000 new homes at Westwood Cross, and the proposed regeneration projects at Arlington and Dreamland in Margate.

### **Tonbridge and Malling**

**A.7.36** The Tonbridge and Malling LDF Core Strategy was adopted in September 2007. It provides for 6,750 new homes in the period 2006-2021, which are to be concentrated in the main urban areas of the borough; particularly the Medway Gap settlements and Tonbridge. The majority of new housing is to be provided at four strategic sites that involve the use of previously developed land. These are Kings Hill – Phase 2, Leybourne Grange, Holborough Valley and Peter's Pit<sup>(97)</sup>.

**A.7.37** Tonbridge and Malling is covered by a strategic highway SATURN model dating from 1992 and a spreadsheet model of Tonbridge Town Centre. A new multi-modal model was not commissioned for the borough as part of the LDF process due to the relatively modest level of development proposed. However, modelling undertaken to inform the Medway Valley Sustainable Transport Strategy indicated that traffic in the area would increase by 46% between 2001 and 2016 as a result of development at the four strategic sites and background traffic growth<sup>(98)</sup>. A package

95 Thanet District Council (2009), *Shaping Our Future: Thanet Local Development Framework Core Strategy Preferred Options Consultation Document*

96 Thanet District Council (2005), *Transport Plan (2005-2011)*

97 Tonbridge and Malling Borough Council (2007), *Tonbridge and Malling Local Development Framework: Core Strategy*

98 KCC (2011), *Local Transport Plan for Kent 2011-16*

of mitigation measures has therefore been developed by KCC and Tonbridge and Malling Borough Council to improve traffic flow at critical junctions – many of which are already at capacity – and to meet Air Quality Objectives in the Ditton, Aylesford and Larkfield A20 Air Quality Management Areas (AQMAs). These include:

- **Widening of overbridges at the M20 Junction 4** – to enhance the capacity of this key strategic intersection between the M20 and A228
- **New and enhanced bus services** – linking the strategic development sites into the core north-south (Kings Hill to Chatham) and east-west (Maidstone to West Malling) inter-urban bus networks
- **Improved access to railway stations** – to facilitate sustainable access and interchange at West Malling, New Hythe and Snodland stations
- **Congestion reduction measures on the A20** – to improve traffic flow and provide traffic signal priority of buses on this heavily congested arterial route
- **Enhanced facilities for walking and cycling** – to join the many disparate non-motorised routes in the Borough and to provide feeder routes to residential areas, schools and employment sites.

Approximately £7 million in Section 106 developer contributions to the mitigation measures identified in the Medway Valley Sustainable Transport Strategy has been agreed to date, although the delivery of these measures is consequently dependent in terms of timescale on development coming forward<sup>(99)</sup>.

### Tunbridge Wells

**A.7.38** The Tunbridge Wells LDF Core Strategy was adopted in June 2010. It provides for 6,000 new homes in the period 2006-2026, of which 75% are to be provided within Tunbridge Wells and Southborough, 19% in the borough's small rural towns (Paddock Wood, Cranbrook and Hawkhurst) and 6% in the villages and rural areas<sup>(100)</sup>. Tunbridge Wells Borough Council has however resolved to undertake an immediate review of the Core Strategy in light of the revocation of the South East Plan. KCC commissioned a Transport Strategy for Tunbridge Wells, together with a multi-modal VISUM model, in 2010. A 'do minimum' (without interventions) scenario has been tested using the model and further option runs will be commissioned as the Core Strategy Review progresses.

**A.7.39** The principal transport challenges for Tunbridge Wells include:

- **Severe peak hour congestion** – notably on the A21 between Tonbridge and Tunbridge Wells, on the A264 Pembury Road, within the North Farm/Longfield Road industrial area, and on the A26 within Tunbridge Wells and Southborough

99 KCC/Tonbridge and Malling Borough Council (2003), *Medway Valley Sustainable Transport Strategy*

100 Tunbridge Wells Borough Council (2010), *Tunbridge Wells Local Development Framework: Core Strategy*

- **Air Quality Management Areas (AQMAs) across the borough** – including the A26 London Road at Mount Ephraim and Southborough
- **Access to healthcare** – principally the need to ensure optimum multi-modal access to the new Tunbridge Wells Hospital at Pembury.

**A.7.40** A key objective of the Tunbridge Wells Transport Strategy is therefore to provide a high quality, integrated transport network, including a step-change in the quality of public transport provision, whilst seeking to maximise use of the existing transport network to enhance the efficiency of the network and minimise delay. It is proposed that this will be achieved through the development of a high quality Bus Rapid Transit (BRT) system for Tunbridge Wells. It is proposed that this system will be developed in conjunction with the phased introduction of new Park and Ride facilities at Pembury and Knights Park in the first instance. Potential sites to the north and south of the town will also be identified (aligned with the A26)<sup>(101)</sup>.

## A.8 Strategic Transport Issues

### M20/A20/M2/A2 Bifurcation of Traffic and Third Thames Crossing

**A.8.1** The M20/A20 corridor is the national strategic route for traffic using the Port of Dover and as set out above, long term forecasts are for huge increases in freight traffic through Dover. To meet this increase, there is a need to build greater resilience into the Channel Corridor by achieving a more balanced pattern of demand along the two strategic routes M20/A20 and M2/A2 and reduce dependency on the M20/A20 route. Also, the A20 Townwall Street suffers from poor air quality and acts as a barrier between Dover town centre and the seafront.

**A.8.2** With the expansion of Dover Port at T2 looking to split operations between the Western and Eastern Docks, this presents the opportunity to “bifurcate” the traffic for Dover, with traffic to/from the Eastern Docks using the M2/A2 corridor and traffic for the Western Docks using the A20/M20 corridor. This bifurcation would require a programme of improvements at junctions on the M2 and A2, a short length of dualling on the A2 at Lydden near Dover and interactive signing on the M25 to direct traffic along the appropriate corridor.

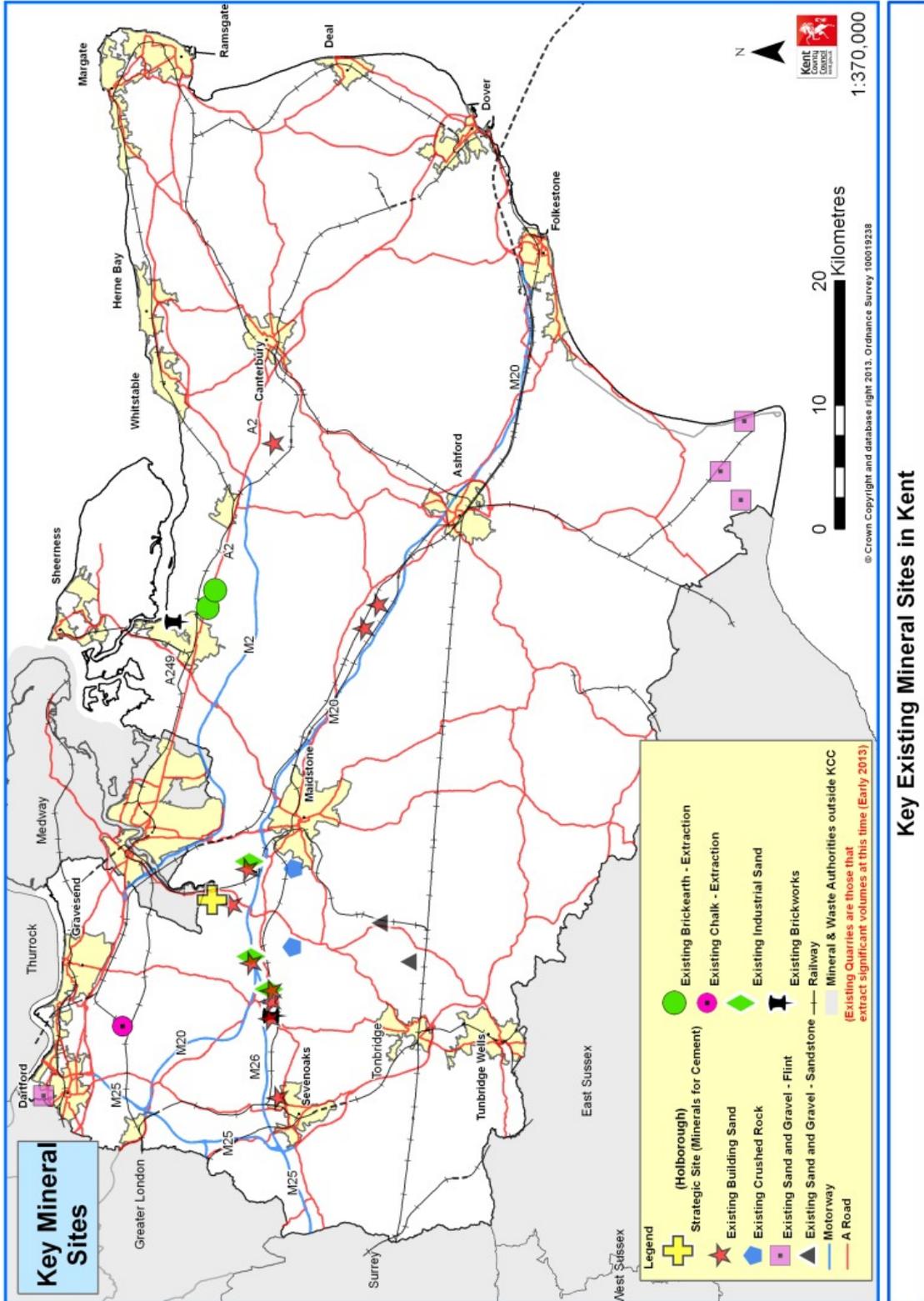
**A.8.3** Whilst KCC remains open to assessing all options relating to the location of a third Thames crossing, the opportunity to achieve the benefits of bifurcation are likely to be maximised by locating a third Thames crossing between Chadwell and Gravesend, which would provide a more direct link to the A2 and avoid the congestion and delay associated with the Dartford-Thurrock crossing. It would also allow for greater resilience should an incident affect the M25/A282.

101 KCC/Tunbridge Wells Borough Council (2010), *Tunbridge Wells Borough Transport Strategy*

**Appendix B: Location of Strategic Minerals and Waste Sites in Kent**

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