

**Medway Council**

Directorate of Regeneration, Community and Culture  
Gun Wharf  
Dock Road  
Chatham  
Kent  
ME4 4TR

# Medway Local Development Framework

## Transport Issues and Preliminary Options Report

### Phase 1– 2<sup>nd</sup> issue

April 2009

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**Mott MacDonald**

St Anne House  
20-26 Wellesley Road  
Croydon  
Surrey  
CR9 2UL  
UK  
Tel: 44 (0)20 8774 2000  
Fax: 44 (0)20 8681 5706

# Medway Local Development Framework

## Transport Issues and Preliminary Options Report

### Phase 1

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## 1 Executive Summary

- 1.1.1 The LDF transport strategy is required to identify transport interventions necessary to support the spatial strategy.
- 1.1.2 Committed and planned growth in Medway is forecast to increase the population from 250k to 300k within the next 20 years. The vision for Medway is to become the 'healthy region'. To ensure that, it has become crucial that Medway remains economically successful and an attractive place to live and work for future generations.
- 1.1.3 There is no doubt that the scale of growth planned will result in a significant increase in demand for the transport system. Therefore, it is essential that growth in demand should be accompanied by improvements in transport infrastructure and complementary measures, particularly to minimise the growth in car usage in favour of public transport and walking/cycling which are both more sustainable and healthier. This report sets out the baseline conditions on the current transport network, identifying and assessing the schemes and policies (as an outline strategy) that will be needed to cater for the increase in demand for movement around Medway area. These schemes and policies are expected to form key inputs in the Medway Council's LDF Transport Strategy.
- 1.1.4 This report represents work in progress and identifies the Reference Case and additional schemes that will be tested as part of the next phases of the work. The next phases will also include a full assessment of the identified schemes that will support Medway's growth and NATA compliant appraisal.
- 1.1.5 The following sections are contained within this report :
- Description of the existing problems and issues within the study area and how these may be impacted on by new housing and commercial developments;
  - Analysis of potential schemes and options to mitigate unwelcome transport and environmental impacts such as worsening congestion and poor air quality;
  - Identification of a potential set of land use and transport scenarios to be modelled for 2026;
  - Agreement of the baseline "Reference Case" to compare with the identified development and transport scenarios above;
  - Confirmation of schemes to be considered in addition to the "Reference Case".
  - Commencement and progression of stakeholder engagement process.
- 1.1.6 In order to assess the impacts of the Reference Case, following scenarios were tested:
- 2007 based scenario.
  - 2026 do nothing scenario. This scenario takes on board the growth in demand generated by the new developments, but do not consider any network infrastructure improvement. Based on the anticipated growth in population and

- employment, the model forecasts growth in demand for vehicle trips of somewhere in the region of 25%.
- 2026 do minimum scenario, Reference case. This builds on the 2026 Do Nothing scenario, adding committed infrastructure schemes and policies.
- 1.1.7 Initial results indicate that even including Reference Case schemes, the network presents following problems:
- Congestion levels on the river crossings are substantial, during the base and becoming increasingly more acute under future conditions.
  - Journey time by bus from Isle of Grain to Gillingham (avoiding the Medway Tunnel) is up to 38 minutes (2026 do nothing/do minimum scenarios), reflecting the very poor connectivity between the north and south side of the River, but lower using the Medway Tunnel.
  - Congestion levels on approaches to the town centres show significant increases with only limited bus priority.
- 1.1.8 Of most significance is the fact that the Reference Scheme as modelled includes little in the way of complimentary policies in the form of demand management or incentives to use public transport which are likely to encourage modal shift away from the car.
- 1.1.9 The conclusion drawn from this is that the *Reference Case* package of schemes will not be sufficient to solve the range of problems and impacts that could occur as a result of the proposed growth across Medway. Policy measures (such as changes in parking charges) will be equally necessary to minimise growth impact on the transport network. Schemes and measures are thus required to reduce the need to travel, manage demand and target investment.
- 1.1.10 Two distinct packages are proposed for further testing as part of the next phase of work:-
- **A "low" infrastructure/high demand management** package including the following indicative types of scheme:-
    - o A comprehensive bus priority network across the town linked to park and ride;
    - o Bus priority measures on the approach to the Medway Tunnel;
    - o A robust parking strategy aimed at discouraging long stay parking from the town centres through strong pricing signals but maintaining adequate short stay provision to retain economic vitality;
    - o Comprehensive walking and cycling provision linking new housing developments with key trip generators such as railway stations and town centres;
    - o High density housing development with restricted parking standards.
  - **A "high" infrastructure/medium demand management** package including the following types of measure:-
    - o Consideration of a new Medway Crossing for public transport and pedestrians/cyclists only;

- o A comprehensive bus priority network across the town linked to park and ride;
- o Comprehensive walking and cycling provision linking new housing developments with key trip generators such as railway stations and town centres;
- o A robust parking strategy aimed at reducing the amount of long stay parking in the town centres linked to the network of park and ride sites.

1.1.11 Based on the outputs from the stakeholder workshops and the initial appraisal of the reference case schemes, these two main packages of further schemes and measures have been identified. The two packages are designed to mitigate worst traffic problems and encourage more sustainable travel patterns. Assessment and appraisal of these packages will be undertaken as part of the phase 2 LDF Core Transport Strategy forming part of the overall evidence base to support the Core Spatial Strategy.

## 2 Introduction

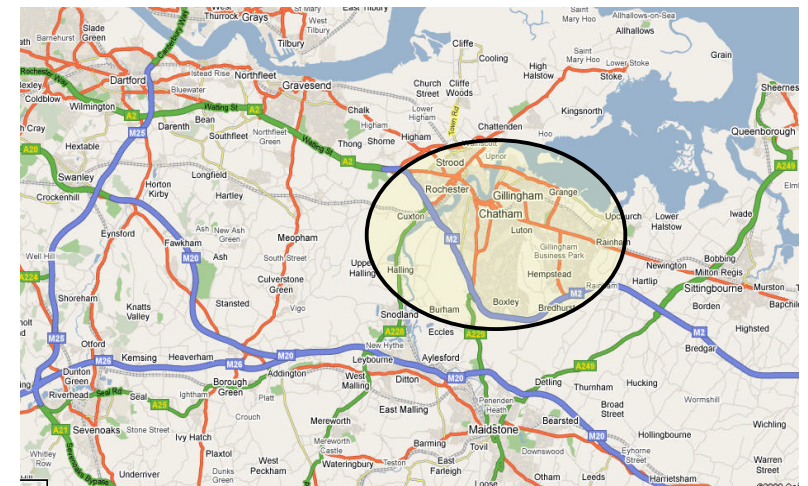
### 2.1 Brief Introduction to Medway

2.1.1 Medway is part of the Thames Gateway, a national priority area for regeneration and growth. At the centre of urban Medway are the five historic towns of Strood, Rochester, Chatham, Gillingham and Rainham with larger villages in the more rural parts of Medway including the Medway Valley villages of Cuxton and Halling and the Isle of Grain. The River Medway is at the heart of this urban conurbation and provides a rich resource for commerce and tourism as well as an historical link for the area.

2.1.2 Medway is only 30 miles from London to the west and 40 miles from Dover to the east and is surrounded by the administrative area of Kent. Medway is characterised by a highly populated urban area situated around the River Medway estuary, to the north and west of which lie substantial rural areas. Figure 2-1 shows Medway's strategic location within area.

2.1.3 In 2003, the Thames Gateway was designated as one of four Growth Areas as part of the Government's Sustainable Communities Plan<sup>1</sup>. With the addition of London, the aim for these areas is to provide 200,000 additional homes, in a sustainable manner above previously planned levels by 2016. As an area of strategic importance in the Thames Gateway region, Medway is expected to contribute heavily to this growth target. The Medway Renaissance Programme initiated by Medway Council is set to transform the area from its current population of 250,000 into a city of 300,000 people over the next 20 years.

Figure 2-1: Medway's strategic location

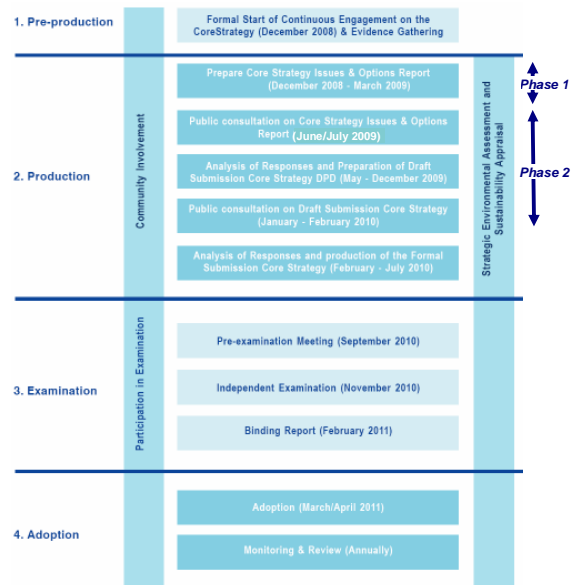


<sup>1</sup> Other growth areas are: Ashford, London-Stansted-Cambridge-Peterborough and Milton Keynes-South Midlands.

## 2.2 Scope and Aims of the Report

- 2.2.1 Mott MacDonald have been appointed by Medway Council to develop a robust transport strategy to support the growth housing and employment aspirations of the Council. The aim of the assignment was to identify transport schemes and policies that could input into the Medway Council's LDF transport strategy. The SATURN model of the Medway network was used to identify the high level impacts of such schemes to test their effect to support future development in Medway.
- 2.2.2 The assignment is being undertaken two steps: phase 1 comprised the preparation of the core strategy issues, whilst phase 2 will conclude with a full assessment of the identified schemes that will support Medway's growth. The current timescale is set out in Figure 2-2 below, with reference to phase 1 and phase 2 of the commitment. The timescale currently assumes the following key milestones:
- Public consultation on Issues and Options – Jun/Jul 2009
  - Public consultation on draft submission Core Strategy – Jan/Feb 2010
  - Examination in Public – Nov 2010
  - Plan adoption – Mar/Apr 2011
- 2.2.3 It was recognised that there was likely to be some delay in the preparation of the full Issues and Options Report. This is due in part to agreement of modelling tools with the Highway Agency.

**Figure 2-2: Medway Local Development Framework – Indicative timetable**



Source: "Medway Core Strategy. What is it and how to get involved". Medway Council. December 2008 and amendments.

- 2.2.4 In order to reassure its growth aspirations in terms of future housing and commercial land allocations up to 2026, Medway Council is committed to provide clear evidence to demonstrate how an improved transport infrastructure will accommodate this growth. This document aim is therefore assists the council in the preparation of its transport strategy to cater future growth, in order to gain the support of both the Government and Highways Agency.
- 2.2.5 The need to provide a robust evidence base is set out in Planning Policy Statement 12 (Local Spatial Planning), issued by the Government in June 2008 which states:
- "The core strategy should be supported by evidence of what physical, social and green infrastructure is needed to enable the amount of development proposed for the area, taking account of its type and distribution. This evidence should cover who will provide the infrastructure and when it will be provided. The core strategy should draw on and in parallel influence any strategies and investment plans of the local authority and other organisations."*
- 2.2.6 As stated before, the aim of this phase 1 report is to support preparation of the full Issues and Options document, setting out the transport context within which the growth will occur, as identified on Figure 2-2 above.
- 2.2.7 Key outputs of this report are:
- Description of the existing problems and issues within the study area and how these may be impacted on by new housing and commercial developments;
  - Analysis of potential schemes and options to mitigate unwelcome transport and environmental impacts such as worsening congestion and poor air quality;
  - Identification of a potential set of land use and transport scenarios to be modelled for 2026;
  - Get agreement of baseline "Reference Case" to compare with the identified development and transport scenarios above;
  - Confirmation of schemes to be considered in addition to the "Reference Case".
  - Commencement and progression of stakeholder engagement process.
- 2.2.8 As stated before, phase 1 represents the start of an on-going process leading to submission of a draft *Core Strategy* towards the end of 2009/early 2010. Detailed testing and appraisal of the identified scenarios will be undertaken as part of the next phase of work (phase 2), following agreement of base model and further model development.
- 2.2.9 Mott MacDonald have developed a SATURN traffic model for Medway Council to assist in the development of traffic forecasts for the area. The model forms the basis for the forward planning of the transport network. A base SATURN model for the area was prepared during mid 2008, and this was used for initial testing of schemes (as a base 2007 scenario). However the Highway Agency subsequently requested a number of refinements and expansions of the base model. In addition, it was also necessary to take on board updates in forecast of jobs and residential developments in the area. The updated base model has been reviewed by Medway Council and by the Highways Agency, and is currently at the final stages of sign-off.



### 3 Study Process

#### 3.1 Approach to Phase 1

3.1.1 The work is being undertaken into 4 main stages:

- Stage 1: Review of policy and potential demand for movements
- Stage 2: Scheme identification
- Stage 3: Initial stakeholder consultation
- Stage 4a: Reference Case Modelling
- Stage 4b: Core Strategy Schemes

3.1.2 The overall process is illustrated in Figure 3-1 below.

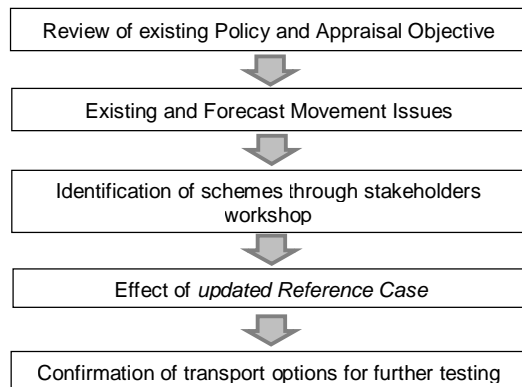


Figure 3-1: Flowchart for phase 1 process

#### 3.2 Stage 1 - Information review

3.2.1 In order to gather information about the existing situation in Medway, background documents have been collected and analysed. These include, among others:

- *Medway Local Transport Plan 2006-2011* (Medway Council, 2006) which includes walking and cycling action plans and bus strategy;
- *Medway Community Plan 2007-2010* (Medway Council, 2007);
- *Transport for Medway reports* (Colin Buchanam, 2004-2006);
- *South East Regional Transport Strategy* (SEERA, July 2004);
- *South East Regional Plan* (RSS, to be approved by spring 2009);
- *South East England Regional Rail Trends* (MVA, August 2006);
- *South Eastern Regional Planning Assessment for the railway* (DfT, January 2007);

- *Towards a Sustainable Transport System* (DfT, October 2007);
- *South London Route Utilisation Strategy* (DfT, March 2008);
- *Transport and Local Development Frameworks* (South East England Regional Assembly, October 2008);

#### 3.3 Stage 2 - Scheme Identification

3.3.1 An initial list of schemes including those identified through the Regional Funding Allocation (RFA) process was drawn up. The schemes identified on the earlier RFA submission 2006 are presented in Appendix A. A qualitative assessment of potential impacts of these schemes is set out in section 8. A short-list of these schemes was selected to be included into the Saturn model, as an initial "Reference Case". Outputs of this modelling can be found in section 8.

#### 3.4 Stage 3 - Initial stakeholder consultation

3.4.1 Two workshops were held on 12<sup>th</sup> and 27<sup>th</sup> January 2009 to gather initial views from key stakeholders. The first workshop was an internal session with key Medway Officers whilst the second one involved key external stakeholders with an interest in transport in the area and would largely represent statutory consultees at a later stage.

3.4.2 The main aim of the workshops was to provide confirmation on the "Reference Case" including views on the types of additional measures necessary to accommodate all the extra demand for movement in the area in a sustainable manner. From this, a list of new potential schemes that could be included within an "Updated Reference Case" was identified.

#### 3.5 Stage 4a – Reference Case Modelling

3.5.1 Following the workshops, initial modelling of the 2026 "Updated Reference Case" was completed. The "Updated Reference Case" includes the majority of the anticipated growth in terms of housing and jobs. The exception to this is a major development at Chattenden of up to 5,000 homes and 85,000 m<sup>2</sup> commercial floorspace. This development is subject to a separate Area Action Plan and is less certain in terms of scope and nature, and it was agreed that this should therefore be excluded from the "Updated Reference Case" scenario.

3.5.2 The effects of the impact of the Chattenden development will be modelled during next phase of the study, as part of the testing of alternative scenarios.

#### 3.6 Stage 4b – Core Strategy Schemes

3.6.1 The "Reference Case" schemes will largely enable demand to be met in the short term. The potential further schemes to be included to the overall Core Strategy identified through the workshops would be developed to a conceptual stage in stage 4b.

## 4 Review of Policies and Objectives

### 4.1 Towards A Sustainable Transport System - National Policy

4.1.1 National policy is set by Central Government in support of their own agenda and priorities. This will inform guidance that local authorities and the regions must follow in order to secure funding. Good transport is a vital factor in building for the future, creating sustainable local communities and through it, reduces the negative environmental impacts, notably poor local air quality and increases in greenhouse gas emissions.

4.1.2 The Government policy document “Towards A Sustainable Transport System”, published in October 2007 identified five national strategic goals<sup>2</sup>:

- support national economic competitiveness and growth,
- reduce transport’s emissions of carbon dioxide and other greenhouse gases;
- contribute to better safety, security and health and longer life-expectancy;
- promote greater equality of opportunity for all citizens;
- improve quality of life for transport users and non-transport users, and to promote a healthy natural environment.

4.1.3 These goals have emerged following consideration of the Eddington and Stern Reviews looking at transport’s links with economic growth and climate change respectively. They will form the framework against which Local Authorities are required to develop their 3rd Local Transport Plans in 2011/12.

### 4.2 The spatial planning approach

4.2.1 In 2004 the government introduced a new plan system to manage how development takes place in towns and countryside. The *Planning and Compulsory Purchase Act 2004* replaced the development plan system of structure plans and local plans with a “two- tired” system made up of:

- *Regional Spatial Strategies* (RSSs), prepared by the regional planning bodies. These set out a broad spatial planning strategy for how a region should look in 15 to 20 years time and possibly longer;
- *Local Development Frameworks* (LDFs), a folder of local development documents prepared by district councils, unitary authorities or national park authorities that outline the spatial planning strategy for the local area. The LDF is produced by each Local Planning Authority in the UK, and replaces the Local Plan.

4.2.2 The key aims of the system include flexibility, strengthened community involvement, front loading and sustainability. The government intends that spatial planning objectives for local areas align with national and regional plans and policy. LDF policy should not repeat national-level policies, but should explain their application to the local area. Policies should be topic-related rather than use-specific e.g. highway and transport issues.

<sup>2</sup> <http://www.dft.gov.uk/about/strategy/transportstrategy/pdf/sustaintranssystem.pdf>

4.2.3 Figure 4.1 set out the structure of the government spatial planning approach, whilst Figure 4.2 illustrates Medway’s current spatial planning.

Figure 4.1: The government’s spatial planning approach

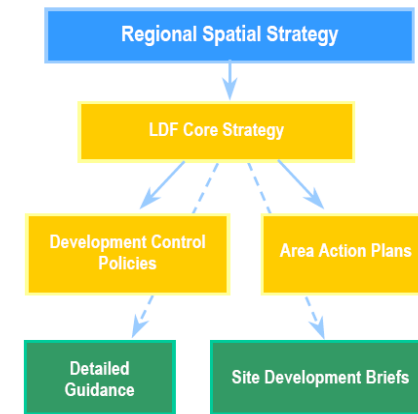
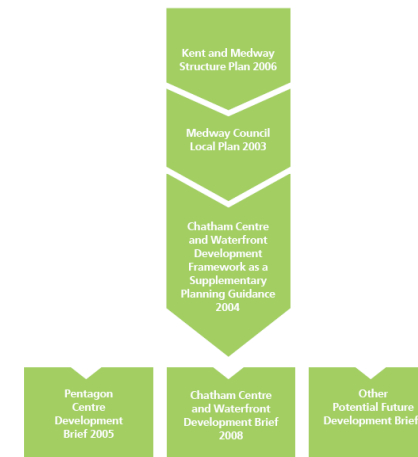


Figure 4.2: Medway’s current spatial planning approach



Source: Chatham Centre and Waterfront development brief, adopted August 2008

### 4.3 Medway Regional Spatial Strategy (RSS)

4.3.1 Every UK region is responsible for producing its own Regional Spatial Strategy (RSS), part of which must include a detailed Regional Transport Strategies (RTS). The RSS should identify, amongst other things, the scale and distribution of future



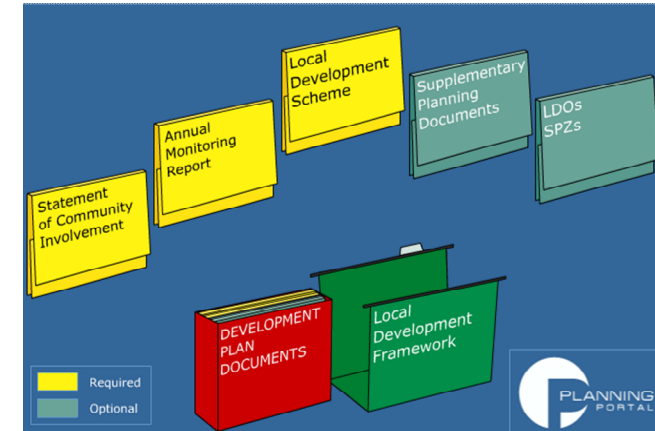
provision for new housing, the priorities for economic development, long term environmental and social considerations and the implications for transport needs and priorities within the overall framework of sustainable development. The role of the Regional Transport Strategy is therefore to identify the strategic transport network required to support the housing and economic growth. The RTS should include an implementation plan showing where and when key strategic transport improvements are required.

- 4.3.2 The underlying aim of a RTS is to provide a long term planning framework for transport in the region. It should be developed as an integral and clearly identifiable part of RSS and contribute towards the integration of realistic and affordable transport, spatial and economic planning policies within the RSS.
- 4.3.3 *The Kent and Medway Structure Plan*, jointly produced by Kent County Council and Medway Council, sets out the strategic planning framework for the protection of the environment, major transport priorities and the scale, pattern and broad location of new development. The structure plan also includes provision for new housing and major economic development across Kent and Medway.
- 4.3.4 The structure plan does not specify the use of individual sites, as this should be developed by the local development framework for each council area.
- 4.3.5 The structure plan was adopted in July 2006 and forms part of the development plan for Medway. It will remain in force until it is replaced by the *South East Regional Spatial Strategy*, otherwise known as the South East Plan, which is expected to be approved in later 2009. It will replace the Regional Planning Guidance for the South East (RPG9).
- 4.3.6 The Draft Plan identifies 21 highly accessible major urban areas which provide a wide range of employment, service and leisure facilities for their surrounding hinterlands. These Regional Hubs will be the focus for investment in transport and provide opportunities to create well designed higher density 'living centres', to promote urban renaissance. Chatham is being identified as one of these hubs and the town centre is identified as one of 10 across the region that will be subject to significant change.

#### 4.4 Medway Local Development Framework (LDF) documents

- 4.4.1 A representation of the LDF documents as a folder document is shown in Figure 4.3.
- 4.4.2 Following paragraphs briefly explain each of the below illustrated development plans documents.

Figure 4.3: An illustrative representation of the LDF process



Source: <http://www.planningportal.gov.uk/uploads/ldf/ldfguide.html>

- 4.4.3 The Local Development Scheme (LDS) acts as the starting point for the community and stakeholders to find out about the authority's planning policies in respect to a particular place or issue, and what the status of those policies. It also outlines the details of and timetable for the production of all documents that make up the Local Development Framework over a three-year period. The Medway Local Development Scheme 2008-2011 has been approved by the Government Office for the South East (GOSE) and came into effect on 13 November 2008. The *Medway Local Development Scheme* (LDS) sets out the programme and timetable for the preparation of a Local Development Framework (LDF) for Medway. The LDS timetable was set out in Figure 2-2 previously shown.
- 4.4.4 The Annual Monitoring Report (AMR) is submitted to the government by a local planning authority to assess the progress and the effectiveness of a Local Development Framework. This includes a range of local and standard (Core Output) indicators. It should also highlight if any adjustments to the Local Development Scheme are required. Medway has published its *fourth AMR* in December 2008. This report covers the period 1 April 2007 to 31 March 2008, as it based on a statistical survey periods for monitoring which tied to the financial year.
- 4.4.5 The Statement of Community Involvement (SCI) shows how and when planning authorities intend to consult local communities and other stakeholders when preparing documents, to ensure that the public had the opportunity to participate fully in the preparation of the Local Development Framework (LDF). On 7 December 2006 Medway Council adopted the *Medway Statement of Community Involvement* (SCI). The Statement of Community Involvement sets out how the community will be involved in the preparation of planning policy documents in the Local Development Framework and consultation on planning applications.
- 4.4.6 In moving forward the LDF there are a number of Strategies and Action Plans that support the document. As well as these supporting documents it is important that the LDF is seen as a document essential to the support of the South East Regional Plan targets as well as complementing Medway Council's Local Strategic Partnership (LSP) and LTP. It is important that what is included in the LDF reflects

- what is contained within the recently issued draft LTP3 Guidance (for consultation<sup>3</sup>) in order that the two documents are mutually supporting.
- 4.4.7 The Local Development Framework may also contain Local Development Orders and Simplified Planning Zones. A Local Development Order is made by a planning authority in order to extend permitted rights for certain forms of development, with regard to a relevant local development document. A Simplified Planning Zone is an area in which a local planning authority wishes to stimulate development and encourage investment. It operates by granting a specified planning permission in the zone without the need for a formal application or the payment of planning fees.
- 4.4.8 In summary, and as stated in the Chatham Centre and Waterfront Development Brief (August 2008, Appendix B) the new Medway's development plan documents (DPDs) will consist of the following:
- *Core Strategy*, containing the vision and strategic objectives for the area and including strategic land allocations. Medway Council is in the process of preparing a core strategy development plan document that sets out the council's spatial strategy for how Medway will be developed in the future. This report aim is to assist in this process;
  - *An Action Area Plan (AAP)* for the new settlement of Chattenden/Lodge Hill;
  - One further DPD covering all remaining land allocations and any necessary development control policies;
  - *Proposals Map*, illustrating, on an Ordnance Survey base, all the policies and proposals contained in the other documents, and
  - A number of *Supplementary Planning Documents (SPD)* are currently being prepared, including Chatham Centre and Waterfront SPD and Pentagon Centre Development, explained in following sections.

#### 4.5 Medway Local Plan 2003

- 4.5.1 The *Medway Local Plan 2003* was adopted and became operative on 14 May 2003, replacing the Medway Towns Local Plan 1992 and the Medway Local Plan Deposit Version 1999. The Local Plan will be superseded by the Medway LDF.
- 4.5.2 Local Plans have assumed a greater importance since the Town and Country Planning Act 1990, which made their preparation a statutory requirement. It also makes it clear that where plans were up to date, proposals for development will generally be permitted only if they accord with the Development Plan. Therefore Local Plans, as the most detailed layer in the plan-making system, had a crucial role in directing and controlling development.
- 4.5.3 In the absence of an adopted Core Strategy (Local Development Framework) Medway's Local Plan provides the planning policy framework for Medway, some key policy include:
- Policy T1: Impact of development. In assessing the highways impact of development, proposals will be permitted provided that:

<sup>3</sup> This consultation paper is draft statutory Guidance to support local authorities in producing Local Transport Plans. It applies to local authorities outside of London required to produce a Local Transport Plan under the Transport Act 2000, as amended by the Local Transport Act 2008. The first and second round of Local Transport Plans (LTPs) cover 2001-06 and 2006-11. This Guidance applies to all LTPs after these rounds and has effect until further guidance is produced. Consultation closing date was due to be on 9 April 2009.

- i. the highway network has adequate capacity to cater for the traffic which will be generated by the development, taking into account alternative modes to the private car;
  - ii. the development will not significantly add to the risk of road traffic accidents;
  - iii. the development will not generate significant H.G.V. movements on residential roads;
  - iv. the development will not result in traffic movements at unsociable hours in residential roads that would be likely to cause loss of residential amenity.
- Policy S5 Medway's City Centre. The council will permit initiatives to enhance the attraction of the town centre. These may include environmental improvements, improved access for public transport, cyclists and pedestrians and access to the riverside.
  - Policy T5 Bus Preference Measures. Within the bus corridors identified on the Proposals Map, preference measures to aid bus access, particularly on Park and Ride routes, will be developed. Such measures may include enhanced waiting and access facilities and information systems for passengers, including people with disabilities.
  - Policy T18 New Transport Infrastructure. Proposals for major transport infrastructure will be assessed against the provision of facilities for integrated transport, including cycling, pedestrian movement and public transport and the ability to demonstrate the need for the infrastructure and its contribution to the regeneration of Medway's economy and physical environment balanced against the need not to encourage private car journeys.

#### 4.6 Medway Council Plan 2009-2012

- 4.6.1 The *Council Plan 2009-2012* is the council's high-level, strategic business plan that sets out the council's priorities, outcomes, objectives and key actions over a three year period, agreed by cabinet on 23 September 2008. The Council Plan 2009-12 replaces the Performance Plan as the council's business plan.
- 4.6.2 The Council Plan explains how Medway intends to fulfil its vision, based on the six agreed priorities that Medway is committed to achieve over the three year lifespan of its first Council Plan. The Council Plan analysed each of the six priorities based on what Medway is intended to achieve with it and how will do it. The six assessed priorities are:
- A clean and green environment
  - Safer communities
  - Children and young people having the best start in life
  - Older and vulnerable people maintaining their independence
  - People travelling easily and safely in Medway
  - Everyone benefiting from the area's regeneration
- 4.6.3 In addition, two core values are also analysed. Both set out how Medway is going to achieve above priorities:
- Putting customers at the centre of everything Medway does
  - Giving value for money

4.6.4 It is a key element of the budget and policy framework but it is not a stand-alone document. It will be supported by the development of the existing service planning framework, contributing to the development of a comprehensive planning and performance framework across the council.

#### 4.7 Medway Second Local Transport Plan 2006-2011 (LTP2)

4.7.1 Medway's LTP sets out the authority's local transport strategies and policies, and an implementation programme. The LTP and the LDF, as well as other policy documents of Medway must complement and inform each other. DfT use LTPs and Delivery Reports to:

- inform decisions on capital funding for local authorities;
- inform the development of DfT policies on local transport;
- monitor the delivery of key objectives and targets that are delivered through the actions of local government;
- feed into the authority's Comprehensive Performance Assessment score.

4.7.2 Medway's LTP includes the six overarching transport priorities, eight transport objectives and 25 transport related targets. All schemes and initiatives should be judged against their positive contribution to the plan's priorities and objectives. It is normally expected for all schemes and initiatives to deliver at least two of the shared priorities. The six transport LTP priorities are shown below, split between national shared priorities and local priorities:

- Tackling congestion (national shared);
- Delivering improved accessibility (national shared);
- Safer roads (national shared)
- Better air quality (national shared)
- Sustainable regeneration (local)
- Improving health (local)

4.7.3 Within the LTP there are eight strategic transport objectives that funding and schemes - delivered by the LTP - are designed to meet. The challenge is to deliver transport objectives that strike a balance between the six key priorities of the plan and meet the sometimes conflicting aspirations of residents, businesses and employees. Therefore, each objective aim is to deliver improvements towards the overarching priorities as listed above. The strategic transport objectives are:

- Supporting regeneration
- Movement in Medway
- Improving public transport
- Improving accessibility
- Improving travel safety
- Encouraging river movement
- Supporting freight
- Road maintenance

#### 4.8 Medway Community Plan 2007-2010 and Local Area Agreement 2008-2011

4.8.1 The *Community Plan for Medway 2007-2010* is the key strategic planning document for the area. It identifies the top priorities that the key partners will work to address for the area as a whole. The Medway Local Strategic Partnership (LSP) led the development of this plan and the priorities were identified in consultation with local communities and partner agencies.

4.8.2 This is the third Community Plan for Medway. The priorities for action in this plan have changed, reflecting recent developments in Medway, including progress on the regeneration of key areas and changes to services for children and young people.

4.8.3 The plan is developed and agreed by the Medway Local Strategic Partnership, an umbrella body which brings together more than 350 organisations representing the communities of Medway. These organisations include local businesses, voluntary and community organisations and public bodies like the police, the health service and Council. The LSP is structured around 5 thematic partnerships. Lead partnerships oversee the delivery of specific aspects of this plan. In addition, the Medway Renaissance Partnership oversees the delivery of the regeneration of Medway and is working with the LSP to realise the vision for Medway.

4.8.4 The council and its partners involved in Medway's Local Strategic Partnership have worked together to develop Medway's second *Local Area Agreement (2008/11 LAA)*. The agreement reflects the council's priorities for improving Medway and sets out the high level outcomes that local people, stakeholder organisations and central government want to see achieved between April 2008 and March 2011. The outcomes set out in the new LAA have been identified and agreed through the Medway Local Strategic Partnership, involving all key local partners and stakeholders as part of a comprehensive exercise to refresh Medway's Community Plan.

4.8.5 The *Community Plan* and *Local Area Agreement* are companion documents, with the LAA taking forward the elements of the Community Plan that will most benefit from co-ordinated activity and partnership effort. The proposed outcomes in the LAA strike a balance between local and national priorities and reflect the impact of the major regional developments of the Thames Gateway and the London 2012 Olympics.

4.8.6 Transport related LAA's targets include:

- Responding to the travel demands resulting from regeneration by seeking to limit the growth of traffic;
- Reducing killed / seriously injured crashes
- Deliver the target for new homes, supported by appropriate infrastructure;
- Reducing the 'carbon footprint' in Medway;
- Tackling obesity in adults and children and young people.

4.8.7 A list of transport related targets is provided in Table 4-1 overleaf.

Table 4-1 – Medway Local Area Agreement 2008-2011 – Transport related targets

Priority	Indicator <i>(* denotes those from national indicator)</i>	Baseline	LAA Improvement Target			Partners <i>(* denotes partners who have signed-up to the target and any which are acting as lead partner/s)</i>
			08/09	09/10	10/11	
1) Responding to the travel demands resulting from regeneration by seeking to limit the growth of traffic	NI 167* Congestion – average journey time per mile during the morning peak. PSA 5 No increase in the average journey time compared to a 2003/7 average baseline, measured in minutes per mile along a combination of 6 key strategic routes into Chatham town centre between 7.30am and 9.30am, Monday to Friday.	3 mins 30 sec per mile	3 mins 30 sec per mile	3 mins 30 sec per mile	3 mins 30 sec per mile	<b>Lead partners:</b> Medway Council* <b>Named partners:</b> Police <b>Other partners:</b> Medway Economic Partnership Board (Executive Transport Group)
	NI 175* Access to services and facilities by walking, cycling and public transport The percentage of new residential units within developments of 50 units or more accessible by a PT service (within 500m) that provides links with a frequency of 30mins or better to a town centre in Medway during the am and pm peaks, Mon-Fri	50%	100%	100%	100%	<b>Lead partners:</b> Medway Council* <b>Named partners:</b> Police, PCT <b>Other partners:</b> Medway Economic Partnership Board, (Executive Transport Group)
2) Reducing killed / seriously injured crashes	NI47* People killed or seriously injured in road traffic accidents. DfT DSO	83 <i>(baseline 2005/07 average)</i>	79 <i>(3 year rolling average: 66(6) (percentage reduction 4.7)</i>	78 <i>(3 year rolling average: 67(6) (percentage reduction 1.0)</i>	77 <i>(3 year rolling average: 68(7) (percentage reduction 2.1)</i>	<b>Lead partners:</b> Medway Council*, Kent Fire & Rescue Service <b>Named partners:</b> Police, PCT, Highways Agency, Medway NHS Trust, Kent Probation <b>Other partners:</b> CSP
3) Deliver the target for new homes supported by appropriate infrastructure	NI 154* Net additional homes provided. PSA20	591	675	750	815	<b>Lead partners:</b> Medway Council* <b>Named partners:</b> - <b>Other partners:</b> Medway Renaissance Partnership, Medway Strategic Housing Partnership Board
4) Reducing the carbon footprint in Medway	NI 186* per capita CO2 emissions in the local authority area.	5 tonnes CO2per capita	0%	- 7%	-13.9% <i>(equating to a CO2 reduction of 4.3 tonnes per capita)</i>	<b>Lead partners:</b> Medway Council* <b>Named partners:</b> - <b>Other partners:</b> Medway Renaissance Partnership, Medway Strategic Housing Partnership Board
5) Tackling obesity in adults and children and young people	NI 56* Obesity among primary school age children in Year 6. DCSF DSO	19.3%	18.9%	18.7%	18.5%	<b>Lead partners:</b> PCT* <b>Named partners:</b> Medway Council <b>Other partners:</b> CYPSP, Medway Schools, HPB

Notes:  
 PSA: Public Service Agreement target  
 DfT DSO: Department for Transport, Departmental Strategic Objective target  
 DCSF DSO: Department for Children, Schools and Families, Departmental Strategic Objective target

Source: Medway Local Area Agreement 2008/11, submitted to GOSE 06.06.08

#### 4.9 Chatham Centre and Waterfront Development Brief

4.9.1 Medway Council adopted the Chatham Centre and Waterfront Development Brief on 1st August 2008.

4.9.2 It was prepared to inform the public, potential investors and stakeholders interested in the development of Chatham. It has the status of a 'supplementary planning document' (see Figure 4.3) and planning applications in the area.

4.9.3 The brief conforms with 'saved' Policy S.5 of the Medway Local Plan 2003 and is complementary to:

- The Chatham Centre and Waterfront Development Framework, 2004; and
- The Pentagon Development Brief, 2005.

4.9.4 The document considers the whole of Chatham Centre in terms of movement and public realm but also includes more detailed guidance for three 'masterplan' areas. These are:

- The Brook and adjoining areas;
- The Station Gateway – the area between Chatham Station and the Waterfront;
- The Waterfront – covering the area from Sun Pier to Gun Wharf.

#### 4.10 Pentagon Centre Development Brief

4.10.1 Medway Council, in partnership with the then owners of the Pentagon Shopping Centre, commissioned a team of planning, urban design and architecture specialists, to explore how the Pentagon Shopping Centre might be refurbished and extended in a way that can bring new benefits and opportunities to Chatham Town Centre.

4.10.2 The scope of the refurbishment and development is to improve the market appeal of the Centre and its integration with the surrounding town centre, including enhancing pedestrian movement. In particular, three main opportunities were identified:

- Refurbishment of the centre that entails reviewing and consolidating floor space through relocating the bus station; reorganising existing retail units (particularly on the upper levels), and reviewing the existing entrance points, malls and internal spaces (including Pentagon Court) to improve pedestrian circulation through the centre;
- Mixed use extension of the centre to Soloman's Road which involves the demolition of the existing Brook car park; redevelopment of existing retail units fronting the High Street; provision of high quality parking, and some residential development;
- Mixed use extension of the centre fronting The Paddock which involves redeveloping the area currently used by buses accessing the centre; reclaiming highway land to provide a fresh and attractive development frontage, and some residential development;

## 5 Existing movement issues

### 5.1 Democratic Trends

5.1.1 Medway is characterised by a growing population with high proportions of young and elderly people (see Table 5-1). In 2001 there were 9,804 full-time students and schoolchildren aged 16 to 74 in Medway. Of these, 4,522 were aged 18 and over<sup>4</sup>. Of the resident population aged 16 to 74, 30% had no qualifications, while 12% were qualified to degree level or higher.

Table 5-1: Age Groups population

Ages Groups	Medway
10 and under	37,930
11 to 20	34,376
21 to 30	32,359
31 to 40	40,621
41 to 50	33,388
51 to 60	30,291
61 and above	40,523
<b>Total Population</b>	<b>249,488</b>

Source: 2001 Census, ONS

5.1.2 In terms of employments and as shown in Table 5-2, Medway presents a slightly higher than national average employment rate, and similar than national average unemployment rates. It also has overall high rates of car use for journeys to work, with relatively few using public transport to commute to work on a daily basis (Figure 5-1).

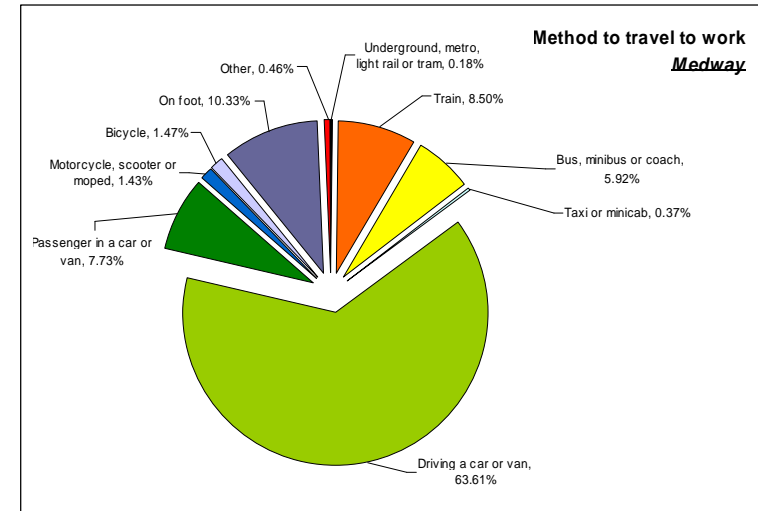
Table 5-2: Employment, income support, students and qualifications

Percentage of 16 to 74 year olds	Medway	England and Wales average
Employed	64.5%	60.6%
Unemployed	3.5%	3.4%
Economically active full-time students	2.3%	2.6%
Retired	11.8%	13.6%
Economically inactive students	3.3%	4.7%
Looking after home/family	7.8%	6.5%
Permanently sick or disabled	4.0%	5.5%
Other economically inactive	2.8%	3.1%

Source: 2001 Census, ONS

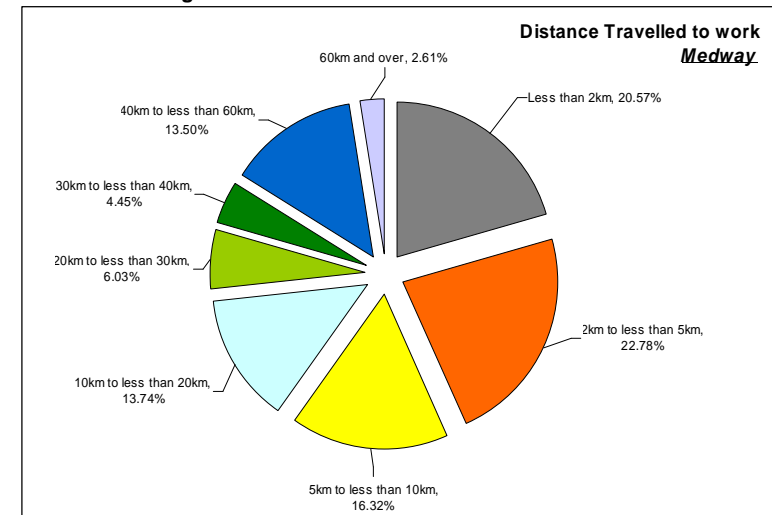
<sup>4</sup> These figures come from the 2001 Census, where students were enumerated at their term-time address.

Figure 5-1 Mode of travel to work. 2001 Census



Source: tn\_MT44 rev a

Figure 5-2 Distance travelled to work. 2001 Census



Source: tn\_MT44 rev a



5.1.3 Overall, Medway presets a high rate of journeys to work to London, especially by train where rail usage to London is high and Medway itself has a considerable number of train stations. With the introduction of Channel Tunnel Rail Link for domestic services (CTRL-DS), rail journeys to and from London are expected to increase. Therefore, catering for improvements to the access to the station will be important.

5.1.4 Table 5-3 and Table 5-4 present figures showing the proportion people in Medway with a limiting long term illness and those claiming disability living allowance. Whilst these are below the England and Wales average, they are still a cause for concern, particularly when considered alongside the high proportion of elderly people living in the area.

**Table 5-3: Health, illness**

Health, limiting long-term illness and provision of care	Medway	England and Wales average
Percentage of people describing their health as 'not good'	7.6%	9.2%
Percentage of people who stated they had a long-term illness, health problem or disability which limited daily activities or work	15.6%	18.2%
Percentage of people who provided unpaid care to family members, neighbours or others, because of long-term physical or mental ill-health or disability, or problems related to old age	8.6%	10.0%

Source: 2001 Census, ONS

**Table 5-4: Health, attendance and disability**

Attendance and Disability Living Allowances	Medway
Percentage of people receiving Disability Living Allowance	2.4 %
Percentage of people receiving Attendance Allowance	1.4 %

Source: Department for Work and Pensions, 1998

## 5.2 Transport network

5.2.1 Medway is situated only 30 miles from London to the west and 40 miles from Dover to the east and is surrounded by the administrative area of Kent. The River Medway is at the heart of Medway urban conurbation.

5.2.2 As shown in Figure 5-3, Medway is linked by the A2 road, which crosses the area from northwest to southeast, connecting all major urban areas: from Strood (A2 called Watling Street and London Road at Strood Town Centre), it crosses the River Medway through the Rochester Bridge entering Rochester Town Centre (as High Street road) then Chatham Town Centre (as New Road and Chatham Hill) heading finally to Rainham, through Rainham Road towards Newington. The A2 leads northwards to the M25 and London.

5.2.3 Medway is also bypasses by the M2, that starts at its junction with the A2 near Strood (junction 1), and then runs south eastwards to Canterbury where it joins the

A2 again (junction 7) and then onto Dover. This route also links Medway to the Channel Tunnel Rail Link (CTRL) and the rest of East Kent.

5.2.4 The River Medway can be crossed either through the Medway Tunnel (first immersed tube tunnel to be built in England, 370 metres long, vehicles only), or the Rochester Bridge (three separate bridges: two carrying the A2 road, one carrying the railway), linking the towns of Strood and Rochester.

5.2.5 There are five main rail stations, one per each major urban area ie Strood, Rochester, Chatham, Rainham and Gillingham. Details of the rail network can be found in following sections.

5.2.6 Table 5-5 below shows the current modal split for the resident population travelling to work (Census 2001), whilst Table 5-6 reproduces the distances that Medway resident population travel to work.

**Table 5-5: Modal Split**

Mode	Chatham	Strood	Gillingham	Rainham	Rochester	Medway	South East	England
Underground, metro, light rail or tram	0.17%	0.22%	0.05%	0.19%	0.20%	0.18%	0.26%	3.48%
Train	12.39%	7.61%	12.46%	11.27%	7.33%	8.50%	6.25%	4.66%
Bus, minibus or coach	5.40%	6.77%	5.29%	4.59%	4.84%	5.92%	4.83%	8.27%
Taxi or minicab	0.60%	0.30%	0.41%	0.30%	0.44%	0.37%	0.46%	0.57%
Driving a car or van	52.65%	63.84%	55.18%	68.66%	65.86%	63.61%	65.71%	60.45%
Passenger in a car or van	9.33%	7.78%	8.68%	6.21%	7.98%	7.73%	6.28%	6.72%
Motorcycle, scooter or moped	1.02%	1.84%	1.59%	1.09%	1.46%	1.43%	1.25%	1.22%
Bicycle	1.69%	1.09%	2.27%	1.30%	1.15%	1.47%	3.41%	3.11%
On foot	16.28%	10.22%	13.68%	5.94%	10.44%	10.33%	11.01%	11.00%
Other	0.46%	0.32%	0.39%	0.46%	0.31%	0.46%	0.56%	0.51%

Source: Method of Travel to Work - Resident Population (UV39), Apr01 (MM ref tn\_MT44)

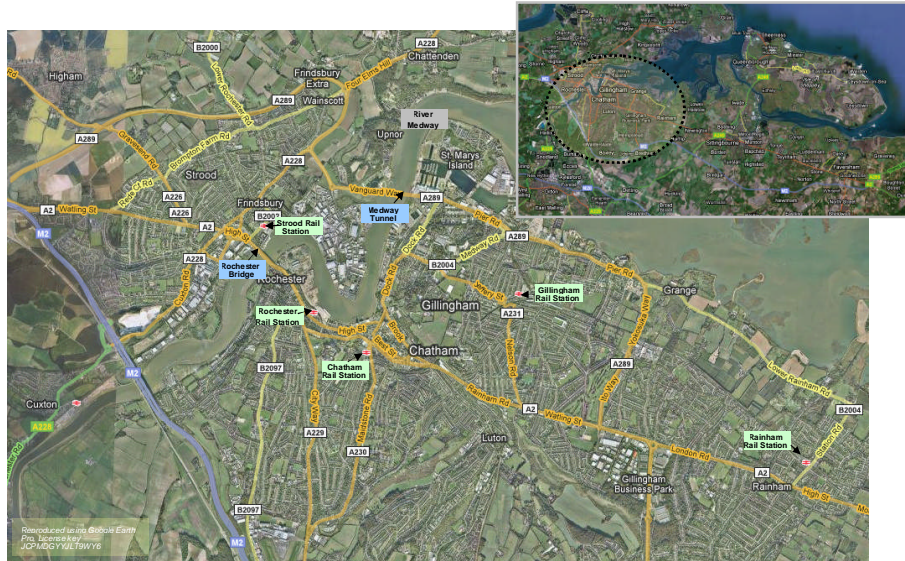
**Table 5-6: Distance travelled to work**

Mode	Chatham	Strood	Gillingham	Rainham	Rochester	Medway	South East	England
Less than 2km	28%	22%	26%	19%	23%	21%	24%	23%
2km to less than 5km	25%	19%	27%	17%	28%	23%	21%	23%
5km to less than 10km	8%	14%	8%	23%	13%	16%	18%	21%
10km to less than 20km	12%	19%	14%	13%	12%	14%	16%	18%
20km to less than 30km	6%	7%	5%	4%	6%	6%	8%	6%
30km to less than 40km	4%	5%	4%	3%	4%	4%	4%	3%
40km to less than 60km	14%	13%	13%	18%	12%	13%	5%	3%
60km and over	3%	2%	2%	3%	2%	3%	4%	3%

Source: Distance Travelled to Work (UV35), Apr01 (MM ref tn\_MT44)



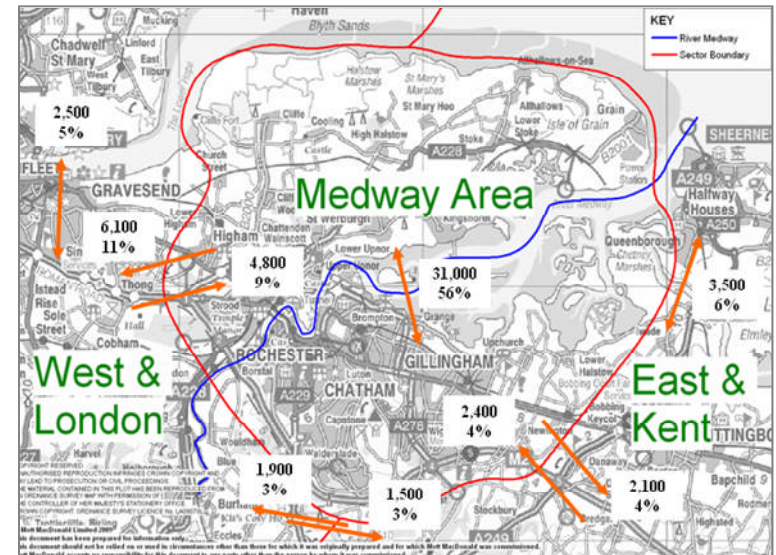
Figure 5-3: Core components of Medway's transport network



5.2.7 Figure 5-4 below illustrates the main vehicular movements during AM peak hour around Medway area, indicated with a red line. The values were extracted from the 2007 base Saturn model for Medway area. The arrows represent the direction of trips, indicated as a total number of vehicles (expressed in PCUs) and as a percentage of the total flow around the area.

5.2.8 It is noted that more than half of the AM peak vehicular traffic (31,000 PCUs) is concentrated around the river crossings (Medway Tunnel and Rochester Bridge) in both directions. The second major movement is to/from the M2 (at its junction 1 with the A2 road), representing 11% of the total flow in the area (6,100 PCUs).

Figure 5-4: Strategic Travel Patterns Major Vehicular Movements



### 5.3 Roads, traffic and cars

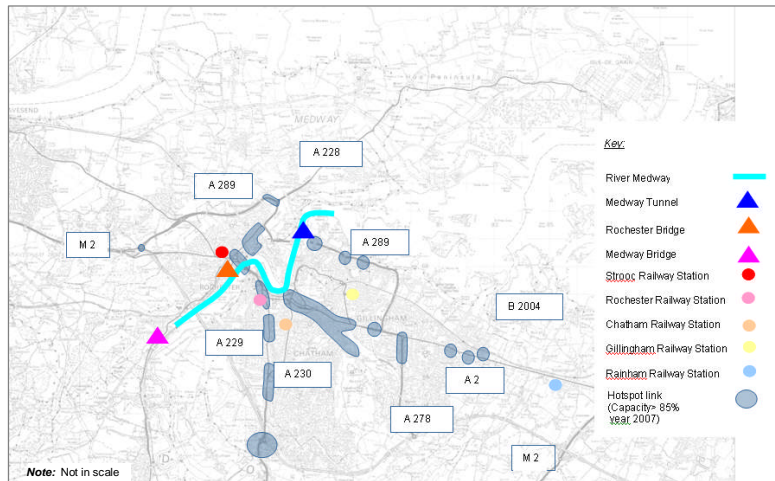
5.3.1 As explained in section 2, baseline census information and the 2007 preliminary SATURN model for the area was analysed to provide baseline information.

5.3.2 As showed in Figure 5-3 above, Medway is well served by roads with the A228, A229, A230, A278, A289 and the A2 all traversing Medway.

5.3.3 Congestion on the road system leads to an increase journey times across the area, which can lead to "rat- running" on certain key roads within Medway. Figure 5.5 below reproduces the congestion hotspot identified during the morning peak, year 2007. It can be noted that the main congestion hotspot occur along the A2, along A229, and at junctions 1 and 3 of the M2, and at Four Elms junction of the A228. Strood and Chatham town centres are the most heavily congested.

- 5.3.4 It is noted that Medway wide there is a requirement to separate the cross-roads functions of Chatham and Strood with their town centre roles. This will entail diverting through traffic away from central areas while improving overall capacity.
- 5.3.5 Figure 5.2 and Table 5.7 also show a significant number of journeys between 10 and 20km in length. Evidence suggests that trips of this length are often much dispersed, making it particularly difficult for traditional public transport to offer a real alternative to the private car. It is therefore crucial that the layouts of any future housing developments are such that this is not repeated in the future and also ensure that new housing developments have good accessibility to places of employment, educational establishments and medical facilities.
- 5.3.6 As shown in Figure 5.5, traffic hotspots already exist on the A2, A229 and around the various housing estates of Medway. The figure is an illustration of the hotspot found as an output plot from the base 2007 Saturn model.
- 5.3.7 By building the new developments in accessible places as described above, those hotspots identified should not be enlarged and will keep any new hotspots to a minimum. Good quality public transport measures, together with walking and cycling facilities should help contribute to dampening down any latent growth in congestion, caused by any additional private car journeys. Measures on and around the motorway junctions, including keeping away new developments at these locations, should reduce their impacts.

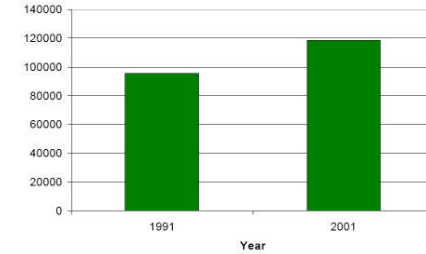
Figure 5.5: 2007 Traffic Hotspots (illustrative only)



- 5.3.8 Car ownership in Medway significantly increasing over the last 20 years, with households having access to two cars increasing by 50%, from 13.3% to 26.5%. In line with national trends, Figure 5-6 below shows car ownership in Medway for the years 1991 and 2001.

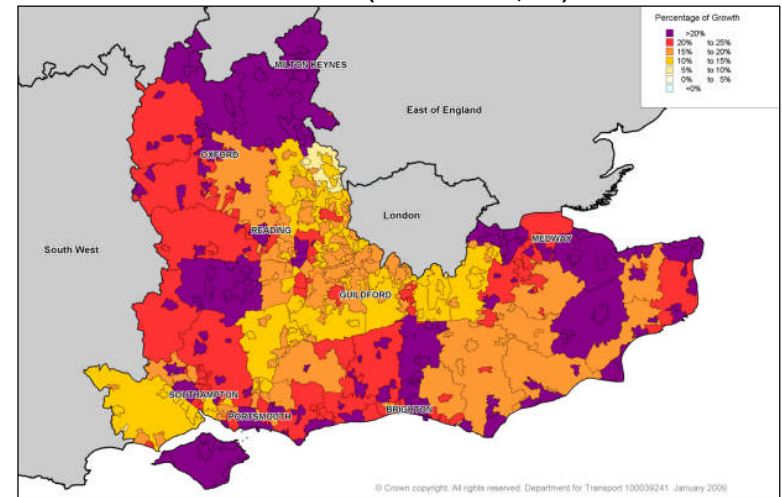
- 5.3.9 From the 2001 census, total car ownership increased by 24.3% from the 1991 census figures. However, within Medway, 23% of households do not have access to a car and this figure rises to 39% in the more socially deprived wards (2001 census).

Figure 5-6: Total Number of privately owned cars/vans



- 5.3.10 In January 2009, the Department for Transport (DfT) has published its *Forecast growth in car ownership 2006 to 2026*, based on TEMPRO growth. The forecast is shown in Figure 5.7, which confirms that Medway area will present an increase in car ownership of more than 20% in the future years.

Figure 5.7: Forecast growth in car ownership 2006 to 2026 by NTEM zone in the South East (2009 TEMPRO, DfT)



Source: Annex 9 Delivering a Sustainable Transport System: City and Regional Networks Data Book, Map A9.9, DfT, January 2009

- 5.3.11 The growth in car ownership has led to an increased parking demand in Medway, both at the origin and destination of journeys. Medway Council is currently revising its parking strategy. As stated in the current Medway Local Plan (policy T15 Parking Strategy), the council is intended to implement its parking strategy, at least in part, by the use of a pricing regime in its own public car parks. This is structured to deter long-stay users from occupying short-stay spaces. The strategy aim is to be



implemented in a phased fashion, parallel with the introduction of other complementary transport measures including park and ride and bus preference.

5.3.12 Currently in Medway there are approximately 4,520 spaces<sup>5</sup>, available as short and long stay at Rochester, Rainham, Gillingham, Strood and Chatham town centres, with hourly charges (0-1 hour) that can vary from £0.50 (Rochester, Rainham, Strood and Gillingham) to £0.70 (Chatham). The highest charge in the whole area occurs in Chatham Town Centre short stay car parks, where charge of £5.1 applies for cars that stay more than 5 hours<sup>6</sup>.

#### 5.4 Rail

5.4.1 Medway is served by rail links, within the area and to/from London and north Kent. There is a station at all five major towns, plus two smaller stations on the Medway Valley line between Medway and Maidstone. All the stations and services in Medway are operated by Southeastern. Rail services linking Rochester, Chatham and Gillingham are frequent, with six trains an hour for most of the day, and at least four trains an hour serving Rainham. Train services between Strood, Cuxton and Halling, on the 'Medway Valley' route, are less frequent, although still providing two trains an hour for most of the day<sup>7</sup>.

5.4.2 The rail network is centred on the North Kent line, which serves Rainham, Gillingham, Chatham, Rochester and Strood. This provides services to the main London terminals of Victoria, Charing Cross, Waterloo, Cannon Street and London Bridge. The secondary rail line runs through the Medway Valley serving Cuxton and Halling and through to Maidstone West.

5.4.3 Chatham was identified as one of the 21 regional transport hubs within the South East Regional Transport Strategy<sup>8</sup>. Research on ticket sales undertaken by the South East England Regional Assembly shows that in 2004 there were approximately 1.8m rail journey annually between London and Chatham, of which 1.6m were to destinations in Central London<sup>9</sup>. According to the 2001 Census, 8.5% of Medway residents use rail for their journey to work, with most of these being into London.

5.4.4 Rail is used by around 2,600 people per day for local journeys within Medway, leading to a "close to capacity" operation on rail lines. Considerable work has been done over the past years in partnership with Network Rail, and consequently stations infrastructures are significantly improving. Gillingham Station was improved and Strood tunnel was refurbished during LTP1, and all slam door rolling stock has been withdrawn.

5.4.5 Future improvements to the rail network are considered in the South London RUS (Route Utilisation Strategy, published in March 2008). It is quoted there that one of the key recommendations for the December 2009 Thameslink timetable change for services into London is to adopt one high peak train per hour as fast service from

<sup>5</sup> "Where are the car parks in Medway" leaflet, Medway Council, 2007-2008.

<sup>6</sup> The tariff charges had remained at the same level for years (as per 2003) and were considered low in comparison to our neighbouring Councils, therefore it was agreed at Cabinet in September 2007 that the parking charges within Medway car parks would be increased, the first increase was implemented on 5 November 2007 and the second on 31 August 2008, both completed successfully.

<sup>7</sup> Movement in Medway. Public Transport Information Strategy 2006-2011. Medway Council, December 2006.

<sup>8</sup> South East Plan, SEEDA Draft Plan for submission to Government, March 2006, Section D4 Communications and Transport.

<sup>9</sup> South East England Regional Rail Trends - Final Report (August 2006).

Bromley South to Thameslink (routed via, but not calling at, Catford) originate the Medway area. This will alleviate congestion during peak periods. Furthermore, it was also identified that smaller capacity enhancement schemes are considered appropriate for implementation over the next few years, and "enhancements in the Medway towns area, to tie into resignalling requirements" is quoted as a major example.

5.4.6 Trains of 12-cars are planned to be operated to Rochester after 2014, with either platform lengthening or selective door opening (SDO) at Gravesend, Higham, Strood and Rochester. SEERA and Kent County Council have proposed an enhancement of Rochester Bridge Junction to increase capacity between the main line through the Medway Towns and the North Kent Line<sup>10</sup>.

5.4.7 Moreover, London commuting will benefit from a significantly faster journey time into London St Pancras with the opening of the Channel Tunnel Rail Link for domestic commuter services (CTRL-DS). From 2010 there are expected to be two trains per hour from Rainham, Gillingham, Chatham, Rochester and Strood to Stratford and St Pancras, plus a further two per hour into Victoria. Also major improvement schemes at all of the stations across Medway will make rail journeys to and from Medway more attractive. Linked with this, Medway Council has lobbied for improved rail services to key destinations as a result of CTRL domestic services, but without detriment being caused to other services. Table 5.7 compares current peak and off peak journey times to central London with the estimated journey time to St Pancras via CTRL (which will vary less between the peak and off peak). The difference in peak period journey time is shown in the right hand column.

**Table 5.7: Approximate journey time before and after introduction of CTRL Domestic for Medway Stations**

Station	Current journey time (min)		Journey time to St Pancras via CTRL (min)	Approx average peak period time saving (min)	Approx average peak i. time change (%)
	Peak	Off Peak			
Strood	57-62(1)	54(1)	32-35	26	-43%
Rochester	59-69(2)	42(2)	40	25	-38%
Chatham	51-56(2)	44(2)	38-43	13	-24%
Gillingham	55-60(2)	48(2)	43-48	12	-21%
Rainham	60-66(2)	53(2)	47-52	13	-21%

**Notes:**

- (1) To London Bridge on semi-fast train
- (2) To Victoria by fastest train

Source: South Eastern Regional Planning Assessment for the railway Table 8.3, page 64, DfT, January 2007 and tn\_MT44\_a

5.4.8 Table 5-8 details growth forecasts for mainline stations in Medway, with a significant increase in the throughput of passengers by 2014, particularly a 51% increase at Strood and passenger numbers in Chatham increasing by almost one million per year.

<sup>10</sup> From "South Eastern Regional Planning Assessment for the railway (covering south east London, Kent and the Hastings Line)", DfT, March 2007.

**Table 5-8: Growth forecasts for main stations in Medway**

Growth forecasts for main stations in Medway			
Station	Annual Passenger Nos. 2007	Annual Passenger Nos. 2014	% increase
Strood	758,000	1.1 million	51%
Gillingham	2.1 million	2.8 million	33%
Rochester	758,940	973,736	28%
Chatham	3.0 million	3.9 million	28%
Rainham	1.7 million	2.1 million	23%

Source: Southeastern Trains 2007

5.4.9 It is recognised that there is a lack of base capacity to serve growth of Kent/Medway ports with rail freight. As it is stated in the Medway Local Transport Plan 2006-2011, the Channel Tunnel must be exploited more. There is a requirement to reduce the barrier effect of London resulting from capacity constraints through London for freight. It is noted that the Lower Thames Crossing has a potential major value for rail freight and express services by-passing London. It could supplement the CTRL for international services and provide the Thames Gateway with direct connections to Stansted and Gatwick airports. It also provides the potential for a Thames Gateway "metro" service linking areas north and south of the Thames.

5.4.10 Therefore, as part of the strategy set out in the Medway Local Transport Plan 2006-2011, it is considered that the rail-related long-term transport strategy for the Medway area should be based on:

- Improved strategic connectivity to provide the basis for improved economic performance and recognising the regional and national role of the Thames Gateway as a growth area and destination in its own right.
- A step change in public transport capability and quality for movements within the area to facilitate choice, support urban regeneration and growth and minimise social exclusion.
- Consolidating the role of Medway as a gateway for freight serving the wider South East through selected port development and the promotion of rail freight.

5.4.11 Medway Council has been held discussions with Network Rail and South Eastern Trains regarding future plans for Chatham, Rochester, Strood and Gillingham Stations, which are likely to lead to major accessibility improvements to Gillingham station being undertaken.

## 5.5 Bus

5.5.1 The bus network extends through the urban and rural area with a major terminal at Chatham. The network also extends to the neighbouring towns of Gravesend, Sittingbourne and Maidstone and the Bluewater shopping complex at Greenhithe. An inset of the Medway area is shown in Figure 5-8. The majority of services are local urban routes with a length of under five miles from the principal core area to the outer suburbs, operating at a frequency of between two and eight buses per hour between 07.00 and 19.00 hours. More infrequent services extend into the rural areas of Medway in particularly the Grain peninsula. As is shown in Figure 5-8, due to the river natural barrier, bus routes are kept mainly around Chatham and

Gillingham area with no connectivity through the river and therefore very limited coverage around rest of Medway area.

5.5.2 Medway's current bus strategy has been produced to support Medway's Local Transport Plan 2006 - 2011 (LTP2). As well as supporting LTP2 it also supports all other planning functions of the Authority including the LDF. The strategy will promote the use of the bus network, so contributing to tackling traffic congestion. This is a strategy for positive partnership working with bus service operators within Medway and across its boundaries.

5.5.3 One major component of the bus strategy for Medway as an effective and sustainable transport strategy is the transformation of Chatham. A fundamental component of the adopted masterplan for the area (*Chatham Centre and Waterfront development Brief*, August 2008) is the access and movement strategy promoting high quality accessibility. While Phase 1 of the new two-way system introduced in September 2006 has helped in improving movement and connectivity, further investment is required to improve access to the town centre and waterfront. The aim of the access and movement strategy is to improve accessibility by all modes of transport from walking and cycling, to rail, car and bus.

5.5.4 One key component of the Chatham masterplan and its strategy is the relocation of Chatham's existing bus station from the Pentagon shopping centre which is considered poor, with limited information and a poor waiting environment. The new bus facility, expected to be in operation from 2011, will be placed on Globe Lane, partially covering the Paddock and Globe Lane car park, close to the A2 with good access to major roads connecting to London, Maidstone, Rochester, Gillingham and other major destinations. The new bus station will operate with semi-dynamic assignment of bays.

5.5.5 The Medway bus strategy aims to address the following issues<sup>11</sup>:

- improving the image of bus services in Medway by tackling reliability, journey times and quality of the network;
- describing the contribution that the bus can make to Medway's ambitious regeneration agenda;
- identifying the ways in which the bus can improve access to employment, education and health services;
- developing the range and type of information available to existing and potential passengers regarding bus journeys;

<sup>11</sup> From "Movement in Medway by bus. Medway Bus Strategy 2006-2011". Medway Council, December 2006.



## 5.6 Cycling

5.6.1 Both National and regional policies have recognised that cycling should be encouraged as a sustainable and accessible mode of transport, that promotes personal health improvement. The Regional Transport Strategy (RTS) places a strong and particular emphasis on the need to bring forward measures that should, over time, achieve a significant change in the overall pattern of movement, with a higher proportion of journeys being undertaken on foot, by cycle or public transport.

5.6.2 Local consultation has shown that more people in Medway want to cycle, especially for local trips, for leisure and health. However, the percentage of Medway's residents cycling to work has almost halved over the last twenty years, from 2.3% in 1981 to 1.5% in 2001. Furthermore, compared to broader geographic areas, the percentage of people who cycle to work in Medway is below both the South East and national average (see Table 5-5).

5.6.3 Furthermore, the River Medway is a natural barrier to movements between north and south side of Medway area. This topography is detrimental particularly to soft modes as pedestrian and cyclists.

5.6.4 In summary, it was found that people in Medway are reluctant to cycle because of the following barriers:

- fear for personal safety, due to increased traffic and reduced natural surveillance;
- lack of a continuous cycle network;
- lack of facilities, such as secure cycle parking and shower facilities at places of work;
- parental choice in education, often leading to longer journeys to school;
- forms of development and roads that provide primarily for the car;
- local topography, making cycling difficult for the less fit due to steep hills.

5.6.5 Main priority of the strategy would be enhance cyclist (and pedestrian) environment all across Medway tackling above identified barriers. Regeneration schemes should be particularly orientated to address the lack of facilities and attractiveness for cyclist.

5.6.6 Therefore, the specific objectives of the current Medway's Cycling Action Plan are to<sup>12</sup>:

- Reduce the vulnerability of cyclists and to reduce the fear of accidents associated with cycling;
- Increase the number of journeys made by cycle and to increase cycling as a leisure and tourism activity;
- Encourage safe cycling as a mode of travel among potential and inexperienced cyclists for utility trips;
- Design for convenient, safer cycle use of the highway network to key destinations, by improving the safer cycle route network and links to key destinations;

<sup>12</sup> From "Medway's Cycling Action Plan". Medway Council, March 2006.

- Contribute towards encouraging 'green' tourism and to improving the health of people who live and work in Medway by offering realistic travel alternatives by cycle and opportunities to cycle for health.

5.6.7 However, since 2000 some progress has been achieved with the implementation of the LTP Cycle Action Plan. The dedicated network of cycle routes was extended to 80km during LTP1, by 2005/2006 and to 100km during the early part of LTP2. It is planned for the network to be expanded further during the remaining part of LTP2 and LTP3, funded from a combination of LTP funds and developer contributions, with the LDF and Medway's Development Control planners playing their full role in this process.

## 5.7 Walking

5.7.1 National and regional policies have recognised that walking should be encouraged as a sustainable and accessible transport mode that promotes personal health.

5.7.2 Nationally walking is in decline, but continues to account for 77% of all journeys under a mile with car journeys still accounting for 20% of the short local trips that could be undertaken on foot. Once the journey lengthens to over a mile, walking accounts for less than 31% of all trips<sup>13</sup>. Within Medway the level of walking to work has also shown a decline when comparing a time series of census data. The latest data produced in the 2001 census shows this figure is 10.3% (Table 5-5).

5.7.3 The move away from walking has been reflected in increasing levels of car use and the environmental implications associated with more pollutants in the atmosphere, and a significant effect on the health. A survey of health and lifestyles in Kent and Medway showed that 36% of people are overweight, 11% obese and 3% grossly obese (*Centre for Health Studies*, 2002). This growing trend of obesity and lack of physical activity has been linked to other serious diseases such as cancer and heart disease.

5.7.4 The specific objectives for the Medway's Walking Action Plan have been developed taking account of the overarching policies and objectives set out in the Medway's LTP (and reproduced in section 4.7), the outcomes of consultation and national guidance. The specific objectives of the Medway's Walking Action Plan are to<sup>14</sup>:

- Reduce the vulnerability of pedestrians and promote their safety and security;
- Increase the number of short journeys made by foot;
- Require new developments to be 'pedestrian friendly';
- Facilitate the removal of barriers to pedestrian movement where highway safety is not compromised;
- Design for convenient and attractive pedestrian routes to key destinations;
- Contribute to improving the health of people who live and work in Medway by offering realistic travel alternatives and opportunities to walk for health.

5.7.5 Policy T10 of the Regional Transport Strategy (RTS) requires the policies and proposals adopted by an Authority to achieve a rebalancing of the transport system based on a package of measures, which are to include for promotion of walking. The delivery of schemes and initiatives in the Medway Walking Action Plan will

<sup>13</sup> DfT National Travel Survey, 2003.

<sup>14</sup> From "Medway's Walking Action Plan". Medway Council, March 2006.



significantly contribute towards the delivery of RTS policy T10 at a local level and will be reflected in the emerging LDF.

5.7.6 Medway Council undertook an innovative consultation on walking during 2003, branded "Talking Walking – we want your views". This consultation obtained very useful information regarding walking in Medway. The results of the consultation have been analysed and were used in the development of LTP2.

## 5.8 Air Quality

5.8.1 Medway's Air Quality Action Plan (AQAP) was produced in July 2005 as part of its Second Local Transport Plan (LTP2). AQAP sets out the initial measures Medway Council intends to take to achieve a reduction in nitrogen dioxide concentrations across the area. The aim is to improve air quality encompass transport planning, traffic management, land use planning, pollution control, local air quality management and promotional activities<sup>15</sup>.

5.8.2 Transport related emissions of nitrogen dioxide are the main issue for local air quality management in Medway. The action plan concentrates on initiatives aimed at reducing road traffic pollution as it represents the greatest percentage of emissions contributing to exceedences of this air quality objective. However, consideration is also given to measures that may help reduce emissions from other sources.

5.8.3 Air quality monitoring is carried out as part of the Kent and Medway Air Quality Monitoring Network, which forms part of the Kent and Medway Air Quality Partnership (KAMAQP). The Kent and Medway Air Quality Monitoring Network was formed in 1997 to ensure a coordinated approach to air quality monitoring and reporting across the county. The Network is a joint project funded by twelve of the thirteen councils within Kent.

5.8.4 Medway has three continuous automatic air quality stations: one at an urban roadside location in Chatham, one at an urban background site at Luton and one at a rural location in Lower Stoke. Monitoring of nitrogen dioxide and particles are carried out at all three sites. In addition the Lower Stoke<sup>16</sup> site monitors sulphur dioxide and ozone and the Luton site monitors sulphur dioxide, carbon monoxide and ozone. Medway Council also uses diffusion tubes to monitor nitrogen dioxide concentrations at 25 locations around Medway.

5.8.5 Some progress has been made with the majority of measures. Implementation of the AQAP has involved liaison with several Council departments, including Highways and Transportation, Planning, Waste Management and Environmental Health.

## 5.9 Conclusions

5.9.1 Table 5-9 below summarised the main problems that have been identified in the above sections. If these problems could be solved or at least minimised then Medway will benefit in terms of a better environment, increased economic activity and increased opportunities for all those who live and work in the area. In turn this will help to attract further investment in years to come, improving the Medway area

<sup>15</sup> From "Local Air Quality Management. Air Quality Review and Assessment. Air Quality Action Plan", Medway Council, July 2005.

<sup>16</sup> The Lower Stoke site is part of the AURN (Automatic Urban and Rural Network) and monitoring results from this location are reported nationally.

yet further. The LDF needs to deliver this investment and provide the vision for how this investment will best serve Medway and to reinforce its status as an important regional hub for the South East and London and also reflecting Medway's position in the Thames Gateway.

**Table 5-9: Summary of existing problems**

Existing Issues	Impact	Geographic implication	Main mode affected	Potential mitigation
High levels of car use for the journey to work.	Traffic congestion, particularly in main urban areas. Concentrated within a relatively tight peak period.	All town centres, road network.	Bus, car	→ Encourage more trips by public transport, walking and cycling.
Low levels of bus usage for journeys to work.	Buses not operating at maximum efficiency. Service improvements become harder to justify (-ive spiral).	All areas, bus network.	Bus	→ Improve image of bus service, journey times, reliability and punctuality through signal control (UTMC system). → Expansion of the real time information equipment at stops and key locations, CCTV camera system.
Lack of River Medway crossings	Medway River represents the bigger barrier for pedestrians, cyclist and public transport to travel across Medway.	River Medway crossing	Cyclist, walking and PT	→ Provide a new River Medway Crossing, of a single carriageway road crossing, incorporating facilities for public transport, pedestrians & cyclists (no facilities for cars).
Significant numbers of journeys between 10-20km (esp. for JTW).	Journeys of this length tend to be highly dispersed and not easy to serve by public transport encouraging more car trips.	All areas, road network.	Car, bus, rail	→ Create a more robust interurban road network with efficient interchanges.
High levels of rail commuting into London.	Heavy demand for access to rail stations by all modes.	Rail stations, rail network.	Rail, car, bus	→ Park and ride strategy around rail stations. → Increase efficiency and infrastructure of bus services that serve rail stations (interchange). → Reduce the level of out-commuting to London by encouraging more local employment opportunities
Significant levels of both short and long stay parking in town centres.	Encourage car trips into the town centres.	All town centres, road network.	Car, bus	→ Future land use strategies should aim to reduce private car parks in town centres. → Reducing reliance on the private car through enhancement of P&R, thereby decreasing the congestion on town centres.
Parking charges do not act as a disincentive for long stay users.	People choose to drive and park in town centres.	All town centres, car parks.	Car, bus	→ Review current parking strategy to find a balance between short/long term car parks and park and ride.
Traffic Congestion around Medway City Estates, on the A2 and A229.	Cost to business, worsening air quality problems and worsening delays and queuing on the road network	All areas, highway network	Car	→ Enhancement of infrastructure through bus priority lanes. → Provide with flow bus lanes and expansion of P&R facilities. → Strategic diversions should be analysed → UTMC

Existing Issues	Impact	Geographic implication	Main mode affected	Potential mitigation
Congestion on the M2 J3	Delays and congestion on the strategic road network with safety implications.	All areas, highway network	Car	→ Enhancement of infrastructure by HA. → Expansion of UTMC by HA to alert drivers of problem areas so that they can avoid them.
High levels of elderly and young families.	These groups tend to have lower levels of car ownership leading to potential issues around exclusion.	All areas.	Bus	→ Improve crossing for pedestrians and cyclist infrastructure. → Enhance buses environment (bus stops and bus interiors) to reassure accessibility. → Advertising campaign encouraging the ease of bus use, explaining the facilities around bus services.
Poor air quality in existing AQMA areas.	Adverse human health impacts.	All areas.	All	→ Reduce car use thus improving air quality across the Gateway.
Concerns over obesity and poor levels of health/fitness.	Adverse human health impacts.	All areas.	Cycle, walk	→ Encourage more trips by walking and cycling. → Widening of footpath and enhancement on pedestrian and cyclist facilities (e.g. crossing facilities) to increase attractiveness to soft modes.
Competitiveness of town centres	Commerce and trade are important to retain employment and prosperity in the town centres and beyond.	All town centres.	All	→ Contributing to the competitiveness and growth of Thames Gateway through improved access between settlements, looking to enhance Chatham status as a regional hub. → Increase the attractiveness for new visitors, tourist and students, increasing bus patronage. → Reduce the level of out-commuting to London by encouraging more local employment opportunities. → Support the demands for movement (by sustainable modes) for the large number of sites identified for residential development (in particular Rochester Riverside, Star Hill to Sun Pier and Chatham Centre & Waterfront, Strood Riverside, Temple Waterfront).

- 5.9.2 It is intended that strategy aim should be more journeys to be made by sustainable modes especially walking and cycling. Parking policy needs to address the balance between encouraging short stay parking for shopping but discouraging long stay parking in town centres in favour of bus or park and ride.
- 5.9.3 LTP3 and the LDF will share policies and strategies with which to promote healthy living, cycling, walking and public transport in Medway. Like the LTP process a lot of this work will rest on the creation of successful partnerships with such bodies as the local NHS (also referred to as Medway Primary Care Trust). Other pressure groups will be brought on board such as Sustrans and environmental groups who have a valuable contribution to make in highlighting any shortcomings they see at different stages of the LDF's development.

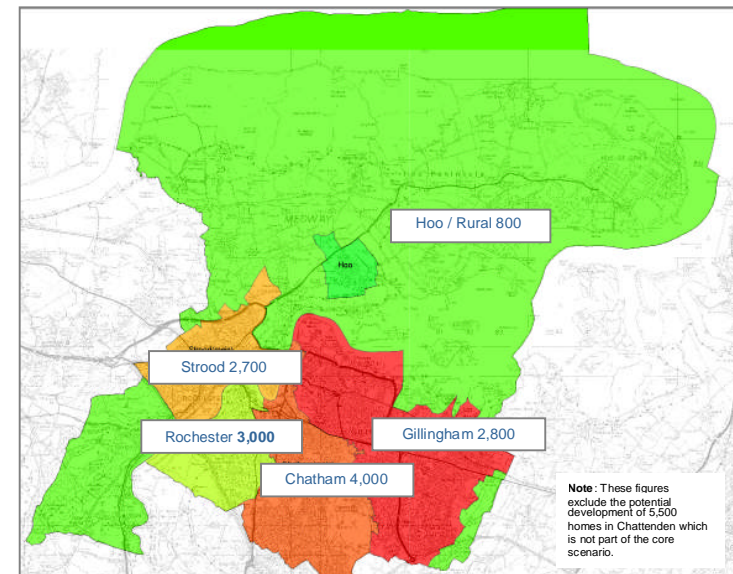
## 6 2026 Forecast and Demand Issues

### 6.1 2026 Overview

6.1.1 The large growth in housing and population anticipated for Medway over the period up to 2026 will impose strains and pressures on Medway's environment and existing infrastructure. Major investment in new infrastructure has already begun and much more is planned, it is therefore very important that the LDF can deal and plan for these new developments.

6.1.2 Figure 6-1 reproduces the projected core housing development for 2026 (excluding 5,500 dwellings from Chattenden development), where number of dwellings for each area is presented.

Figure 6-1: Projected housing development 2026 - Core Scenario

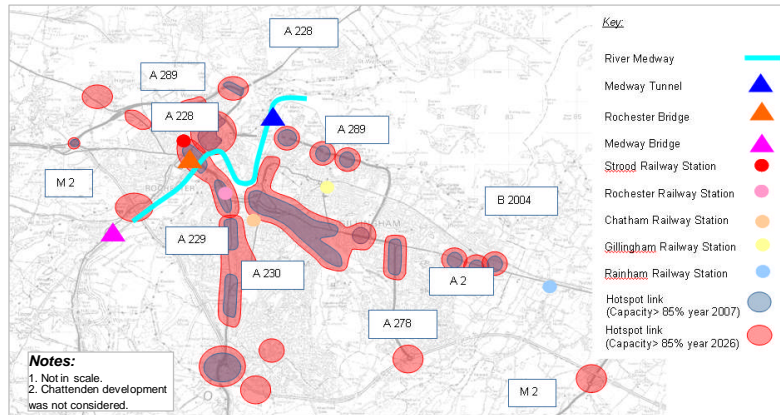


### 6.2 Transport problems associated with core growth

6.2.1 Forecast increase in demands for movements around Medway area (shown in Figure 6-1) should be managed by proper investments in new infrastructure and schemes to deliver it. Otherwise, if no enhancements were undertaken, it is expected that the already identified hotspots of congestion (shown in Figure 5.5) will get worse, spreading both in area and time, with peaks spreading. A comparison of hotspot during 2007 and 2026 and how the situation is worsening is illustrated in Figure 6-2. Main increase in delays occurs around the river crossings: Rochester Bridge and junctions associated with Medway Tunnel (Anthony's Way and Maritime

Way Roundabouts) together with Dock Road Roundabout present the higher delays.

**Figure 6-2: Traffic Hotspots. AM 2007 and 2026 (illustrative only)**

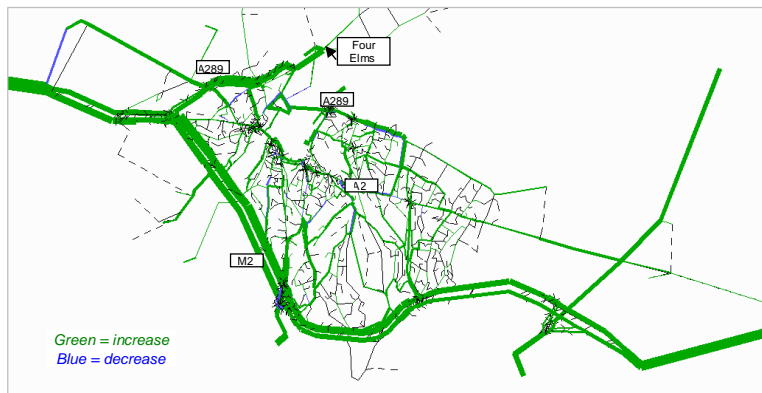


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6.2.2 Along with increased congestion and delay, deterioration in air quality is likely to occur and higher accidents rates could be expected. Travel speeds are also expected to be worsened across all area.

6.2.3 Figure 6.3 illustrates the changes in flows between the base (2007) and the future scenario (2026 do nothing). Main increases in traffic are expected to occur along the M2 motorway and the A289, from junction 1 to Four Elms roundabout and from Anthony's Way to Grange Roundabout (through Medway Tunnel). Other congested hotspot are accesses to rail stations and Town Centre roads.

**Figure 6.3: Difference in flows between AM 2007 and AM 2026 Do Nothing**



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6.2.4 As well as introducing new schemes, it is widely accepted that without significant change in travel behaviour towards more sustainable travel patterns and modes, transport problems will get significantly worse into the future, even with new highway infrastructure being built. Specific issues to be considered within the "Core Scenario" are:

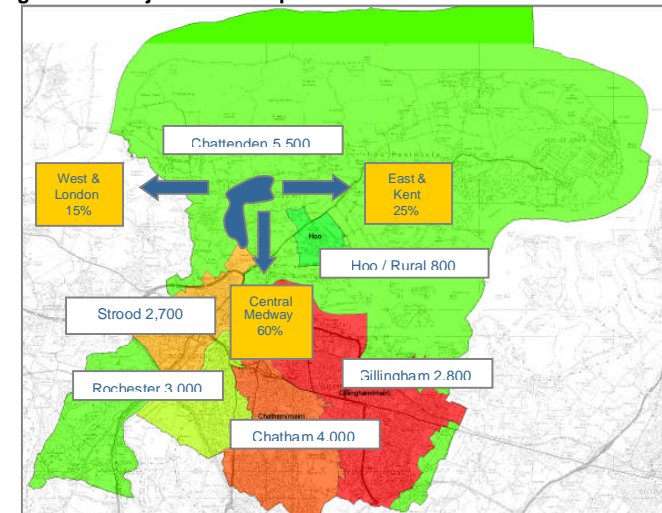
- Car traffic to/from new developments will need to be minimised;
- Improve access to stations for further growth in rail demand as a result of CTRL domestic services;
- Future road problems may include peak spreading;
- Limit the worsening congestion on the A2 and A289 as well as other routes in the town;
- Congestion around Four Elms Roundabout.

**6.3 Chattenden**

6.3.1 The major proposed settlement at Chattenden, with its 5,500 new homes, presents a major challenge in terms of limiting its impact on the roads of Medway. It has warranted the development of an Area Action Plan (AAP) to best tackle its potential impacts. Main potential impacts are anticipated to be:

- Congestion at Four Elms Roundabout;
- Increased movement of traffic south from the development to Medway's railway stations;
- Increased movement of traffic towards Medway (60% of traffic see Figure 6-4 below) from the development;
- Increased movement of traffic towards West and London (15% of traffic see Figure 6-4 below) from the development;

**Figure 6-4: Projected Development 2026 – With Chattenden Variant**



## 7 Identification of schemes

### 7.1 Long-list of 2026 Schemes

7.1.1 Medway is currently looking at the period up to 2026 in terms of housing growth and the provision of infrastructure to support the development as part of the LDF process. Problems and issues related to this growth have already been discussed in previous sections.

7.1.2 Table 7-1 identifies future schemes, a number of which were previously put forward (in 2006) as part of the submission for Regional Funding (see Appendix A). In the tabulation are also those intended to tackle principle baseline growth related issues and would be considered as "Provisional Reference Case". As is shown, most of these provisional schemes are identified for implementation within the next 5 years and at number are already at an advanced stage of design.

7.1.3 These schemes were the subject of discussion at the stakeholder workshops to confirm those which should form the Reference Case and also to identify if there were any other schemes to be added to the Reference case and others that were desirable but would need further appraisal and would be dependent on securing funding before implementation.

7.1.4 It is noted that within the period of the LDF (to 2026), there is the possibility that there will be provision of a new Lower Thames Crossing, which is potentially required to cater for Thames Gateway growth but has both National and European implications. It also has potentially major implications for land use development patterns north of Strood, for M2 Junctions 1 and 2, and A228 south of M2. The impact of this would need to be assessed on a regional and national basis and is outside the scope of the Medway LDF. At this stage it has been assumed that all growth effects are included within the Tempro forecasts. Should it proceed the scheme has the potential to be the largest transport project in the Thames Gateway, and could have an influence of movements to and from the Medway area.

7.1.5 Figure 7-1 shows the geographic location of the major schemes. All long-list schemes have been assessed against the principal 5 objectives of transport (environment, safety, economy, accessibility, integration) as tabulated in Appendix B.

Table 7-1: Identified long-list of schemes

MM Ref. (if any)	Name	Responsibility	Time frame	Project Status	Objectives	Key Features	How the scheme is expected to address key problems (qualitative judgment)	Provisional Reference case?
S1	Strood Town Centre Improvements to Highway Link Capacity (£19.7m)	Medway	2011-2016	Under investigation	To give priority to pedestrians and cyclists; to introduce stopping facilities for buses and taxis within the town centre; to enable traffic to flow more efficiently.	Removal of through traffic from Strood town centre; reduction of highway capacity on the High Street; introduction of stopping facilities for buses and taxis. See Appendix C1.	The scheme will result in a reduction in overall road space but will allow traffic to flow more efficiently through Strood Town Centre, through the removal of through traffic.	✓
S2a	A2 Quality PT Corridor: Phase 1 (£13m)	Medway	2008-2011	Committed / Funded	To provide substantial new public transport capacity and quality improvements to serve strategic regeneration sites; to support growth areas and to provide a regional transport hub in Medway.	Five proposed bus lane schemes; bus stop infrastructure improvements along strategic bus corridors & extension of the UTM system. See Appendix C3.	The improvements will allow an overall increase in the reliability and quality of bus journeys in Medway; 5% reduction in journey times to all users operating in the immediate area of influence of the system is forecast for 2011, growing by one second / year / trip reduction in journey time to 2021, which reflects the increasing effectiveness of the system in terms of service delivery and user response.	✓ (phase 1)
S2b	A2 Quality PT Corridor: Phase 2 (£75C)	Medway	2008-2011	Under investigation	To determine the second phase of public transport interventions to progress from Phase 1	Park and Ride sites - Fort Horsted, Whitehall Creek. Investigate additional crossing point on the Medway. Facilitate public transport journeys from Chaldenden.	It will reduce reliance on the private car through enhancement of P&R, thereby decreasing the congestion on town centres. It will require complementary measures to address 'low-cost' parking in Medway.	
S3	Cable Car Scheme (£32m)	Medway (funding failed)	Unknown; funding not yet identified	Feasibility Study completed	To provide a cost effective & efficient transport solution within a physically constrained location; to support development and regeneration objectives.	Provision of a cable car service, likely to run between 6am & 11pm, between the principal areas of Strood, Rochester, Medway City Estate, Chatham, Great Lines & the historic naval dockyards.	Projected passenger flows per annum are approximately 2-6 million. This could have a significant impact on the network in terms of reducing the demand for highway capacity during the morning and evening peak hours. It provides additional opportunities for pedestrians to move across Medway.	
S4	Rochester Bridge all Junction Capacity Improvement (£75C)	Network Rail / South Eastern Railway	2011-21	Proposed for investigation	To deliver rail capacity improvements at Rochester Bridge Junction in particular and throughout Medway in general to facilitate an increase in the number of rail services to and from the Thames Gateway growth area.	Investigatory work in progress, likely to be a combination of rail capacity improvement features.	The capacity enhancements will have a positive impact on both highway and rail networks; demand for passenger rail services is likely to increase, which should help to reduce the levels of congestion on the roads during the morning and evening peak periods. The introduction of CTRL domestic services will reduce journey times between Medway and London and will also help to increase the attractiveness of rail to Medway residents.	



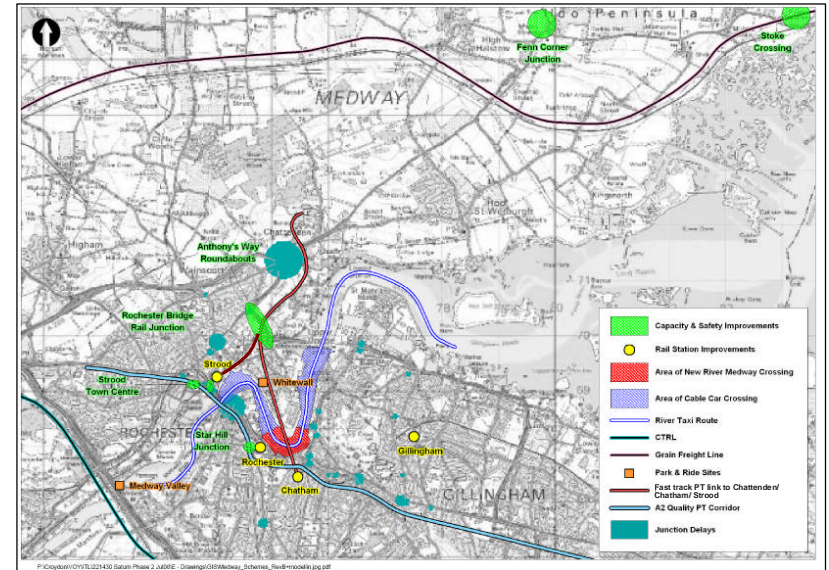
M.M.R.L. priority	Name	Responsibility	Time frame	Project Status	Objectives	Key Features	How the scheme is expected to address key problems (qualitative judgment)	Provisional Reference case?
S5	Chatham Railway Station Improvements (£1.3m)	Medway/ Network Rail	2014	NSIP funding is committed, future work is concept only	To deliver infrastructure improvements that increase ease of accessibility and the quality of environment for those using the station.	£1.3m of funding from the National Station Improvement Programme to be spent by 2014 on car park expansion and minor accessibility improvements. Other works are concept only at this stage.	Scheme will improve linkages to the town centre and expanding the existing car park. It will contribute to the delivery of Medway housing targets. It will require complementary measures to discourage long term parking.	
S6	Rochester Railway Station Improvements (£750k)	Medway/ Network Rail	TBC	Concept Only	To deliver infrastructure improvements that increase ease of accessibility and the quality of environment for those using the station.	Station and associated facilities that will be upgraded and improvements made to public transport links	Scheme will improve linkages to the town centre. It will contribute to the delivery of Medway housing targets. It will require complementary measures to discourage long term parking.	
S7	Strood Railway Station Improvements (£3m from DfT)	Medway/ Network Rail	TBC	Concept Only	To deliver infrastructure improvements that increase ease of accessibility and the quality of environment for those using the station.	To provide an accessible route from the station entrance to all platforms as part of DfT's Access for All improvements.	Scheme will improve linkages to the town centre. It will contribute to the delivery of Medway housing targets. It will require complementary measures to discourage long term parking.	
S8	Gillingham railway station improvements (£3m)	Medway/ Network Rail/ Southern	2008-11	Committed / Funded	To improve the existing station environment for station users; to increase overall accessibility to the station; to provide better integration with bus services and to ensure better access for cyclists.	Improvements to existing station forecourt & ticket hall; changed traffic management on surrounding streets to facilitate better pedestrian & cyclist access & better integration with public transport links.	Scheme will improve linkages to the town centre. It will contribute to the delivery of Medway housing targets. The proposals show a new station building set further back from the junction, allowing a larger space for pedestrians, drop-off / servicing and high quality hard landscape. It will require complementary measures to discourage long term parking.	✓
S9	New River Medway Crossing (Provisional sum of £33m)	Medway	2011+	Non-Specific Concept Only	To provide an additional river crossing to relieve some of the congestion currently experienced by the Medway Tunnel and Rochester Bridge. The bridge will be PT, walk and cycle only.	Construction of a single carriageway road crossing, incorporating facilities for public transport, pedestrians & cyclists (no facilities for cars)	It will relieve congestion on Medway Tunnel and Rochester Bridge and will provide another link into the Gateway. It will provide new facilities for cyclists, pedestrians and PT.	
S10	Grain Freight Line Capacity Improvement (Provisional Sum of £22m)	DfT/ Network Rail	2016-21	Prefeasibility (GRIP Stage 2)	To improve rail capacity to Grain and Thamesport in order to facilitate the development of the largest strategic economic development site in the Thames Gateway.	Signalling upgrade; provision of a loop at Hoo Junction to aid passenger movements; improved sidings at Grain & safer level crossing arrangements.	The creation of a loop at Hoo Junction and upgrades to the signalling arrangements will enable Grain-bound trains to pass through Hoo Junction more quickly, which will reduce delays to passenger trains on the main North Kent Line. This will present untold opportunities in terms of passenger services between Kent and London. However, the Grain freight line itself will not be used for passenger operations.	

M.M.R.L. priority	Name	Responsibility	Time frame	Project Status	Objectives	Key Features	How the scheme is expected to address key problems (qualitative judgment)	Provisional Reference case?
S12	Anthony's Way (£5m)	Medway	By 2014	Feasibility Study completed & alternative junction layouts identified. Scheme delivery within 5 years.	To relieve traffic congestion and queuing at the Anthony's Way and Sans Pareil roundabouts.	Signalisation and widening at Anthony's Way & Sans Pareil roundabouts.	The main impact of this scheme will be to reduce traffic congestion at the Anthony's Way and Sans Pareil roundabouts through a potential capacity increase of 15%.	✓
S13	A228 Ropers Lane to Grain (£11.6m - excl Grain Crossing)	Medway	2008-11	Committed / Part Funded (Dev. funding needed for Grain Crossing)	To facilitate increased safety and capacity of a key principal road link from an international gateway, enabling the development of employment, energy and a deep sea port.	At grade roundabout at Fenn Corner/ Ratcliffe Way & road bridges over freight line at Stoke Crossing and Grain Crossing	The introduction of a speed reducing roundabout into the existing A228 at Fenn Corner will introduce an element of journey time delay into journeys along the eastern section of the A228. With a 40mph speed limit in force generally along this section of road and an average speed at the roundabout of 10mph (allowing for some vehicles stopping to give way to turning traffic) we estimate the section of road affected by deceleration and acceleration will be 200 metres to the west and 100 metres to the east i.e. 300 metres in all. Assuming uniform deceleration and acceleration the roundabout will cause a delay of just less than 10 seconds/vehicle.	✓
S14	River Taxi	Medway (+ private partner)	Not yet identified	Concept Only	To facilitate increased access along the River Medway and to support the use of the river and its banks as a key transport corridor.	Maintain and develop a comprehensive network of piers and encouragement to private enterprise to operate a river taxi.	It will increase the attractiveness for new visitors, tourist and students. Due to its likely slow speed, the river taxi service is more likely to be used for leisure purposes than for commuting, therefore the scheme will potentially have minimal impact on the transport network during the morning and evening peak hours.	
S15	CTRL Domestic	South Eastern Railway	2009	Committed / Funded	To provide domestic commuter services operated by Southeastern on the High Speed 1 railway, facilitating shorter journey times between London and the Medway towns.	From Dec 2009, 6 high speed trains will run during peak to St Pancras from Chatham and Gillingham.	Journey times between the Medway towns and London will be significantly improved: the fastest journey from Chatham to London will drop from 60 minutes to 43 minutes, Gillingham to London from 61 to 47 minutes, Rochester from 61 to 41 minutes and Strood from 68 to 36 minutes.	✓
S16	Cycle Network (Ongoing LTP Allocation)	Medway	By 2010/11	Committed / Funded	To deliver the cycle priorities contained in Medway's LTP2 and future LTP3.	Increase in the length of Medway's cycle route network from 70 to 100km by 2010/11 (achieved).	It will help to achieve Medway's targets in terms of increase the length of Medway's cycle network from 70km in 2003/4 to 100km by 2010/11 and increase the level of cycling on the primary cycle route network in Medway by 5% by 2010/11 compared with 2003/4 levels (Medway LTP Cycling Target 2.3).	✓

M.M.R.L. Reference	Name	Responsibility	Time frame	Project Status	Objectives	Key Features	How the scheme is expected to address key problems (qualitative judgment)	Provisional Reference case?
S17	Chatham Town Centre Phase 2	Medway	By 2011		Reduce the congestion impacts of traffic generated by proposed future land uses	Remove the one-way system, junction widening & improvements, development of new bus station.	Enhancement of infrastructure through bus priority lanes. Provide with flow bus lanes and expansion of P&R facilities. Widening of footpath and enhancement on pedestrian and cyclist facilities (e.g. crossing facilities). Improvement of bus network capacity through enhancement on congestion hotspot (congested junctions) to make more effective the use of road capacity.	✓

Note:  
 S means "scheme". Numbers are just for MM reference.

Figure 7-1: Illustration of long-list major schemes





## 7.2 Key short-list Schemes

- 7.2.1 As indicated, key schemes shown in Table 7-1 formed the focus of discussions at the workshops that were held in January 2009 with invited Stakeholders (Highway Agency, Network Rail, Arriva, and well as more local stakeholders etc). As well as looking at the above identified schemes, new ones were identified during the workshops. Two alternative scenarios would be proposed representing a high and medium Public Transport usage respectively, as discussed further in section 9.
- 7.2.2 The participants were firstly asked to confirm those schemes and measures from the long-list to be included in the formal updated Reference Case as which, in their knowledge, are largely committed in terms of provisional funding and therefore should also be considered as part of the baseline LDF. These schemes will be taken forward into Phase 2 and further tested, appraised and developed in order that if viable, they could be developed into full schemes that would be delivered when funding is confirmed.
- 7.2.3 As stated, in addition participants were asked to identify other schemes which may not currently have funding but are considered necessary to assess in terms of meeting the future demands for movement in the area as a medium and high public transport variant.
- 7.2.4 A full list of the identified schemes is set out in Appendix D.
- 7.2.5 Set out below in Table 7-2 is the confirmed list of Reference Case schemes that were identified during the two workshops, as they address key movement issues. These include dedicated bus links, and park and ride, cycling, walking interventions, as well as land use planning and smarter choice initiatives.

**Table 7-2: Reference Case schemes**

Reference Case	MM Reference (see note)
Strood Town Centre (phase 1): Improvements to Highway Link Capacity	S1
A2 Quality PT Corridor: Phase 1	S2a
Gillingham railway station improvements	S8
Anthony's Way	S12
A228 Ropers Lane to Grain (£11.6m - excl Grain Crossing)	S13
CTRL Domestics	S15
Cycle Network (Ongoing LTP Allocation)	S16
Chatham Town Centre Phase 2	S17
Train lengthening, platform lengthening Rochester & Strood	NS1
New bus service Medway Gate to Chatham Town Centre	NS2
Improved bus links from Chattenden to Strood Town Centre, Medway City Estates & Chatham Town Centre (online)	NS17
Improvements to access to Medway City Estates (online)	NS24
Park and Ride, in conjunction with above	NS26, NS27

Reference Case	MM Reference (see note)
Cycle and Pedestrian	NS28, NS29, NS30, NS31
Land use planning initiatives	NS34
Emphasis on smarter choices	O6, O7, O8
Other Schemes	MM Reference (see note)
Priority Bus Lane Network	NS5
New Medway Crossing (PT, walking and cycling only) and variants	NS21
Wider Area Park and Ride	NS26, NS27
Improved links to Isle of Grain	NS33

- **Note:**
- S means 'scheme'. These were already identified in the Regional Funding 2006 submission.
  - NS means 'new scheme' identified during workshops held January 2009.
  - OS means 'other scheme'.

- 7.2.6 The outline of the Strood Town Centre (S1), Corporation Street and Chatham Hill – Luton Arches schemes (S2a) are set out in Appendices C1 to C3.
- 7.2.7 It would also be necessary to consider alternatives to these schemes, which would be considered against the objectives for the area to ensure that they will address future transport problems of Medway.
- 7.2.8 In addition to the physical intervention, it is the combination of schemes and policies which will determine the success of the overall measures. Specific policies which will need to be progressed are,
- *Parking and Park and Ride Strategy* (including the mix of spaces and parking charges).
  - *Smarter choices*. To encourage walking and cycling and more use of PT.
  - *Urban traffic management and bus priority*. Current policies are aimed at improving journey times for PT without negatively impacting on car traffic. This may not be sufficient in the future when it may be important to actively discourage car users through traffic engineering and bus priority measures.
  - *Urban realm and streetscape*. New developments must include pedestrian and cycling facilities along the riverside.
- 7.2.9 From the above an integrated package of measures would be developed comprising physical intervention and associated policy measures.

## 8 Effect of the Reference Case schemes

### 8.1 Overview

- 8.1.1 As stated above, discussions with Medway and other key stakeholders we have identified those schemes for which funding is already set aside and upon which there is a relatively high degree of certainty over delivery (identified in the Table 7-2).
- 8.1.2 These schemes along with the core land use development (excluding Chattenden, as shown in Figure 6-1) have been incorporated into the transport model as a Reference Case for testing.
- 8.1.3 The Reference Case modelling represents a scenario showing committed development, and represents infrastructure options. It considers complimentary policy measures (eg parking charges) as implicit within the overall assessments. If these were to change substantially (ie with increases in parking charges) then these would need to be explicitly modelled at subsequent stages.

### 8.2 Reference case modelling assumptions

- 8.2.1 This section briefly summarised the main assumptions that have been agreed for the modelling. A complete description of these assumptions can be found in note "LDF Forecasting assumptions" (MM Ref tn\_MT39\_b) which has been prepared and agreed in liaison with Medway Council and the Highway Agency. Assumptions include:
- *Background growth:* overall growth in the area was considered based on Medway 2026 growth plan, with adjustment to reflect the spatial distribution of growth as opposed to those set out in Tempro which use aggregated growth over the wider area.
  - *Trip distribution:* it was assumed that trip distribution will remain as per the base case and thus uses the distribution to relevant groups of existing local zones;
  - *Trip generation from new sites:* TRICS (2006a) database has been used to determine appropriate rates for commercial and leisure developments;
  - *Modal split:* it was assumed that modal split will remain the same as per the base case against adopting agreed information from the base model. In Phase 2 modal split changes will be analysed further to considered all new schemes.
  - *Modal share:* it will remain unchanged for this phase 1. Further analysis will be undertaken for phase 2.

### 8.3 Assessment of base and future scenarios

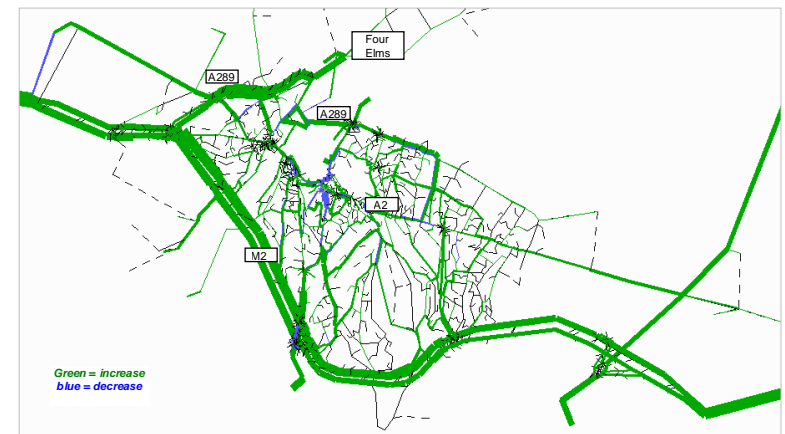
- 8.3.1 As explained above (see section 6), assessments of changes in traffic flows were prepared using the earlier base year model (2007) with forecasts to 2026. Following scenarios were tested:
- 2007 based scenario.
  - 2026 do nothing scenario. This scenario takes on board the growth in demand generated by the new developments (as shown in Figure 6-1), but do not consider any network infrastructure improvement.

- 2026 do minimum scenario, *Reference case*. Represents the previous scenario, plus committed infrastructure scheme on the transport network and policies, as identified in Table 7-2.

### 8.4 Modelling initial results

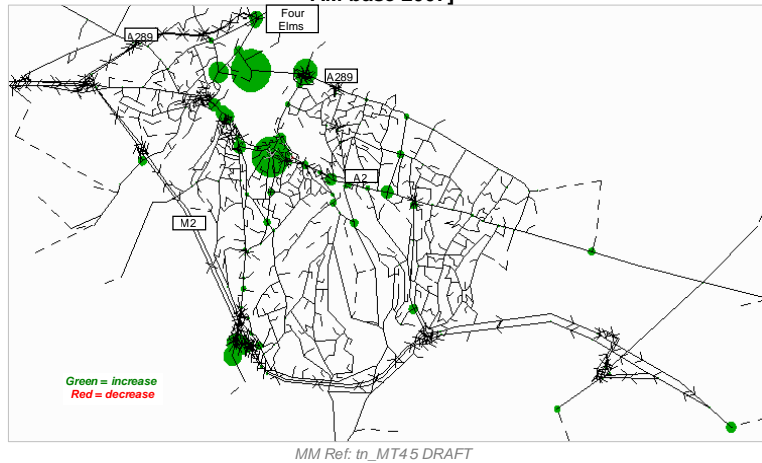
- 8.4.1 Figure 8.1 below shows difference in flows between the base model (2007) and the future (2026 do minimum) for the weekday AM peak period. In this case, improvements on transport network have been included, considering the reference case schemes as set out in Table 7-2.
- 8.4.2 With background growth, additional flows are expected to occur away from the central urban area, as shown in Figure 8.2. Additional congestion is expected to occur on the A2 approaches to Chatham and Rochester and on the Medway Tunnel approaches in particular. There is also some additional delay on the approaches to the M2, junction 3.

Figure 8.1: Difference in flows [AM 2026 do minimum – AM base 2007]



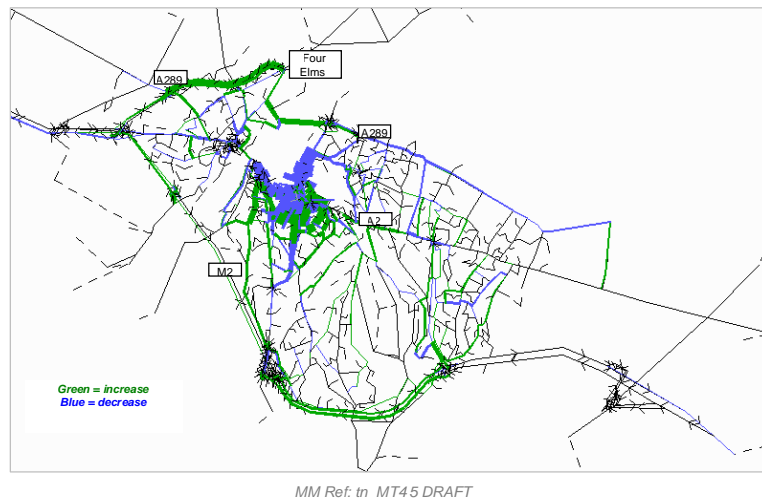
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**Figure 8.2: Change in Junction delays (vehicle hours) [AM 2026 do minimum – AM base 2007]**



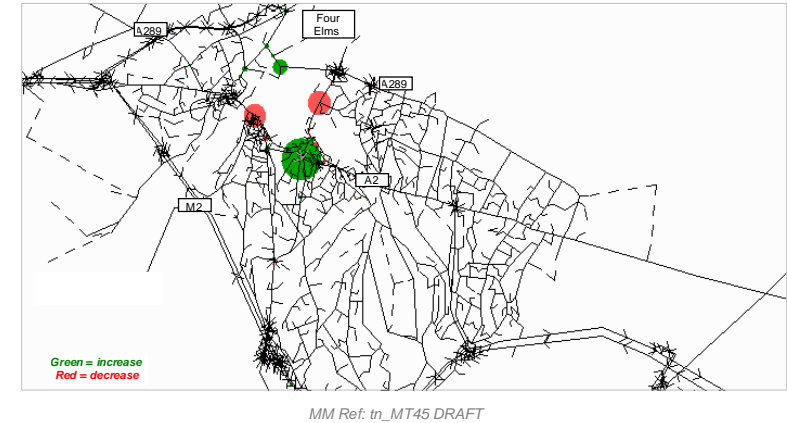
8.4.3 The impact of the reference case schemes is assessed by comparing the do minimum with do nothing (see Figure 8.3 and Figure 8.4). Anthony's Way and Sans Pareil (Frindsbury Hill) Roundabouts improvements have increased the traffic through Medway Tunnel. Between Gillingham and Strood, traffic using the Rochester Bridge is diverted through Medway Tunnel resulting in more delays on both sides of it. Closer to Chatham Town Centre, there are reductions in flow on the northside (eg Dock Road) and increases on the A2 and other northbound links.

**Figure 8.3: Change in flows [AM 2026 do minimum – AM 2026 do nothing]**



8.4.4 Figure 8.4 illustrates some increases in congestion on approaches to Chatham with reduction on Dock Road and on Corporation Street south of Rochester Bridge.

**Figure 8.4: Change in Junction delays (vehicle hours) [AM 2026 do minimum – AM 2026 do nothing]**



Scenario	Total vehicles demand
2007 base	55,900
2026 do nothing	71,000
2026 do minimum "Reference Case"	71,000

**Table 8.1: Summary of total vehicle demand in each scenario**

8.4.5 Table 8.1 shows the total vehicle demand in each scenario tested. It is noted that because of the forecast growth and new trips generated by the developments, the total number of vehicle demand increase 27% by 2026. It should be noted that (in agreement with HA) this is controlled to the overall Tempro forecast (Tempo 5.4) for the area, but excludes Chattenden development as this is progressed under the separate Area Action Plan (AAP).

8.4.6 Journey times for public transport across River Medway were analysed in both present and future scenarios for routes between Chattenden (Main Road) and Chatham Bus Station. The results are shown in Table 8.2. Bus services number 191, 192 and 193 were selected to analyse the journey time across Rochester Bridge, whilst services number 193 and 796 served to assess journey times using the Medway Tunnel. Noted the scheduled times include stops whereas modelled exclude stops. It would be expected that the stop time (eg total 10 minutes on the 2007 routes 191, 192 and 193) would be broadly the same for 2026.

Scenario tested	Rochester Bridge Route Journey Time <i>(Bus services 191, 192 and 193)</i>		Medway Tunnel Route Journey Time <i>(Bus services 196, 796)</i>	
	Modelled	Scheduled	Modelled	Scheduled
	2007 Base	16 min	26 min	15 min
2026 no nothing	28 min	38 min (*)	24 min	27 min (*)
2026 do minimum (Reference Case)	28 min	38 min (*)	25 min	28 min (*)

Note: (\*) assumed stop time same as 2007.

**Table 8.2: PT Journey Times across River Medway (Chattenden to Chatham)**

8.4.7 From be above, it is noted that:

- The route through Medway Tunnel is quicker via Rochester Bridge, in both present and future scenarios. However, the journey time through the tunnel is more marked in 2026.
- Journey times for do nothing and do something are effectively the same. Therefore, only limited benefits on journey times have been identified on these routes, because of the adoption of reference case schemes. It is noted that the Anthony Way and Sans Pareil schemes do not provide specific priority for buses at this stage.

8.4.8 Based on the above, it is intended that a scheme that promotes bus priority measures on Medway Tunnel (or close to it eg through another river crossing) are likely to be highly beneficial to help to improve journey times and bring them closer to current levels.

8.4.9 In summary, the initial results of the modelling undertaken indicate that even including reference case schemes, network presents following problems:

- Congestion levels on the River Crossing are substantial, during the base and more acute in future conditions.
- Journey time by bus from Isle of Grain to Gillingham (avoiding the Medway Tunnel) is up to 38 minutes (2026 do nothing/do minimum scenarios), reflecting the very poor connectivity between the north and south side of the River, but lower using the Medway Tunnel.
- Congestion levels on approaches to Town Centres show significant increases with only limited bus priority.

8.4.10 Discussions are ongoing with regards detailed scheme specific modelling (e.g. Strood Town Centre reference case scheme and Corporation St), and these will be examined further as part of the Phase 2 workstream, along with more strategic schemes.

## 9 Additional Core Strategy schemes

9.1.1 As explained above, congestion and pollution levels in the Medway area will be worsened if no infrastructure or policies measures are adopted to cater for traffic growth associated with committed developments. To do nothing would simply lead to worse congestion and pollution and associated environmental problems.

9.1.2 The diagrams above illustrate that the “Reference Case”, as a package of schemes, will not be sufficient to solve the range of problems and impacts that could occur as a result of the planned growth across Medway. Policy measures (such as changes in parking charges) will be equally necessary to minimise the effect of growth on the transport network. Therefore, a balance of infrastructure measures and policies will determine the success of any overall package.

9.1.3 As explained in the previous section, based on the outputs from the stakeholder workshops and the initial appraisal of the reference case schemes and the assessment set out in section 8, main packages of schemes and measures have been identified. It is important that these are fully considered and introduced at the outset and in formulation and phasing of new developments. The packages are designed to mitigate the more severe traffic problems and encourage more sustainable travel patterns by a strategy of reducing the need to travel, managing demand and targeted investments.

- *Core strategy.* This includes background growth in the area but makes only limited allowance for additional development (eg excludes Chattenden and similar land use alternatives).
- *Core and AAP Land use.* Allows for growth plus development at Chattenden.
- *Core and Alternative Land Use Variant* (eg Capstone Valley, etc.).

9.1.4 Packages have been identified to address both the core land use scenario and the land use variants, the latest to be considered in further detail in phase 2. Table 9-1 sets out the schemes in each of the two packages, which will form the basis for future assessment and appraisal.

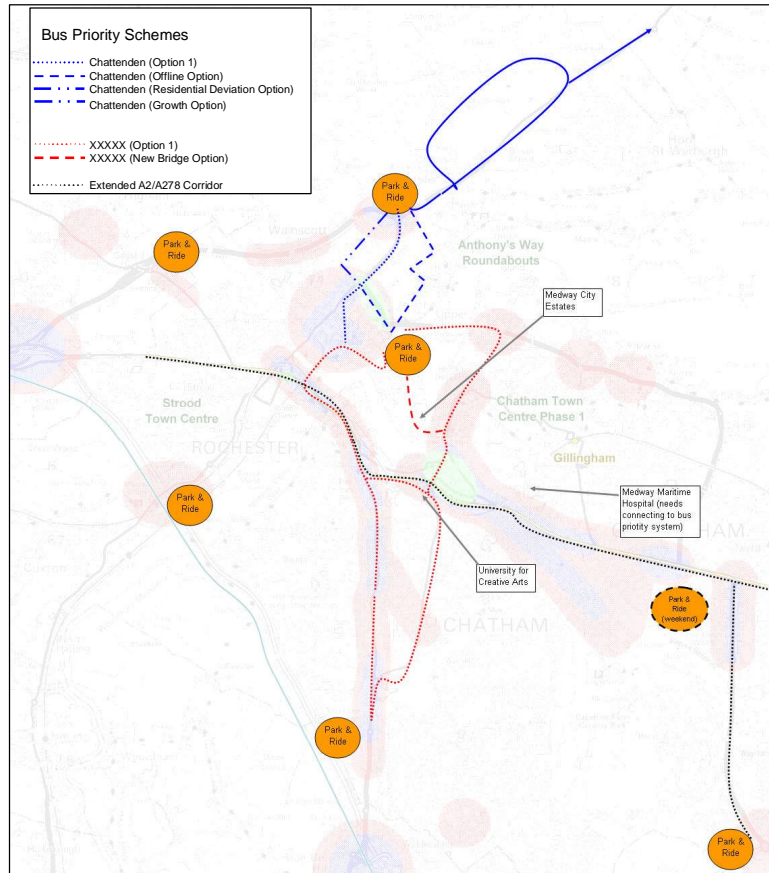
9.1.5 Detailed testing of these packages will be undertaken as part of the phase 2. Where alternatives exist (e.g. new Medway Crossing options or alternative bus priority schemes, as shown in Figure 9.1 to Figure 9-2) these will be considered separately in terms of the extent to which they support the movements objectives.

**Table 9-1: Core Strategy (Reference Case + Additional package schemes)**

Core package growth (Medium PT)	
M1.	Comprehensive network of High Quality PT services (see Appendix C)
M2.	Strood Town Centre (phase 2): Improvements to Highway Link Capacity
M3.	New Medway Crossing (see Figure 9-2) and equivalent online improvements;
M4.	Park and Ride (in conjunction with 1 above);
M5.	Improvements to pedestrian and cyclist routes linked to new housing (sustainable modes);
M6.	Smarter choices/TDM (eg Travel plans);
M7.	Integrated land use planning to reduce need to travel;



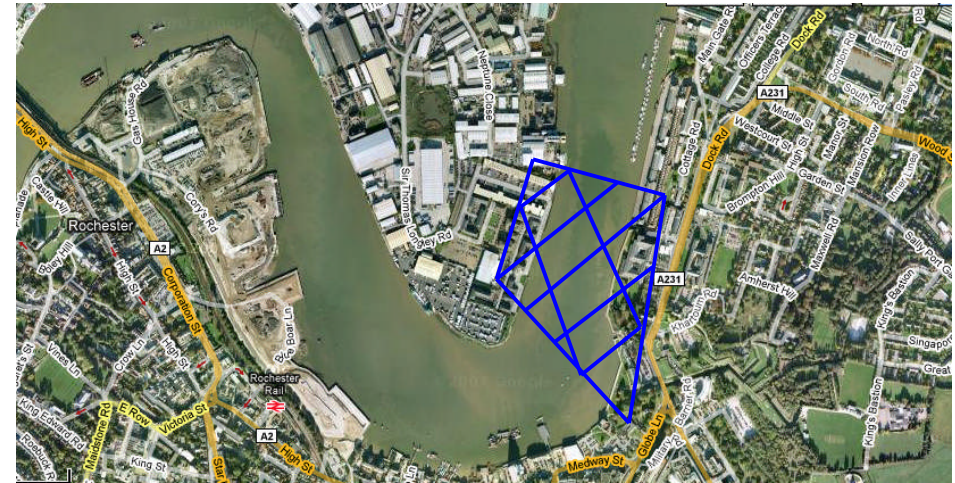
	M8. Implementation of parking strategy aimed to reducing long stays in town centres (eg P&R)
<b>Core package and AAP Land Use (High PT)</b>	H1. Improve PT linkages between Town Centres;
	H2. Further strategic improvements to road network on routes to Grain (Sans Pareil, Four Elms, Medway Tunnel);
	H3. Complementary river crossings;
	H4. Improvements to rail network (eg Passenger line to Grain, linkage to CTRL-DS);
	H5. Complementary measures to improve PT services and reliance (eg integrated smartcard choices).



Source: Assessment and scenarios - v12 internal braindump after ws 2.xls

Figure 9.1: Options for Bus Corridors and P&R

Figure 9-2: Safeguard corridor for potential new River Medway crossing



Source: tn\_44\_rev a

## 10 Future Programme

- 10.1.1 The future success of Medway relies to a great extent on the provision of good quality transport infrastructure to serve the area. It is equally important for the future growth of Medway that this is delivered in the best sustainable way, ensuring an attractive and friendly environment to work and live.
- 10.1.2 Table 10-1 below summarises the key potential future problems and impact raised due to 2026 growth. Potential solutions to each impact are also suggested.

**Table 10-1: Summary of further issues and potential mitigation**

Future Issues	Resulting Problems	Geographic implication	Main mode affected	Potential mitigation
Car traffic to/from new developments needs to be minimised	Traffic levels rising in proportion to existing modal share will be unsustainable	All areas, new developments	Car	<ul style="list-style-type: none"> <li>→ Reducing reliance on the private car through enhancement of P&amp;R.</li> <li>→ Enhancement of infrastructure through bus priority lanes.</li> <li>→ Consider more stringent parking standards for new developments linked to the provision of better PT services</li> </ul>
Significant growth in demand for rail services as a result of CTRL Domestic services	More demand for people to get to/from the railway stations and town centres.	All, areas, rail network	Rail, car	<ul style="list-style-type: none"> <li>→ Reducing reliance on the private car through enhancement of P&amp;R.</li> <li>→ Enhancement of infrastructure through bus priority lanes</li> <li>→ Review of car parking at stations to ensure the right balance of provision without encouraging large amounts of long stay parking</li> </ul>
Worsening congestion on A2 and A229 as well as other routes around in the town	Cost to business, worsening air quality problems, worsening delays and queuing on the road network, possible safety implication.	All areas, highway network A2 and A229	Car, bus	<ul style="list-style-type: none"> <li>→ Improvement of bus network capacity through enhancement on congestion hotspot (congested junctions) to make more effective the use of road capacity.</li> <li>→ Reduce the existing accident caused by buses pulling out into traffic (and reduce delay) by dedicated bus lanes</li> <li>→ Re-assessment of parking provision to discourage long stay parking in town centres.</li> </ul>
Congestion around Four Elms roundabout as a result of major new development at Chattenden	Major delays and congestion on the road network. Safety implications.	Chattenden	Car	<ul style="list-style-type: none"> <li>→ Improvement in infrastructure.</li> <li>→ Improvement of bus network capacity.</li> <li>→ Reduce the existing accident caused by buses pulling out into traffic (and reduce delay) by dedicated bus lanes.</li> </ul>

Future Issues	Resulting Problems	Geographic implication	Main mode affected	Potential mitigation
Increase in obesity	Adverse impacts on human health.	All areas.	Cycle, walk	<ul style="list-style-type: none"> <li>→ Encourage more trips by walking and cycling.</li> <li>→ Widening of footpath and enhancement on pedestrian and cyclist facilities (e.g. crossing facilities) to increase attractiveness to soft modes.</li> </ul>

- 10.1.3 A recurring theme across a number of these measures is the need to address car parking provision across Medway, in particular the price and availability of long stay parking and how this compliments measures such as Park & Ride and bus priority.
- 10.1.4 In order to progress the schemes assessment and determine their impact on the network to support the LDF, the key workstreams to be undertaken as part of phase 2 can be summarised as follow:
- Further model development (Spring '09)
  - Scenario testing (Summer/Autumn '09)
  - Transport scheme engineering and viability development.
  - Consideration of other land use variants.
  - Scheme Appraisal (Autumn/Winter '09)
  - All assessments will need to take on board current and emerging guidance including TASTS and DASTS Guidance and NATA refresh documentation.



Appendix A Schemes identified in Regional Funding submissions 2006

List of Appendices

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<b>Appendix C</b>	<b>Reference Case schemes (Strood and CIF2)</b>	<b>C-1</b>
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<b>Appendix D</b>	<b>Schemes identified during workshops</b>	<b>D-1</b>

Medway Area	Project Description	PC	EC	SP	Regional Funding Allocation (plus DC/IG & Developer contribution)	Timeline	Further approval work	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Medway	Provide additional new public transport capacity and quality improvements to some strategic regeneration sites and a regional transport hub in Medway and support growth etc.	PC	PC	SP	Regional funding allocation plus DC/IG & Developer contribution	T1, T2, T4, T6, T8, T10	At risk	Further approval work	2011/12								
Medway	Provide regeneration, relocation, expansion or quality of other modes other than bus etc. (including use of a regional transport hub) to substantially improve the quality of public transport services regeneration sites in Medway and support a growth area	PC	OFF & Network Rail	SP	Network Rail plus DC/IG, Developer contribution & South Eastern Railway	T1, T2, T4, T6, T8, T10	At risk	Under investigation	2011/12								
Medway	Provide highway link capacity improvements to some strategic regeneration sites in Medway, provide improved public transport linkage and support growth area	PC	PC	SP	Regional funding allocation plus DC/IG & Developer contribution	T1, T2, T5, T6, T8	At risk	Under investigation	2011/12								
Medway	Reduce demand for some on-street parking to some commercial regeneration sites and contribute to the efficient operation of a regional transport hub	PC	PC	SP	Regional funding allocation plus Developer contribution	T1, T2, T4, T6, T8, T10	At risk	Under investigation	2011/12								
Medway	Provide additional new, re-located public transport links and quality improvements to some strategic regeneration sites in Medway, and support a growth area and a regional transport hub	PC	PC	SP	Regional funding allocation	T1, T2, T4, T6, T8	At risk	Proposed for investigation	2011/12								
Medway	Improve safety and capacity of a key arterial road from its current condition, provide additional development of employment, retail and other uses (Thamesport)	PC	PC	SP	Regional funding allocation plus Developer contribution	T1, T2, T4, T6, T8, T10	At risk	Under investigation	2011/12								
Medway	Improve safety of rail link which enables development of employment, retail and other uses (Thamesport)	PC	OFF & Network Rail	SP	Network Rail plus Developer contribution	T1, T2, T4, T6, T8, T10	At risk	Proposed for investigation	2014/2015								
Medway	Improve safety through Medway in order to increase efficiency to strategic sites in the Thames Gateway to Medway station and the London Area access to South & East Kent	PC & MRC	OFF & Network Rail	SP	Network Rail plus South Eastern Railway	T1, T4, T6	At risk	Proposed for investigation	2011/2012								
Medway	Rebuilding of some access routes to enable Chatham to operate as a regional destination and the expansion of retail, employment, offices and other uses, and improvement to public roads	PC	PC	S	DC/IG	T1, T2, T4	At risk	Completed Early Worked Phase 1 under construction (opening Sep 2006)	2006/07								

Source: from RfA schemes 2006 (Under investigation)  
 Excludes M2 Junction 4 to 5 Widening £120M scheduled for implementation by 2021



Appendix B Summary of Appraisal Long-list schemes

REF	Name	Responsibility	Timeline	Project Status	Objectives	Key Features	Impact (from public documents)	Impact on the Environment	Impact on Safety	Impact on the Economy	Impact on Accessibility	Impact on Integration
07	Strait Street Station Improvements (E10/105 DT)	Medway / Network Rail	TBC	Concept Only	To deliver infrastructure improvements that increase use of accessibility and the quality of environment for those using the station	To provide an accessible route from the station entrance to all platforms on part of DT1. Access for all improvements	Improved passenger accessibility	Positive impact on the environment	Minor impact on safety	Development of new contract / revenue	Improved station accessibility	Improved transport interchange
08	Ribwood Town Centre Improvements to Increase Link Capacity (E10/76)	Medway	2011-16	Under investigation	To give priority to pedestrians and cyclists, to enhance stopping facilities for buses and taxis within the town centre, to enable traffic to flow more efficiently	Reduction of through traffic from Ribwood town centre, reduction of highway capacity on the High Street, introduction of stopping facilities for buses and taxis	More efficient traffic flow through traffic	Reduction in cycle safety	Reduction in cycle safety	Reduction in cycle safety	Improved accessibility to Ribwood town centre	Reduction of cycle safety
09	A2 Quality PT Corridor Phase 1 (E12/3)	Medway	2008-11	Completed / Funded	To provide substantial new public transport capacity and quality improvements to serve strategic regeneration sites by supporting growth, jobs and to provide a regional transport hub in Medway	The proposed bus lanes schemes, bus stop induction on corridor, 7% reduction in journey times for all users travelling in the immediate area of influence	Increased passenger accessibility	Minor impact on safety	Improved bus capacity	Improved accessibility to DT and High Street facilities	Minor impact on integration	Minor impact on integration
10	A2 Quality PT Corridor Phase 2 (E12/3)	Medway	2008-11	Under investigation	To determine the second phase of public transport interventions to progress from Phase 1	Park and Ride sites - East Frontend, Riverside Creek, investigate additional crossing point on the Medway, Facilities Public Transport (passage from Chatham)	N/A					
11	Cable Car Scheme (E22/6)	Medway (funding not yet identified)	Unknown	Feasibility study completed	To provide a cost effective & efficient transport solution within a physically constrained location to support development and regeneration objectives	Provision of a cable car service, likely to be between High & High, between the central area of Stone, Rochester, Medway City Centre, Chatham, Great Lane & the historic canal structures	5 million passengers predicted	Strong visual impact on the landscape	Minor impact on safety	Increased PT mode share, regeneration	Improved accessibility to DT and High Street facilities	Improved accessibility to DT and High Street facilities
12	Rochester Bridge Rail Junction Capacity Improvement (E13/1)	Network Rail / South Eastern Railway	2011-21	Proposed for investigation	To deliver rail capacity improvements at Rochester Bridge Junction to facilitate and through Medway in general to facilitate an increase in the number of rail services bound from the Thames Gateway growth area	Investigatory work in progress. Likely to be a combination of rail capacity improvement facilities	10% general rail growth of 31% on 2.5 million trips (Source: SouthEastern)	Visible growth in rail trips, positive pressure for increased rail services	Minor impact on safety	Improved links to other economic functions and London	Increased accessibility to Thames Gateway growth area	Minor impact on integration
13	Chatham Railway Station Improvements (E13/1)	Medway / Network Rail	2014	NSIP funding is committed, future work is conceptual	To deliver infrastructure improvements that increase use of accessibility and the quality of environment for those using the station	£1.3m of funding from the National States Improvement Programme to be used for 2014 on car park expansion and minor accessibility improvements. Other works are conceptual only at this stage	Improved passenger accessibility	Minor impact on the environment	Minor impact on safety	Development of new contract / revenue	Improved station accessibility	Improved transport interchange
14	Rochester Railway Station Improvements (E13/1)	Medway / Network Rail	TBC	Concept Only	To deliver infrastructure improvements that increase use of accessibility and the quality of environment for those using the station	Station and associated facilities to be repaired and improvements made to public transport links	Improved passenger accessibility	Minor impact on the environment	Minor impact on safety	Development of new contract / revenue	Improved station accessibility	Improved transport interchange

REF	Name	Responsibility	Timeline	Project Status	Objectives	Key Features	Impact (from public documents)	Impact on the Environment	Impact on Safety	Impact on the Economy	Impact on Accessibility	Impact on Integration
07	Strait Street Station Improvements (E10/105 DT)	Medway / Network Rail	TBC	Concept Only	To deliver infrastructure improvements that increase use of accessibility and the quality of environment for those using the station	To provide an accessible route from the station entrance to all platforms on part of DT1. Access for all improvements	Improved passenger accessibility	Positive impact on the environment	Minor impact on safety	Development of new contract / revenue	Improved station accessibility	Improved transport interchange
08	Colingburn railway station improvements (E10)	Medway / Network Rail / South Eastern	2008-11	Completed / Funded	To improve the existing station environment for station users, to increase overall accessibility to the station, to provide better integration with bus services and to ensure better access for cyclists	Improvements to existing station layout and layout, changed traffic management on surrounding roads to facilitate better pedestrian & cycle access & better integration with public transport links	Improved passenger accessibility	Minor impact on the environment	Minor impact on safety	Development of new contract / revenue	Improved station accessibility	Improved transport interchange
09	New Blue Medway Crossing (Provisional Status of E22/6)	Medway	2011-	Non-Specific Concept Only	To provide an additional near crossing to reduce levels of the congestion currently experienced by the Medway Tunnel and Rochester Bridge. The bridge will be PT, walk and cycle only	Construction of a single carriageway road crossing, incorporating facilities for public transport, pedestrians & cyclists (one facility for cars)	Reduction of PT congestion in the Medway Tunnel and along Rochester Bridge (about 50% expected)	Increased capacity will have both positive & negative effects	Minor impact on safety	Minor impact on safety	Improved station accessibility	Improved transport interchange
10	Grain Freight Link Capacity Improvement (Provisional Status of E22/6)	DT / Network Rail	2016-21	Pre-feasibility (ORP Stage 2)	To improve rail capacity to Grain and Thanet in order to facilitate the development of the largest strategic economic development site in the Thames Gateway	Signalling upgrade, provision of a loop to provide an additional crossing point, improved settings at Grain & other level crossing arrangements	Improved freight capacity	Minor impact on the environment	Minor impact on safety	Improved freight capacity	Improved station accessibility	Improved transport interchange
11	Anthony's Way (E16)	Medway	By 2014	Feasibility study completed & alternative junction layout identified	To relieve traffic congestion and queuing at the Anthony's Way and Stone Farm roundabouts	Signalisation and widening of Anthony's Way & Stone Farm roundabouts	Improved capacity will have both positive & negative effects	Minor impact on safety	Minor impact on safety	Improved freight capacity	Improved station accessibility	Improved transport interchange
12	A220 Ripens Lane to Grain (E11/16) - east Grain Crossing	Medway	2008-11	Completed / Part Funded (New funding needed for Grain Crossing)	To facilitate increased safety and capacity of a key arterial road but from an unimproved gateway, enabling the development of employment, energy and a deep sea port	All grade roundabout at Farm Corner, A220/16 Way & road bridges over the A220 at Stone Crossing and Grain Crossing	Improved vehicle delivery to 1000 vehicles	Improved capacity will have both positive & negative effects	Improved safety of any potential road use	Improved freight capacity	Improved station accessibility	Improved transport interchange
13	River Trail	Medway (in private partner)	Not yet identified	Concept Only	To facilitate increased access along the River Medway and to support the use of the river and its banks as a key transport corridor	Maintain and develop a comprehensive network of paths and encourage a private enterprise to operate a river bus	Minor impact on the environment	Minor impact on safety	Minor impact on safety	Improved freight capacity	Improved station accessibility	Improved transport interchange
14	CTRL Domestic	South Eastern Railway	2009	Completed / Funded	To provide domestic commuter services operated by SouthEastern on the High Speed 1 railway, facilitating shorter journey times between London and the Medway towns	From Chesham 2500-4 high speed trains will run daily peak to 16:00 from Chesham and Colingburn	Improved passenger accessibility	Minor impact on the environment	Minor impact on safety	Improved freight capacity	Improved station accessibility	Improved transport interchange
15	Cycle Network (Ongoing LTP Allocation)	Medway	By 2010/11	Completed / Funded	To deliver the cycle network contained in Medway's LTP and MDA/LTP5	Increase in the length of Medway's cycle route network from 70 to 100km by 2010/11 (completed 2009/10 network)	Increased passenger accessibility	Minor impact on the environment	Minor impact on safety	Improved freight capacity	Improved station accessibility	Improved transport interchange

**B.1 Example for LDF scheme appraisal against strategic local objectives**

Note: scores for each scheme are just indicative and do not represent final values.

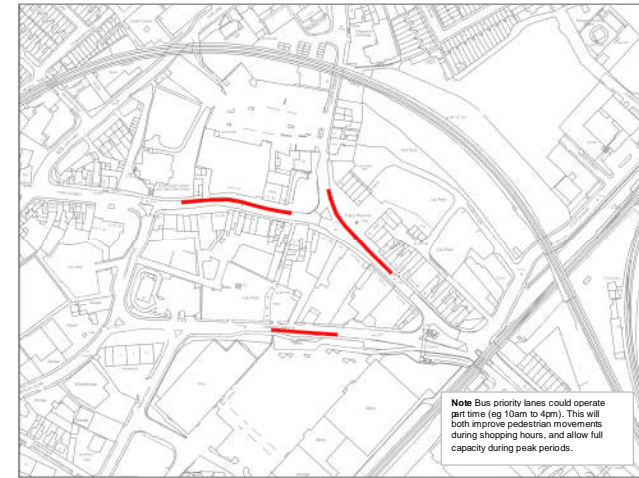
MREF#	Scheme name	MEDWAY LOCAL TRANSPORT STRATEGIC OBJECTIVES								Total score
		Supporting regeneration	Maximising in Medway	Improving public transport	Improving accessibility	Improving road safety	Enhancing user movement	Supporting freight	Good maintenance	
B1	Stroud Town Centre Improvement to Highway Link Capacity (20-70)	3	2	2	2	2	-2	0	0	11
B9	Sea View Railway Crossing Provisional sum of £200k	2	3	3	3	2	2	0	0	21
B14	Road Taxi	3	2	3	2	0	3	-2	-2	5
B17	Dunham Town Centre Phase 2	3	3	3	3	2	0	-2	0	20

Impact Score	
3	Major benefit
2	Benefit
1	Minor benefit
0	Neutral
-1	Minor disadvantage
-2	Disadvantage
-3	Major disadvantage

Source: tn\_mt49 Assessment and scenarios v13 rev a.xls

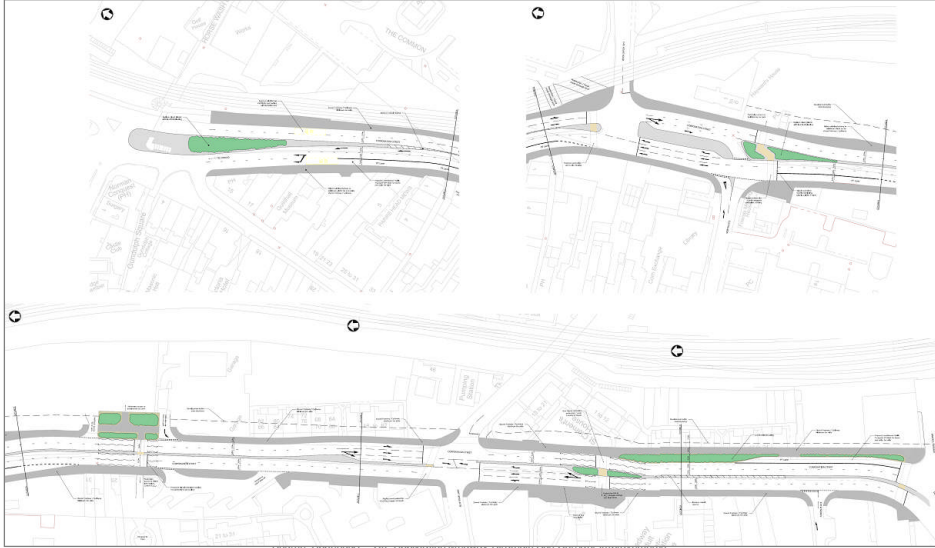
**Appendix C Reference Case schemes (Stroud and CIF2)**

**C.1 Stroud Town Centre Bus Priority lanes**

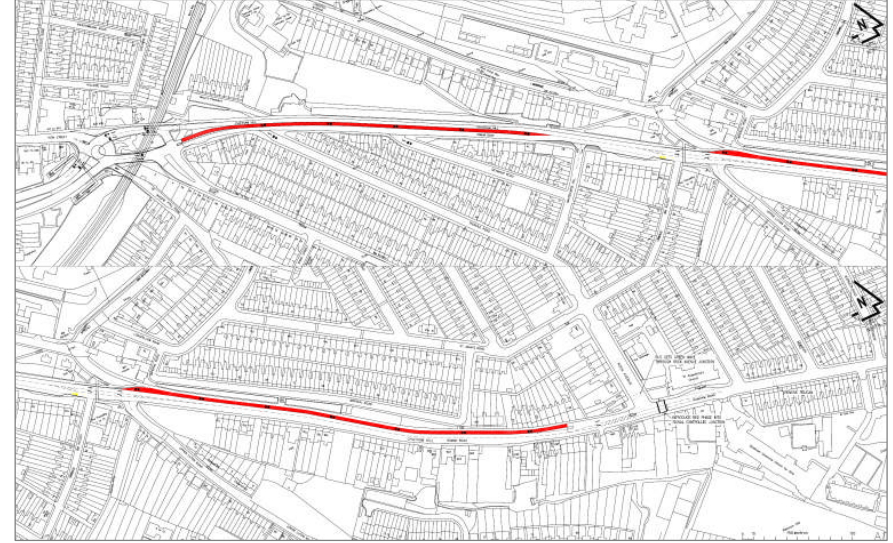


Source: tn\_MT\_43 rev a

C.2 Corporation Street improvements



C.3 Chatham Hill-Luton Arches Bus lane improvements



Source: Appendix D - CIF Application Medway Strategic Bus Corridor Improvements

**Appendix D Schemes identified during workshops**

**Table D.1: Workshop 2 schemes (January 2009)**

<b>Bus/Rail</b>	
NS1	Train lengthening (platform lengthening Rochester & Strood)
NS2	New bus service Medway Gate to Chatham centre
NS3	General improve to bus frequencies
NS4	Bus/taxi lanes
NS5	Bus lane network (between Rainham/Strood and to Grain)
NS6	Fine network of feeder buses
NS7	Bus corridor full length of A2
NS8	Strood Riverside bus corridor
NS9	A229 bus corridor
NS10	Luton Rd bus corridor
NS11	A2 full bus corridor (ie CIF Phase 2 expansion)
NS12	PT link Chattenden to Ebbsfleet
NS13	PT link from Chattenden to Whitewall Creek, on to town centres and stations (and extension to Grain)
NS14	Passenger Rail Station on Grain line
NS15	Grain line link to Crossrail (Gravesend)
NS16	PT link to Medway Maritime Hospital
NS17	Improved bus link from Chattenden to Strood town centre, Medway City Estates & Chatham town centre
<b>Highway improvements</b>	
NS18	Linking Walkderslade Woods and North Dane Way
NS19	Improvements to distributors to A2
NS20	Improvements to distributors to other radial routes
NS21	Additional River crossings
NS22	Link to southeast of Gillingham for access to Kent without having to go west to the M2
NS23	Kent-Essex river crossing
NS24	Improvements to access to Medway City Estates (Four Elms, Sans Pareil)
NS25	Link to Hempstead Valley shopping centre
<b>Park and Ride</b>	
NS26	General expansion of P&R
NS27	Chattenden P&R
<b>Cycle &amp; Pedestrian</b>	
NS28	Cycle, walk and PT routes to rail stations
NS29	Shared paths along River Medway

NS30	Other shared paths
NS31	Cycle, walk and PT crossings of River Medway (esp. to City Estate)
<b>River</b>	
NS32	better use of river for transport
<b>Other</b>	
NS33	improved connectivity to Medway City Estates
<b>Land Use</b>	
NS34	Local facilities to encourage local trips in Chattenden
<b>Policies (only "Top 3")</b>	
NS35	Strategies to target peak traffic without prejudicing off-peak trips to town centres
<b>Other Projects/ Policies</b>	
O1	Improve personal security on PT
O2	Training to improve bus drivers' attitudes towards passengers
O3	Improve senior citizen's access to bus services
O4	Allowing parking on only one side of narrow streets (to allow better bus access)
O5	Supervisors on buses during school times/term to assist with behaviour control
O6	Travelplans for key employers
O7	Travelplans for stations
O8	Travelplans for households (esp new developments)
O9	Improve bus price competitiveness with car
O10	Integrated Smartcard PT ticketing (incl subsidies to youth/elderly)
O11	High-speed internet to all houses (esp. new developments)
O12	Rail capacity improvements
O13	Need to address school run
O14	Need to address future university growth
O15	Consideration of travel demand patterns over time due to factors such as peak oil, home working and technology changes
O16	Improvements to PT patronage

**Note:**  
 Reference numbers are for MM reference.  
 NS means "new scheme".  
 O means "other scheme".