



Thurrock Council Local Transport Plan

Implementation Plan

2011/12 - 2014/15

Thurrock Council Third Local Transport Plan

Implementation Plan: 2011/12 – 2014/15

Published March 2011

Prepared with the support of:

Small Fish

64 St Leonards Road

Norwich

NR1 4JF

www.smallfish.org.uk



SMALL FISH
Strategy Consultants

Foreword

Effective, sustainable transport forms a large part of what Thurrock is trying to achieve with this Implementation Plan as it is recognised as an essential part of any community. It provides the routes that support economic growth, and the links that give people access to jobs and services.

But alongside the many advantages of a mobile society come a number of challenges. We need to reduce pollution and carbon emissions from transport. We need to tackle congestion on our roads and we need to encourage more cycling and walking – not least because physical inactivity is a major contributory factor to poor health.

Of course in the current economic climate it is essential to reduce the UK's record budget deficit and regenerate our economy. This will inevitably require difficult spending cuts in the short term, and transport must play its part in that process. But it does not necessarily mean that we hold back on plans to deliver more sustainable transport. In fact it makes these plans even more critical.

Thurrock Council recognises its communities need transport options and measures that ensure maximum use of public transport; that reduce dependence on cars; and that support more cycling and walking.

Councillor Yash Gupta
Portfolio Holder for Highways and Transportation

EXECUTIVE SUMMARY

Thurrock currently faces a number of transport challenges, such as the high volume of HGV traffic. On top of this, the growth Thurrock needs to accommodate is significant. Thurrock needs to plan to accommodate up to 18,500 new homes over the period 2001 to 2021, and up to a further 4,750 dwellings to 2026 and beyond as well as 26,000 new jobs. For this growth to be delivered sustainably, it will require a solid and sound transport strategy.

The Transport Acts of 2000 and 2008 place a duty on local transport authorities to produce a document, known as the Local Transport Plan, which aims to improve transport in the area. In 2008, Thurrock Council revised and adopted a new long-term transport strategy, *Thurrock Transport Strategy 2008 – 2021*. Based on a robust evidence base and community engagement with residents and key stakeholders, it sets out the aims, objectives and a series of policies for delivering transport improvements in Thurrock. The strategy comprises part of the third Local Transport Plan for Thurrock.

In addition to a transport strategy, local highway authorities are also required to develop and submit an Implementation Plan alongside their strategy. An implementation plan complements the strategy, acting as a detailed business plan for implementing the changes set out in the strategy. This Implementation Plan for the third Local Transport Plan for Thurrock spans the period from 2011/12 to 2014/15. This period will be one of reduced funding levels as the Government deals with the national deficit. This has required some difficult decisions to be made and also more innovative ways of working to be identified (see **Chapter 7** on Funding and Prioritisation).

This document contains the Implementation Plans for delivering accessibility, congestion, air quality and climate change, and road safety improvements. It shows what packages of transport measures and interventions will be delivered in Thurrock between 2011/12 and 2014/15. Additionally the Council develops a yearly programme of planned maintenance in order to guide how maintenance works are planned, prioritised and delivered in Thurrock. These provide the basis for the Council's shorter term plans to address the key transport challenges facing Thurrock.

Table of Contents

1. Introduction	6
2. Accessibility Implementation Plan.....	9
2.1 Active Transport	9
2.2 Passenger Transport	10
2.3 Access for All.....	11
3. Congestion Implementation Plan.....	15
3.1 Smarter Choices.....	15
3.2 Walking and Cycling	17
3.3 Public Transport	17
3.4 Parking	18
3.5 Network Management and Highway Improvements	18
3.6 Freight Measures.....	19
4. Air Quality and Climate Change Implementation Plan	26
4.1 Reducing air pollution and greenhouse gas emissions borough wide	26
4.2 Adapting to Climate Change/Improving Resilience.....	27
5. Road Safety Implementation Plan.....	31
5.1 Road safety engineering.....	31
5.2 Education and Training.....	32
6. Asset Management.....	34
6.1 Structures	34
6.2 Street Lighting	35
6.3 Road Maintenance	35
6.4 Footway Maintenance	36
7. Funding and Prioritisation.....	38
7.1 Funding	38
7.2 Prioritisation.....	40
8. Managing Performance and Programming	41
9. Appendix A: Maps	45

1. Introduction

Thurrock currently faces a number of transport challenges, such as the high volume of HGV traffic. On top of this, the growth Thurrock needs to accommodate is significant. Thurrock needs to plan to accommodate up to 18,500 new homes over the period 2001 to 2021 and up to a further 4,750 dwellings to 2026 and beyond as well as 26,000 new jobs. For this growth to be delivered sustainably, it will require a solid and sound transport strategy.

The Transport Acts of 2000 and 2008 place a duty on local transport authorities to produce a document, known as the Local Transport Plan, which aims to improve transport in the area. All local highway authorities will need to have in place a Local Transport Plan by April 2011. This third Local Transport Plan will need to comprise a long term strategy and a shorter term implementation plan.

In 2008, Thurrock Council revised and adopted a new long-term transport strategy, *Thurrock Transport Strategy 2008 – 2021*. Based on a robust evidence base and community engagement with residents and key stakeholders, it sets out the aims, objectives and a series of policies for delivering transport improvements in Thurrock. The strategy comprises part of the third Local Transport Plan for Thurrock.

In addition to a transport strategy, local highway authorities are also required to develop and submit an Implementation Plan alongside their strategy. An implementation plan complements the strategy, acting as a detailed business plan for implementing the changes set out in the strategy. This document is the first in what will be a series of Implementation Plans for the third Local Transport Plan for Thurrock, and spans the period from 2011/12 to 2014/15. This period will be one of reduced funding levels as the Government deals with the national deficit. This has required some difficult decisions to be made and also more innovative ways of working to be identified (see **Chapter 7** on Funding and Prioritisation).

This document contains the Implementation Plans for delivering accessibility, congestion, air quality and climate change, and road safety improvements. It shows what packages of transport measures and interventions will be delivered in Thurrock between 2011/12 and 2014/15 and is consistent with the Local Transport White Paper – Creating Growth, Cutting Carbon: Making Sustainable Local Transport Happen.

The Council also develops a yearly programme of planned maintenance in order to guide how maintenance works are planned, prioritised and delivered in Thurrock. These yearly programmes provide the basis for the Council's shorter term plans to address the key transport challenges facing Thurrock.

Actual schemes are not shown in the Implementation Plan tables, but instead can be found within the detailed annual programme of transport schemes, which the Council prepares each year. **Figure 1** presents a flow diagram showing how the Local Transport Plan relates to the annual programme of schemes and other key outputs, such as the *Policy Guidance and Standards for Highway Maintenance and Network Management in Thurrock*.

In addition to showing which packages of measures will be delivered, the Implementation Plans also show where they will be delivered. However, this is not always possible as the location of some interventions is decided on an annual basis. For example, casualty reduction schemes will take account of the latest road accident data. The tables also show where funding is likely to come from and what risks are involved in delivery. Many factors can pose risks to the delivery of a plan, including the support of other delivery agencies. It is therefore imperative to identify the risks and to manage them. The final column in each table therefore summarises the known 'Critical Success Factors'. More information on the key risks to the delivery of Thurrock's third Local Transport Plan can be found in **Chapter 9**.

Finally, it is important to note that only those measures being delivered, led or negotiated primarily by Thurrock Council or by developer contributions secured by Thurrock Council are included in the tables. The one exception to this is the South Essex Rapid Transit major scheme (*sert*), which in partnership with Essex County Council and Southend-on-Sea Borough Council comprises a funding bid to the Government. In February 2011, the Department for Transport invited submission of an improved funding bid for *sert* by September 2011, and will decide by the end of 2011 whether it will be supported.

As well as these measures, a number of other transport improvements will be taking place in Thurrock over the lifetime of this Implementation Plan, which are being delivered by other agencies. These include:

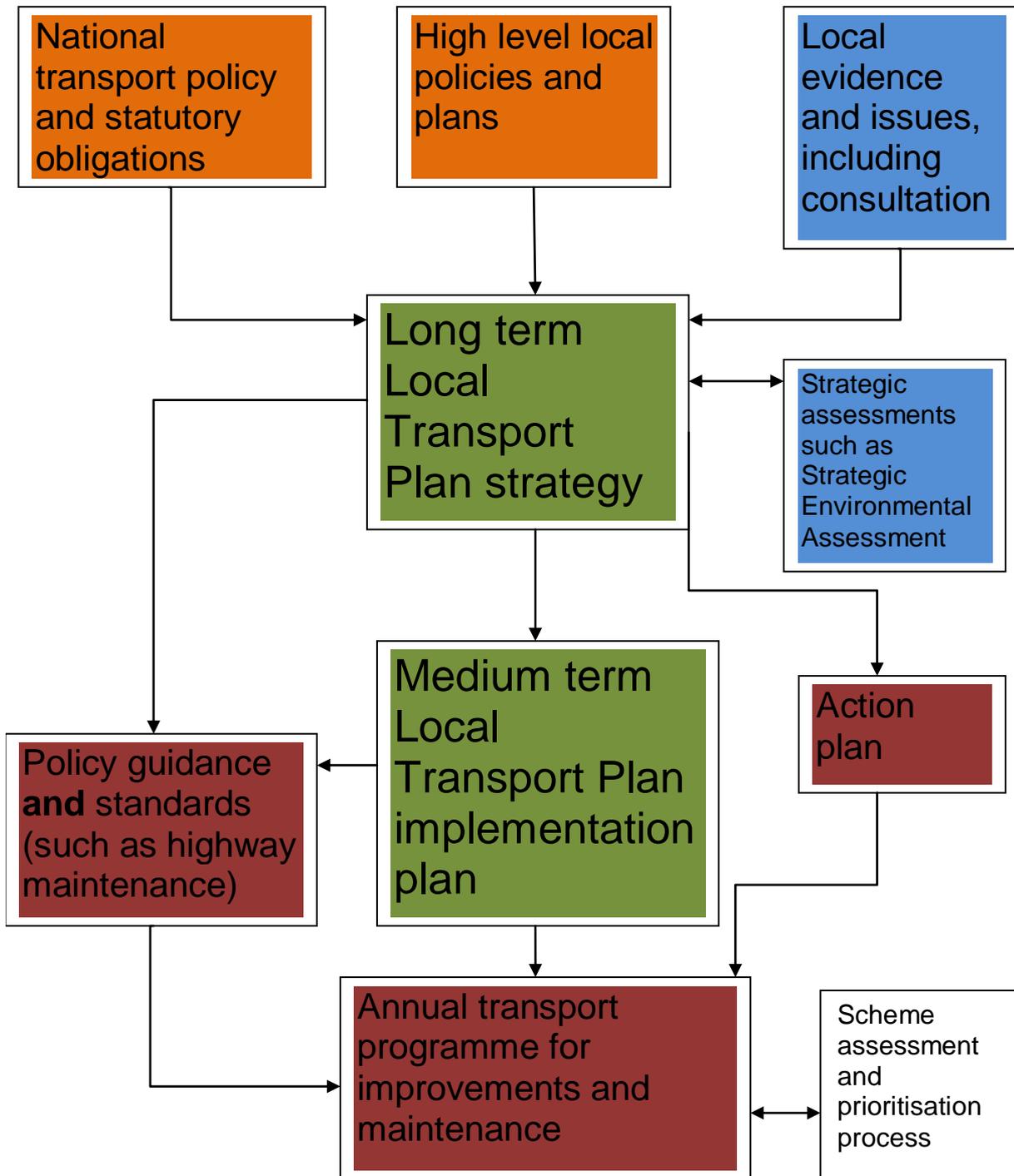
- M25 widening between junctions 27 and 30
- 12 car platform extensions on the Tilbury Loop and the Ockendon branch rail lines
- A new deep sea container port at London Gateway (Shell Haven)
- New rail freight connections at Tilbury Power Station
- A new rail franchise for Essex Thameside may be starting during this plan period depending on the Government's review of rail franchises

Although this Implementation Plan tries to provide some certainty, there will remain considerable uncertainties. Transport improvements led by developers are very uncertain as they will depend on many factors beyond the Council's control, such as the priorities and plans of the developers themselves. Nevertheless, development such as the new Lakeside regional shopping centre, involving the transformation of the northern part of the Lakeside Basin, could provide exciting opportunities for sustainable travel and Thurrock Council is keen to support this. The port development at London Gateway should also lead to a range of transport developments, including highway capacity improvements on the A13.

Looking further ahead, the Department for Transport and the Highways Agency will be continuing to work on options for increasing the capacity of junction 30 of the M25, and for a Lower Thames Crossing to relieve the congestion at the Dartford crossing. Thurrock Council considers these to be priorities of the highest order and so will continue to work closely with them to bring about the best option for Thurrock residents and the borough's economy as well as for the UK as a whole.

Furthermore, initiatives being set up by the Government, such as the Local Enterprise Partnerships (the relevant one for Thurrock will be covering Greater Essex, Kent and East Sussex) and the Regional Growth Fund, could have a major influence over how transport develops and what funding will be available. What this influence will be will unfold and become apparent during this plan period. In the meantime, the Local Enterprise Partnership has already identified J30 of the M25 as a priority.

Figure 1. Relationship between Local Transport Plan and other key components



- Higher level requirements with which the Local Transport Plan must be consistent
- Evidence that the Local Transport Plan needs to take into account
- The Local Transport Plan document
- Documents that steer on-going and project based work to deliver the Local Transport Plan

2. Accessibility Implementation Plan

The *Thurrock Transport Strategy: 2008 – 2021* identified a number of accessibility issues facing Thurrock. Key challenges include:

- Enabling access to the countryside and green open space using rights of way to promote well-being
- Below average accessibility in some deprived wards such as Purfleet / West Thurrock, Chadwell St Mary, Belhus, and Tilbury St Chads
- Time taken to get to hospitals, especially for non-car households, by public transport could be a barrier to seeking healthcare or keeping appointments. This is a particular issue for Chadwell St Mary which has both the worst accessibility and is health deprived
- Low levels of walking and cycling (though there are indications of recent increases in cycling) could have implications for health, particularly obesity. This is contrary to good levels of accessibility for local services
- Good access to employment areas should support job creation and jobs-led regeneration, though accessibility to London Gateway by sustainable modes, especially walking and cycling, could adversely impact on job matching, job creation and the jobs-led regeneration

Delivering accessibility in the *Thurrock Transport Strategy: 2008 – 2021* has a focus on social inclusion and tackling disadvantage and therefore has clear links to promoting equality of opportunity. However, improving accessibility for leisure will improve quality of life, whilst improving accessibility to employment will help employers get the right people and therefore should support economic growth.

The thrust of the accessibility strategy will be to improve accessibility by walking, cycling and public transport to services, with specific emphasis on education, employment and healthcare/ hospital. The priority will be to deliver these accessibility improvements where deprivation is most apparent, in order to help tackle deprivation and promote equality of opportunity, and where significant levels of growth need to be delivered and accommodated sustainably. Those measures that will be implemented to deliver accessibility are outlined in the following sections and are summarised in **Table 1**.

2.1 Active Transport

Visitor Travel Plans will be encouraged, facilitated and developed during this implementation plan period in conjunction with visitor sites in Thurrock, in order to improve access to the sites, particularly via sustainable modes of transport. Visitor travel plans will help to identify where sustainable transport infrastructure improvements are needed to facilitate this change. Those visitor sites that will be prioritised for visitor travel planning between 2011/12 and 2014/15 are:

- Basildon and Orsett Hospital
- Palmers 6th Form College
- South Essex College (Woodview and Basildon Campus)
- Lakeside

In order to prioritise walking and cycling improvements in Thurrock to 2021, a network of Core Walking and Cycling Routes has been identified and these are shown in **Map 1**,

Appendix A. Map 1a and **Map 1b** show existing and proposed Core Walking and Cycling Routes in greater detail.

The Core Walking and Cycling Route network (see **Section 3.2** for further information) will work to improve accessibility to key services and will also help to deliver parts of the Council's Greengrid Strategy, which aims to create a sustainable network of multi-functional green space and links within Thurrock's towns and countryside.

In particular, an important link within the Greengrid Strategy is a high quality riverside route – National Cycle Network 13. Sustrans, a sustainable transport charity, is aiming to implement such a route for walking and cycling and the Council supports this development as it not only provides access to open space and views of the riverside and its setting, but also provides access to employment and key services within Thurrock. This route will link deprived parts of the Thurrock Urban Area with access to major employment areas in Thurrock, such as Grays, Tilbury and London Gateway.

Pedestrian crossings will be prioritised for delivery along the Core Walking and Cycling Routes, especially where such routes are being improved within the plan period, such as Grays, Tilbury, Lakeside and Chadwell St Mary.

2.2 Passenger Transport

Thurrock Council will be working to support the availability of public transport travel information. The priority is to improve accessibility for the most deprived communities through improved service levels and provision of public transport information.

Reduced revenue funding for contracted bus services in Thurrock will mean that the Council will need to make some difficult decisions on which routes and services need to be protected (see also **Section 3.3** for plans to mitigate the impacts). There are currently specific challenges to be met around the provision of public transport to strategic services such as hospitals, with this being an issue for the majority of Thurrock residents. In the first instance, the Council will prioritise those communities where high levels of deprivation coincide with low levels of car ownership and poor public transport access to the hospital. This includes Ockendon, Tilbury St Chads, Tilbury Riverside, Purfleet and West Thurrock, and especially Chadwell St Mary. The South Essex Rapid Transit scheme (*sert*), (see **Section 3.3** for further information) will improve access to Basildon Hospital for many Thurrock residents if Government approval is gained.

Community transport, often led by the voluntary and community sector, can help reduce the isolation faced by people with mobility impairments, offering an essential means of access to services. Thurrock Council will continue to support the borough-wide, demand responsive community transport service operated by Trans-Vol, which is focused on providing a service for those people with learning and mobility impairments.

Thurrock Council will also continue to work with the Port of Tilbury to ensure more effective use of the ferry service provided between Tilbury and Gravesend in Kent.

The planned housing and employment growth in Thurrock should generally be good for accessibility to many of the new jobs, with both employment and housing growth being focused on Lakeside, Grays and Tilbury. The exception is London Gateway, which is more remote from the major urban and deprived areas and therefore improved access to this

strategic employment site will be a priority for improving access to employment opportunities. This will generally be delivered through the London Gateway travel plan and other agreements as part of the planning approval for the port, together with the development of additional travel plans within the vicinity of London Gateway and the potential for future development of the *Sert* route. Thurrock Council will work to support the developer, Dubai Ports World, as it further develops its plans.

2.3 Access for All

Although all new transport infrastructure and services will be compliant with the Equality Act 2010, improvements to existing infrastructure and services will prioritise the delivery of improved access for the disabled through the following measures:

- Dropped kerbs, seating, and accessible crossing points on core pedestrian routes
- Improved transport interchanges, such as parking spaces for people with disabilities at rail and bus stations
- Bus stops with raised kerbs and other required improvements
- Using working arrangements with bus operators to accelerate the introduction of low floor/ compliant buses
- Using working arrangements with taxi companies to accelerate the introduction of accessible vehicles
- Making people feel safer on Core Walking and Cycling Routes by providing better lighting where necessary

Table1: Accessibility Implementation Plan

What	Where	How	Critical Success Factors
Active Transport			
Visitor Travel Plans	<ul style="list-style-type: none"> Basildon & Orsett Hospital Palmers 6th Form College South Essex College (Woodview & Basildon Campus) 	<ul style="list-style-type: none"> Council revenue Local Transport Plan capital Developer contributions 	Dedicated staff, cooperation of organisations, S106 agreements with developers
Core Walking and Cycling Routes	See Table 2 and Maps 1, 1a and 1b in Appendix A	See Table2 and Map 1	See Table 2 and Map 1
Rights of Way improvements supporting the Greengrid strategy and Rights of Way Improvement Plan	National Cycle Network Route 13 along Thurrock riverside through Purfleet, Grays and Tilbury (Maps 1, 1a and 1b , in Appendix A)	<ul style="list-style-type: none"> Local Transport Plan capital Council revenue Developer contributions Voluntary and Community Organisations such as the Local Access Forum Sustrans Ad hoc grants 	Sustrans support Grant availability Development coming forward
Pedestrian and cyclist crossings	Along Core Walking and Cycling Routes (see Table 2 and Map 1), especially as part of their development in Tilbury, Chadwell St Mary, Lakeside and Grays	<ul style="list-style-type: none"> Local Transport Plan capital Developer contributions 	Audit of existing facilities
Passenger Transport			
Contracted bus services and bus access to key destinations	Generally rural Thurrock, but with a particular priority of providing access to hospital from much of the Thurrock Urban Area and Ockendon, especially for Chadwell St Mary as a priority	<ul style="list-style-type: none"> Major Scheme funding (<i>sert</i>) Council revenue 	Finding an affordable or commercially viable way of delivering improved access

What	Where	How	Critical Success Factors
Public transport information ¹	Borough wide, with priorities focused on: <ul style="list-style-type: none"> • Tilbury • Chadwell St Mary • Grays • Purfleet • South Ockendon • West Thurrock/ Lakeside 	<ul style="list-style-type: none"> • Council revenue • Transport operators • Advertising revenue 	Pressures on limited council revenue funding
Community/Demand Responsive Transport	Borough wide	<ul style="list-style-type: none"> • Council revenue • Trans-Vol • 	Capacity of Voluntary and Community Organisations
More effective use of River Thames for passenger services to Gravesend	Tilbury	<ul style="list-style-type: none"> • Council revenue 	Cost of scheme and value for money, interest from operators
Sustainable access to London Gateway	Shell Haven and surrounding area	Dubai Ports World Developer contributions from London Gateway vicinity Future <i>Sert</i> development	Dubai Ports World's progression of London Gateway Support for additional <i>Sert</i> routes
Access for All			
Equality Act 2010 compliant access improvements to Transport Interchanges ²	<ul style="list-style-type: none"> • Ockendon rail station • Tilbury Town rail station • East Tilbury rail station 	<ul style="list-style-type: none"> • Local Transport Plan capital • Network Rail • Train/ bus operators • Specific grants 	Involvement of rail industry

¹ See also Section 3.3

² Based on step free access, disabled parking, induction loop, and ramp for train access

What	Where	How	Critical Success Factors
		<ul style="list-style-type: none"> • Developer contributions 	
Equality Act 2010 compliant improvements at bus stops for disabled people	Borough wide upon community request, but especially on <i>sert</i> ³ route	<ul style="list-style-type: none"> • Local Transport Plan capital • Advertising revenue • Major Scheme funding (<i>sert</i>) 	Support for <i>sert</i> and approval from Department for Transport, Quality Bus Partnership
Equality Act 2010 compliant buses for disabled people	Borough wide, but especially <i>sert</i> route	<ul style="list-style-type: none"> • Bus operators • Major scheme funding (<i>sert</i>) 	Quality Bus Partnership, contracted bus services, support of bus operators, support from Department for Transport for <i>sert</i>
Accessible Taxis	Borough wide	<ul style="list-style-type: none"> • Taxi companies • Local Transport Plan capital funds • LSTF 	Local Taxi Companies

³ South Essex Rapid Transit (see Table 2 for details)

3. Congestion Implementation Plan

The *Thurrock Transport Strategy: 2008 – 2021* identified a number of congestion issues facing Thurrock, including:

- Providing for freight modal shift and minimising the number and impacts of HGVs, including the problem of HGV parking in residential areas
- Providing the network capacity for increases in car and freight movements and public transport use arising from growth
- Continuing to support increases in rail and bus patronage when growth will threaten capacity
- Low bus satisfaction and public perceptions of buses in Thurrock which deter bus use
- High levels of out commuting from Thurrock
- High proportion of HGVs on the road network and likely future increases from the London Gateway deep sea port development
- Congestion on the strategic road network, especially the A13
- Low levels of sustainable transport use to travel to work

Tackling congestion will reduce business costs and therefore support economic growth, such as enabling new development. It will also contribute to better quality of life by improving journey experience and should reduce CO₂ emissions as long as the reduction in congestion does not lead to growth in traffic.

The strategy for tackling congestion will be to deliver a targeted programme of measures to encourage a modal shift to more sustainable modes of transport such as walking and cycling, particularly in the urban areas, managing the existing network and improving the efficiency of the transport network, especially increasing the capacity of routes providing access to the strategic employment areas of West Thurrock/ Lakeside, Tilbury, Grays and London Gateway. Improving public transport, walking and cycling (see Accessibility Strategy), and improving the safety of these modes (see Road Safety Strategy), provides a solid basis on which to deliver measures that will encourage modal shift. The congestion strategy will build on this. Those measures that will be implemented to tackle congestion are outlined in the following sections and are summarised in **Table 2**.

3.1 Smarter Choices

Smarter Choices measures comprise a range of interventions that aim to promote sustainable travel by encouraging and enabling people to increase their use of sustainable transport modes such as walking, cycling and public transport and reduce single occupancy car journeys. As much of the growth in traffic will be caused by the housing and employment growth, we are developing a robust system for securing developer contributions towards Smarter Choices.

The Local Development Framework for Thurrock will work with partners to deliver at least a 10% reduction in car traffic from the 2026 levels that have been forecast. This will be the focus of the interventions to reduce congestion during this Implementation Plan and subsequent ones.

Workplace Travel Plans will be facilitated and developed during this implementation period in conjunction with the largest employers in Thurrock, in order to encourage a modal shift away from single occupancy car use, particularly for those journeys to work under 5km. The areas with employers that will be prioritised for workplace travel planning are Grays, Lakeside and London Gateway, including Thurrock Council. To incentivise the uptake of voluntary workplace travel plans we will:

- Provide experienced, professional assistance in developing workplace travel plans
- Identify sustainable transport infrastructure required at major employment locations to improve sustainable access to employment sites
- Provide “Bikeability” training programmes at major employers
- Provide assistance in helping employers to identify areas where business related travel and expenses can be reduced significantly

In addition, new commercial development will generally be required to implement its own travel plan under Section 106 agreements.

In Thurrock, every school has now adopted a School Travel Plan. As a result, we will now be focusing our efforts on supporting the delivery of sustainable travel infrastructure arising from the school travel planning process. In doing so, we will prioritise this delivery at schools with the highest levels of children travelling to school by car, as identified by the most recent PLASC⁴ survey, by:

- Continuing to provide experienced, professional assistance in developing a School Travel Plan, refreshing existing plans where needed
- Identifying road safety improvements to encourage walking and cycling to school where safety is an issue, such as traffic calming, 20 mph zones and pedestrian crossings
- Continuing to support Sustrans provision of the “Bike It” cycle training programme at schools to give both children (and parents) the skills and confidence to cycle safely

Spatial analysis shows that the majority of the Thurrock built up area is within a 1-2 mile radius of a rail station – an ideal distance for accessing rail stations by foot or bicycle. To encourage a modal shift to rail for journeys over 5km, we will work with the rail operating company to develop Station Travel Plans at all eight stations in Thurrock. The Association of Train Operating Companies has recently completed several pilot projects across the UK, in order to develop station travel planning best practice. Station travel plans will be used to identify those sustainable transport interchange improvements that are required at Thurrock’s rail stations to facilitate this change,

Not all single occupancy car journeys will be able to shift to walking, cycling or public transport. To that end, we will look to further reduce single occupancy vehicle journeys by promoting car sharing. We will also work with employers to ensure that car sharing is further supported by preferential parking on site, where possible.

Personalised Journey Planning highlights travel choices people may not realise they have. Direct contact is made to interested individuals to provide locally relevant travel information and support. It motivates people to think about their day-to-day travel choices and to try

⁴ Pupil Level Annual School Census

small changes that often make life easier and travel more fun. Using the Sustrans TravelSmart model, we would like local volunteers to be trained to provide personalised journey planning.

These projects have a uniquely customer-focused approach which is critical to their success and will therefore be focused on providing personalised journey planning days at the largest employers in the Borough (such as Lakeside) through the workplace travel planning process. Research has found that journeys to work are the hardest to shift – but also that they pay the biggest dividends as employees tend to travel at peak times, affecting the economy the most and causing congestion on our road network.

Additionally, studies have shown that people who are at a point of significant change in their lives are the most likely to consider making a change in the way they travel. Since Thurrock is likely to be a place of significant housing and jobs growth, we feel we can capture a substantial number of people making a life change and offer them a personalised journey planning service through information provided at workplaces, schools and other partners. Working with estate agents, we will also look to help people to choose and determine a sustainable location in Thurrock in which to search for housing, such as being close to their workplace.

Finally, in order to further facilitate positive health outcomes that arise from active travel, we will look to pilot personalised journey planning within those wards where health issues occur, including Grays Riverside, Tilbury and Purfleet. This pilot will provide the learning required for delivering personalised journey planning on an area wide level and provide the basis for delivering it across the borough during the next Local Transport Plan Implementation Plan period. This is another area where the Council is keen to maximise developer contributions.

3.2 Walking and Cycling

In order to prioritise walking and cycling improvements in Thurrock to 2021, a network of Core Walking and Cycling Routes has been identified and these are shown in **Map 1, Appendix A. Map 1a** and **Map 1b** show the Core Walking and Cycling Routes in greater detail. Routes within Grays, Tilbury and Lakeside/ West Thurrock will be delivered as priority routes, with delivery in Purfleet and Chadwell St Mary as opportunities arise.

Cycle parking will be improved through the travel planning process in retail areas, at large employers including Grays town centre and Lakeside, as well as at schools and hospitals. Additionally, those rail stations with the least amount of sustainable transport infrastructure will be prioritised for sustainable transport interchange improvements, such as secure, covered cycle storage, between 2011/12 and 2014/15, including:

- East Tilbury Station
- Tilbury Town Station
- Purfleet

3.3 Public Transport

In partnership with Southend-On-Sea Borough Council and Essex County Council, Thurrock Council has submitted to the Government a major scheme business case for the South Essex Rapid Transit (**Map 2, Appendix A**). Known as *sert*, this will be an innovative

form of public transport that delivers most of the features of a tram at a lower cost. It is hoped that *sert* will provide a first-rate inter-urban public transport system that will lead to a step-change in public transport in Essex, which is essential to ensure people have a realistic alternative to the car. In February 2011, the Department for Transport invited us to submit an improved funding bid for *sert* by September 2011, and will decide by the end of 2011 whether it will be supported.

If successful in receiving major scheme funding for *sert*, bus priority measures will also be delivered during this Implementation Plan along the *sert* route, which will have its own lanes where space permits, so as to avoid traffic and offer a faster and more reliable service. The *sert* vehicles will also be fitted with technology that provides further bus priority. Bus shelters will be improved through high quality, easily identifiable ***sert*** stops along the *sert* route.

Working in partnership with our commercial bus operators, we will identify those bus stops that require improvements throughout the Borough, where there is agreement that substandard public transport facilities are adversely affecting patronage. In particular, there will be a need to improve the provision of bus information, particularly at Grays and Lakeside interchanges for bus routes 5, 100 and 200. Along with Smarter Choices, it is hoped that public transport improvements will help to make some bus services that are currently not commercially viable and which rely on Thurrock Council contracts, become commercially viable by attracting additional passengers. This will mitigate the potential adverse impacts on communities caused by the risk of losing such bus services, often seen as a lifeline by the communities they serve.

3.4 Parking

In urban areas car parking provision will be managed to favour short and medium stay to support shopping trips and visitors, and will be limited to the current number of car parking spaces. This will be carried out at Council owned car parking during this Implementation Plan period.

In 2005, the Council took over the responsibility for enforcing parking and waiting restrictions within the Borough. Badly parked vehicles can significantly affect the efficiency of the transport network and parking enforcement will therefore be focused on:

- the most congested routes (**Map 3, Appendix A**), including verges
- Core Walking and Cycling Routes (**Map 1, Appendix A**), particularly pavements
- At bus stops and along public transport priority corridors

3.5 Network Management and Highway Improvements

Road signage will be improved along Economically Important Routes (**Map 5, Appendix A**) to ensure that people are directed towards the shortest and most efficient route that is reasonably available in order to reduce vehicle kilometres across the road network. This will need to be part of the Council's Traffic Management Plan and be consistent with the Council's intention to reduce road signage to help de-clutter Thurrock's streets. Where feasible, the Council will introduce Variable Message Signs and information from the Essex Traffic Control Centre to provide drivers with real-time information relating to parking availability, traffic related incidents and accidents, as well as disruptions, such as planned events and road works.

Network management improvements will be delivered, especially in/ around Grays town centre in order to tackle the chronic congestion in the town. Other improvements may emerge from the South Stifford traffic study.

In autumn 2009, the Council undertook a study to identify Economically Important Routes in Thurrock (**Map 5, Appendix A**). This study identified where the adverse impact of congestion on the economy could be expected to be much greater than similar levels of congestion on other routes. The identification of Economically Important Routes took into account:

- Levels of commuting
- Levels of HGV activity
- The existing road network hierarchy
- The location of current and future major employment areas
- Their regional economic importance

The following Economically Important Routes have been identified for the consideration of value for money capacity improvements in the short term during this Implementation Plan period:

- The London Road section of the A1306 near the A13 at Purfleet
- A1306 Arterial Road between A1012 and B186 Pilgrims Lane

Further routes of economic importance that could be considered for schemes between 2011/12 and 2014/15 are:

- A126 from A13 to London Road
- A128 Brentwood Road
- A1306 Arterial Road from Treacle Mine roundabout to A126
- A1306 from A13 to A126
- A1090
- A1012 from the A13 to Treacle Mine roundabout

Although the Government has delayed any improvements to J30 of the M25 until beyond 2015, the Council will continue actively to support the scheme and work with the Department for Transport and Highways Agency on this high priority scheme. The scheme is likely to include improved Urban Traffic Management and Control as well as new highway infrastructure. This scheme is considered to be essential as a key part of the successful development of both Lakeside and London Gateway. These two developments will deliver most of the new jobs to be created in the borough.

3.6 Freight Measures

Thurrock hosts a large logistics industry, existing port facilities, notably at Tilbury, and a new planned deep sea port at London Gateway. Managing freight, especially the number of HGVs and the adverse impacts, is therefore a key challenge.

Thurrock Council will work to reinvigorate the Freight Quality Partnership with the local freight industry, businesses, residents and other interested parties. This will identify which measures to tackle freight issues in the Borough can be delivered, including those options that have emerged from the South Stifford Traffic Study. A Freight Quality Partnership helps

to develop an understanding of distribution issues at the local level and to promote constructive solutions which reconcile the need to transport goods with local environmental issues and social concerns. The Freight Quality partnership in Thurrock will be focused on freight corridors with the highest volumes of freight movements, including (**Map 4, Appendix A**):

- Purfleet
- Tilbury Port
- Shell Haven (London Gateway Port)

In addition to the Freight Quality Partnership, existing well located freight wharves and facilities for rail and water freight interchange as well as previously used rail accessible sites will be safeguarded from inappropriate development through the Thurrock Local Development Framework.

The provision of lorry parking facilities is a high priority for the Council and will also be pursued in the following areas through the Thurrock Local Development Framework with the support of the Freight Quality Partnership:

- Tilbury Port
- London Gateway
- West Thurrock

Table 2: Congestion Implementation Plan

What	Where	How	Critical Success Factors
Smarter Choices			
Workplace Travel Plans	Large employers within Grays, Lakeside and London Gateway , including Thurrock Council and new large scale commercial development borough wide	<ul style="list-style-type: none"> • Local Sustainable Transport Fund • Employers/ developer contributions • Public transport operators 	<ul style="list-style-type: none"> • Success of LSTF bid • Dedicated staff • Cooperation of existing employers, • Support of transport operators, • S106 agreements with commercial developers
Residential Travel Plans	Large scale new residential development	<ul style="list-style-type: none"> • Developer contributions • Local Sustainable Transport Fund • Council revenue 	<ul style="list-style-type: none"> • Dedicated staff, • Development / regeneration taking place • Success of LSTF bid
Delivery of School Travel Plan initiatives / schemes ⁵	At schools with highest car modal share for the school run	<ul style="list-style-type: none"> • Local Transport Plan capital • Council revenue • Local Sustainable Transport Fund • School community, including governors and parents • Sustrans Bike It 	<ul style="list-style-type: none"> • Quality of School Travel Plans • Cooperation of partners • Success of LSTF bid

⁵ All schools have a School Travel Plan

What	Where	How	Critical Success Factors
Liftsharing	<ul style="list-style-type: none"> Large employers within Grays, Lakeside and London Gateway, including Thurrock Council Schools large scale commercial development 	<ul style="list-style-type: none"> Employers Local Sustainable Transport Fund Local Transport Plan capital 	<ul style="list-style-type: none"> Workplace Travel Plans School Travel Plans Success of LSTF bid
Personalised Journey Planning ⁶	<ul style="list-style-type: none"> Employers with workplace travel plans, Estate agents areas with health issues including Grays Riverside, Tilbury and Purfleet 	<ul style="list-style-type: none"> Developer contributions Local Sustainable Transport Fund Sustrans TravelSmart NHS South West Essex Voluntary/ community groups 	<ul style="list-style-type: none"> Engagement with local communities Commitment of NHS South West Essex Development taking place Success of LSTF bid
Station Travel Plans	All rail stations	<ul style="list-style-type: none"> Local Sustainable Transport Fund⁷ Rail operator 	<ul style="list-style-type: none"> Cooperation of rail industry Franchise agreement Success of LSTF bid
Walking and Cycling			
Core walking and cycling routes ⁸	<ul style="list-style-type: none"> Grays, Tilbury and Lakeside/ West Thurrock as priority Purfleet and Chadwell St Mary, as opportunities arise Major new developments <p>(Maps 1, 1a and 1b, Appendix A)</p>	<ul style="list-style-type: none"> Local Transport Plan capital Sustrans Essex County Council London Borough of Havering Developer contributions Local Sustainable Transport Fund 	<ul style="list-style-type: none"> Sustrans support Public acceptability at key pinch points Success of LSTF bid

⁶ Also known as Personalised Journey Planning

⁷ Unless required as part of new franchise

⁸ Many measures identified by Local Community Forum and Cycle Forum

What	Where	How	Critical Success Factors
Cycle parking	<ul style="list-style-type: none"> • Retail areas • Large employment areas • Schools • Hospitals • Further education • Rail stations 	<ul style="list-style-type: none"> • Local Transport Plan capital • Local Sustainable Transport Fund • Rail operator • Employers • Schools/Colleges • Developers 	<ul style="list-style-type: none"> • Station travel plans • School travel plans • Workplace travel plans • Visitor travel plans • Success of LSTF bid
Public Transport			
South Essex Rapid Transit (<i>sert</i>) ⁹	See Map 2, Appendix A	<ul style="list-style-type: none"> • Major Scheme funding • Developer contributions 	<ul style="list-style-type: none"> • Department for Transport approval • Continued support from Essex and Southend Council
Strategic public transport improvements (i.e. significant bus priority measures)	<i>sert</i> Route (Map 2, Appendix A) and around major new developments	<ul style="list-style-type: none"> • Developer contributions • Local Transport Plan capital • Major Scheme funding (<i>sert</i>) 	<ul style="list-style-type: none"> • Development coming forward within plan period • Quality Bus Partnerships • Approval for <i>sert</i> from Department for Transport

⁹ A high quality public transport scheme linking Stanford le Hope bypass, Grays town centre, Lakeside and Purfleet, with Basildon and Southend

What	Where	How	Critical Success Factors
Public transport interchange improvements	<ul style="list-style-type: none"> • East Tilbury Rail Station • Purfleet Rail Station • Tilbury Town Rail Station • Lakeside bus station • Stanford le Hope 	<ul style="list-style-type: none"> • Local Transport Plan capital • Network Rail and transport operators • Local Sustainable Transport Fund • Developers, including Dubai Ports World • Support from Lakeside Shopping Centre 	<ul style="list-style-type: none"> • Cooperation of Public Transport Operators and Network Rail • Development at Lakeside and London Gateway • Success of LSTF bid
Bus shelters and public transport information	Borough wide, particularly along the <i>sert</i> (Map 2, Appendix A), 5, 100 and 200 routes	<ul style="list-style-type: none"> • Developer contributions • Major Scheme funding (<i>sert</i>) • Local Sustainable Transport Fund 	<ul style="list-style-type: none"> • Quality Bus Partnerships • Approval for <i>sert</i> from Department for Transport • Success of LSTF bid
Parking			
Car parking controls on long stay	Car parking owned by Thurrock Council	Council revenue	Parking division
Car parking management	Lakeside Basin	Lakeside developers	<ul style="list-style-type: none"> • Public acceptability • Landowners/ developers at Lakeside
Network Management and Highway Improvements			
Network efficiency improvements	Grays town centre one way system	Developer contributions Local Transport Plan capital	<ul style="list-style-type: none"> • Local Development Framework adoption and delivery of growth • Finding a low cost solution
Improved road signage, including Variable Message Signs, and de-cluttering	Economically Important Routes (Map 5, Appendix A)	Local Transport Plan capital	Essex Traffic Control Centre

What	Where	How	Critical Success Factors
Parking enforcement	<ul style="list-style-type: none"> • Congested routes (Map 3, Appendix A) • Core Walking and Cycling Routes (Map 1, Appendix A) • Bus stops and bus priority routes 	Council revenue	<ul style="list-style-type: none"> • Enforcement capacity • Enforceable Traffic Regulation Orders
Capacity Improvements	A1306 near the A13 at Purfleet	Local Transport Plan capital Developer contributions	Identification of a low cost scheme
Capacity Improvements	A1306 between the A1012 and B186 Pilgrims Lane	Local Transport Plan capital Developer contributions	Identification of a low cost scheme
<i>Freight Measures</i>			
Freight Quality Partnership	<ul style="list-style-type: none"> • Tilbury • Purfleet • London Gateway 	<ul style="list-style-type: none"> • Local Sustainable Transport Fund • Council Revenue • Freight operators 	<ul style="list-style-type: none"> • Support of Freight Operators • Success of LSTF bid
Safeguarding rail and water freight sites	Borough wide	Part of Local Development Framework	Local Development Framework adoption
Lorry parking	<ul style="list-style-type: none"> • Tilbury Port • London Gateway • West Thurrock 	<ul style="list-style-type: none"> • Dubai Ports • Port of London Tilbury • Developer contributions 	Local Development Framework adoption and delivery of growth

4. Air Quality and Climate Change Implementation Plan

The *Thurrock Transport Strategy: 2008 – 2021* identifies a number of issues and challenges related to air quality and climate, including:

- The high number of Air Quality Management Areas
- High per capita CO₂ emissions from road transport
- High proportion of HGVs which are disproportionately polluting in terms of CO₂ and air pollution emissions
- Future traffic growth is likely to lead to increases in air pollution and CO₂ emissions from transport
- Large parts of the transport network will be increasingly vulnerable to flooding and other climate change impacts

Improving air quality will contribute to better health as pollutants have an adverse impact on health, especially above certain thresholds. Air pollution can also harm the natural environment through its impact on biodiversity and furthermore can harm historic buildings. Improving air quality can therefore improve quality of life. Climate change will have significant adverse impacts on the natural environment and therefore addressing climate change will not only involve reducing carbon emissions, but also improving quality of life.

Improving air quality and reducing emissions will be achieved by reducing the need to travel (dealt with in depth in the emerging Local Development Framework), as well as by encouraging a modal shift, which will be delivered through the congestion strategy and its Implementation Plan (**Chapter 3**). Further improvements will be achieved by reducing emissions from residual sources as well as reducing vulnerability to climate change. Those measures that will be implemented to improve air quality and address climate change are outlined in the following sections and are summarised in **Table 3**.

4.1 Reducing air pollution and greenhouse gas emissions borough wide

During this Implementation Plan period the Council will deliver a number of targeted interventions in Air Quality Management Areas, where pollution exceeds safe threshold levels. This will need to be the priority for this part of the plan. Interventions will be tailored to the problem and circumstances prevailing at each site. The Council has therefore developed an air quality action plan for each site. In addition, the Council has carried out a prioritisation exercise to determine which areas to tackle first.

Measures to improve air quality and reduce greenhouse gas emissions in general will be focused on reducing emissions from those vehicles that are disproportionately polluting, such as heavy goods vehicles, which are a significant source of the NO₂ and PM₁₀ emissions in several of Thurrock's Air Quality Management Areas.

As outlined in **Section 3.7**, the Council will be working to establish a Freight Quality Partnership. Through this forum the Council will encourage freight fleets to undergo Eco-driver training, including drivers within the council's own vehicle fleet. This measure will work to inform freight vehicles drivers of ways to improve fuel economy and reduce emissions through better driving practices. Safety, especially with regard to cyclists, should also be included in this intervention.

Thurrock Council will work with freight operators in purchasing and retrofitting pollution abatement equipment to individual freight vehicles. This will help to ensure compliance with the London Low Emission Zone and also work to have immediate effect on reducing pollutant levels from these vehicles throughout Thurrock.

In addition to freight vehicles, the Council will also be working with bus operators through Quality Bus Partnerships and Contracts in Thurrock to promote and encourage:

- The use of low emission/alternative fuel buses
- Eco-driver training for bus drivers
- Retrofit pollution reduction equipment

The Council will work with partners across the region and the Department for Transport to deliver charging point for electric vehicles. This will help to encourage their use and adoption and will reduce pollution as well as CO₂ emissions¹⁰.

When maintaining and improving the Council's street lighting, the Council will explore the replacement of conventional bulbs with lower energy bulbs. We will also seek opportunities to move towards greater use of LED bulbs, which use 50-90% less energy than conventional bulbs, therefore saving a similar amount of CO₂. Although more expensive at the outset, the payback period of LED bulbs is likely to be relatively short as the cost will be offset by on-going energy cost savings. Furthermore, the Council will also investigate the opportunity for reducing the length of time street lighting is on for, as well as the introduction of new technology to make the lights more efficient.

Finally, Thurrock Council will also promote local carbon vehicles use through the appropriate provision of infrastructure required for these vehicles. As such, we part of the Easter region's Plugged In Places project, known as EValu8. The project aims to to install an operationally effective electric vehicle charging network across the East of England, using it as test bed and innovation platform to build upon the region's significant innovation capabilities and help catalyse the new global EV economy. In Thurrock we will be exploring the installation of four communications-enabled recharging posts as part of the East of England Plugged in Places infrastructure development.

In addition to these measures, measures to encourage a modal shift towards more sustainable transport choices, as outlined in the Congestion Implementation Plan (**Chapter 3**) will also deliver the benefits of reduced air pollution and greenhouse gas emissions.

4.2 Adapting to Climate Change/Improving Resilience

When undertaking large (£200k+) and major (£5m+) transport projects, we will carry out a climate change adaption risk assessment to ensure that large sums of money are not spent on infrastructure that is vulnerable to climate change impacts, and a tool for assessing climate change risk for these large cost schemes has now been developed. This will help us to determine the vulnerability and risk of the transport project to climate change impacts and integrate appropriate climate change adaptation measures into the project's design and implementation.

¹⁰ This assumes that the electricity is from renewable or low carbon sources

When delivering lower cost transport improvements, including maintenance schemes, the Council will also integrate climate change adaptation measures into the design, where applicable, to ensure that vulnerability to the transport network from climate change is minimised. In order to prioritise adaptation improvements, several factors were taken into account. Economically Important Routes (see **Section 3.6**) were overlaid against Flood Risk Zone 3 (land with a high probability of flooding), to determine which Economically Important Routes may be at risk of flooding. The results of this exercise can be found in **Map 8, Appendix A**. Therefore, it is along these routes that climate change adaptation road improvements will be prioritised for action over this Implementation Plan period.

Additionally, when undertaking maintenance schemes, the Council will work to integrate climate change adaptation measures to ensure value for money is maximised, including:

- Incorporating heat resistant paving materials into footway and road maintenance
- Ensuring that maintenance regimes can cope with the increased cutting of verges that may arise from an extended growing season.
- New planting schemes will be designed to cope with climate change, and require minimal maintenance
- Delivering sustainable drainage systems as opportunities arise in those locations that have been identified through the Thurrock Green Infrastructure Framework Plan - see **Map 6, Appendix A**.
- Strengthening embankments where their collapse would cause a hazard or severe disruption to the transport network along Economically Important Routes (**Map 5, Appendix A**)
- Ensuring that new signage can withstand higher wind speeds.
- Improving the drainage network along those Economically Important Routes identified as being in areas of Flood Risk (**Map 8, Appendix A**) and in residential areas prone to persistent flooding incidents

In addition, both structural road and footway maintenance will make increased use of recycled aggregates to reduce the need for quarrying primary aggregates and will increasingly recycle in-situ to reduce transport and hence CO₂ emissions.

Table 3: Air Quality and Climate Change Implementation Plan

What	Where	How	Critical Success Factors
Reducing Air Pollution and Greenhouse Gas Emissions			
Air quality action plans	Air Quality Management Areas	<ul style="list-style-type: none"> Local Transport Plan capital Council revenue Freight Quality Partnership 	Support of Freight operators
Low Emission Buses	Borough wide	<ul style="list-style-type: none"> Central government grants Bus operators Major Scheme funding (<i>sert</i>) 	Quality Bus Partnerships and other tender based work with operators Approval for <i>sert</i> from Department for Transport Support from bus operators
Eco-driver training for freight and bus operators	Borough wide	<ul style="list-style-type: none"> Local Sustainable Transport Fund Freight operators Bus operators 	Freight Operator support Bus operator support
Retrofit pollution reduction equipment for freight vehicles	Borough wide	<ul style="list-style-type: none"> Local Transport Plan capital Local Sustainable Transport Fund 	Freight operators, Freight Quality Partnership,
Low energy street lighting	Borough wide, through the maintenance programme	<ul style="list-style-type: none"> Maintenance funding 	Procurement of appropriate materials/ equipment Evidence of value for money
Reduced lighting up times	To be determined	<ul style="list-style-type: none"> Council revenue 	Concerns about impact on crime and anti-social behaviour, as well as road safety
Electric Vehicle Recharging Points	4 On-street public places	<ul style="list-style-type: none"> Plugged in Places funding Local Transport Plan capital 	Advice, management and coordination by Evalu8 Transport Innovations Ltd.

What	Where	How	Critical Success Factors
<i>Increasing Resilience to Climate Change</i>			
Improved drainage	Residential areas with persistent problems Economically Important Routes within Flood Zone 3: <ul style="list-style-type: none"> • A1013 • A126 • A128 • A1306 • Dock Road • Stanford Road • West Thurrock Way 	<ul style="list-style-type: none"> • Maintenance funding • Developer contributions 	Audit of drain condition
Sustainable Drainage Systems	Where appropriate, in accordance with Green Infrastructure Framework Plan (Map 6)	<ul style="list-style-type: none"> • Maintenance funding • Developer contributions 	Procurement of appropriate materials
Climate appropriate landscaping	Borough wide	Maintenance funding Developer contributions	Procurement of appropriate materials

5. Road Safety Implementation Plan

The *Thurrock Transport Strategy: 2008 – 2021* identifies a number of issues and challenges related to road safety in Thurrock, including:

- Maintaining progress in reducing casualties in the face of likely increases in traffic
- The good reduction in the incidence of child, pedestrian and cyclist accidents could help to promote sustainable modes of transport, especially on the school run. However, modal shift towards these modes might result in increases
- The need to further reduce the number of people killed or seriously injured
- Higher incidents of pedestrian and cyclist casualties in deprived areas, including health deprived, could have adverse health impacts caused by the injuries sustained. Furthermore, perceived risk may deter use of these modes, adversely impacting on accessibility and further exacerbating health issues such as obesity

Safer roads will contribute to better safety and health by reducing casualties and accident severity. However, making the roads safer and making them feel safer will improve accessibility for the more vulnerable modes of transport such as cycling, and will therefore promote equality of opportunity.

The strategy, whilst aiming to reduce casualties where people are killed or seriously injured on the Thurrock road network, will take a broader and proactive approach, aiming to reduce road danger and thereby promote modal shift and community regeneration, even where large numbers of collisions are not apparent. The strategy will also aim to create a safer transport system through implementing measures that will reduce collision severity. Those measures that will be implemented in order to deliver safer roads in Thurrock are outlined in the following sections and are summarised in **Table 4**.

5.1 Road safety engineering

The focus of road safety engineering measures will be the introduction of more 20mph zones on residential streets in order to create a safer environment. Evidence shows that collisions within 20mph zones are less likely to occur and, when collisions do happen, they are less likely to be serious due to the lower speeds. This is particularly important for those more vulnerable road users such as pedestrians, children and cyclists. Furthermore, recent evidence suggests that there should not be adverse impacts on emissions as once feared.

Signed only 20mph areas have been shown to be effective at reducing traffic speeds elsewhere in the country, but physical traffic calming measures may also be required where necessary. Reduced traffic speeds will also support more vibrant communities by making it safer for people to walk or cycle and spend time in the street with their neighbours. Priority will be given to delivering 20mph zones in deprived areas between 2011/12 and 2014/15 and therefore will first be delivered in residential areas of Tilbury (top priority), followed by:

- Chadwell St Mary
- West Thurrock
- Grays

The 20mph zones that will be delivered are an integral part of promoting walking and cycling in Thurrock and should support the roll out of Core Walking and Cycling Routes

(see **Section 3.2**). Whilst Core Walking and Cycling Routes will provide high quality and safe access to key destinations such as schools or workplaces, the 20mph zones will provide safe movement at the start of the journey within the neighbourhood.

Slower traffic speeds will reduce the need for many road signs, which can be rationalised to de-clutter Thurrock's streets as part of highway maintenance inspections as well as during the implementation of 20mph zones. This will reduce street clutter and enhance the street scene and over time it will save the council money on maintenance and replacements as well. Slower traffic speeds will also present opportunities to make cost savings in other areas of highway maintenance.

Opportunities will also be sought for low cost/ high value accident prevention schemes using the latest road traffic accident data. During this Implementation Plan period, a new system of prioritising interventions will be developed to give greater priority to addressing places or routes where there is a relatively high number of people who are killed or seriously injured (KSI) in road traffic accidents. The new prioritisation system will also help to target locations or routes which have a high number of pedestrian or cyclist casualties in order to give additional priority to the need to make these modes safer and therefore more attractive, especially where efforts to promote modal shift are a priority. Although priorities will be driven by the latest road traffic accident data, particular attention is likely to be paid to reducing pedestrian and cyclist accidents in Grays and Tilbury during this Implementation Plan. These interventions may need to be integrated with other measures, such as 20mph zones and Core Walking and Cycling Routes.

5.2 Education and Training

Thurrock Council will work to improve the safety of children during this Implementation Plan period. Child cyclists and pedestrians will be given Bikeability training at all schools if possible, but priority will be at those schools where the Council is helping to deliver the School Travel Plan, especially those in deprived areas and areas where Core Walking and Cycling Routes and 20mph zones have been implemented. General road safety education will continue to be delivered in schools and the Council will integrate safety measures with School Travel Plans.

The Council will support police, emergency services and Department for Transport initiatives to reduce speeding, drink driving and other high risk behaviour. Furthermore, the delivery of 20mph zones will generally be accompanied by local awareness raising of the change in speed limit and the need to reduce speed.

Table 4: Road Safety Implementation Plan

What	Where	How	Critical Success Factors
<i>Road safety engineering</i>			
20 mph zones on residential streets	Tilbury and Grays mainly, but also Purfleet/West Thurrock and Chadwell St Mary	<ul style="list-style-type: none"> Local Transport Plan capital Developer contributions 	New development , community support, support of Essex Police
Accident prevention schemes	As determined by latest road accident data	<ul style="list-style-type: none"> Local Transport Plan capital Developer contributions 	Community support Coordination with the Highways Agency
<i>Education and Training</i>			
Child cyclist and pedestrian training to support School Travel Plans	Borough wide, but priority at schools in Grays and Tilbury and schools with a high car mode share for the school run. Also where schools have achieved modal shift in favour of walking and cycling	<ul style="list-style-type: none"> Council revenue Local Sustainable Transport Fund Sustrans Bikeability School community 	Roll out of School Travel Plans and on-going involvement of volunteers at schools Support for Bikeability
Education interventions to improve the safety of child pedestrians and cyclists as part of the delivery of School Travel Plans. Will include supporting Department for Transport campaigns	Borough wide, but priority at schools in Grays and Tilbury and schools with a high car mode share for the school run. Also where schools have achieved modal shift in favour of walking and cycling	<ul style="list-style-type: none"> Council revenue Essex Police Local Sustainable Transport Fund Schools Sustrans 	Co-ordination between delivery agencies Support of schools and teachers
Education interventions to reduce speeding	Borough wide, but especially in new 20mph zones (Tilbury and Grays)	<ul style="list-style-type: none"> Council revenue Essex Police Community groups 	Co-ordination between delivery agencies

6. Asset Management

Maintenance works are both reactive, such as being prompted by a street light not working or the appearance of a pothole, and are prioritised and delivered to preserve the efficiency and value of the transport network. Ensuring the safety of the highway network is the priority within a period of limited funding during this Implementation Plan. Finding defects that present a safety risk and addressing them is fundamental and ensures the Council complies with its statutory obligations.

Knowing the condition and serviceability of roads, footways and bridges is essential when planning highways maintenance works. Surface scanning and investigation works are utilised along with other techniques to make sure that funds are spent in the most effective manner.

The maintenance programme, such as dealing with potholes, structural repairs to footways, and replacing streetlights, is partly driven by asset condition. It therefore deals with those assets in a bad state of repair, but also tackles wider considerations, such as the level of pedestrian activity and whether a road is a bus or HGV route. Whilst this is important, it will be increasingly important to take this a step further and integrate this approach with the need to support specific transport policies. These are described in more detail within each asset section below. Furthermore, in order to support the Thurrock Transport Strategy and funding decisions, the Council has developed a document called *Thurrock Highway Maintenance and Network Management: Policy Guidance and Standards*. This provides clear guidance on what the priorities should be for routine and structural maintenance during a period of limited funding.

6.1 Structures

Priority for the bridge strengthening programme should be given to those bridges in need of strengthening that are on Economically Important Routes. Further prioritisation for strengthening, if required, can be given to bridges serving freight facilities and with large proportions of Heavy Goods Vehicles. Bridges that require structural maintenance based on condition surveys *and* which need strengthening should be given extra priority in the interests of value for money.

Retaining walls and embankments will be improved where condition is poor and where collapse would cause a hazard or severe disruption to the transport network. Prioritisation of these works will take into account whether any impact will be on Economically Important Routes (**Map 5, Appendix A**) or inter-urban bus routes. Economically Important Routes typically have high traffic flows and any substantive defect is therefore likely to have an adverse impact on a greater number of vehicles as well as the economic competitiveness and productivity of Thurrock.

Drainage maintenance, clearance and/or improvements should be prioritised along Economically Important Routes and inter-urban bus routes that are also within Flood Risk Zone 3 (**Map 8, Appendix A**). This is in order to minimise flood risk and economic disruption to the transport network by ensuring the flow and diversion of water away from these transport networks. Second and third priorities should comprise the remaining drainage network within Flood Zone 3 followed by the drainage systems along all those

Economically Important Routes and inter-urban bus routes remaining. Residential areas prone to persistent flooding will also be targeted. Outside of these specified high risk areas, inspection and clearance should be carried out in accordance with the national code of practice. The Council will also undertake an audit to identify drains and their condition across the Borough during this Implementation Plan, in order to identify drainage improvements required for delivery during the next Implementation Plan period.

When creating new drainage systems, consideration should also be given to delivering Sustainable Drainage Systems in those locations that have been identified as appropriate through the Thurrock Green Infrastructure Framework Plan. These can be found at **Map 6, Appendix A**.

6.2 Street Lighting

Street lighting repairs and improvements should be focused particularly on the Core Walking and Cycling Routes (**Map 1, Appendix A**) in order to further improve conditions for pedestrians and cyclists. This will work to reduce the fear of crime on these parts of the transport network, with a view to encouraging a modal shift towards these modes, especially after dark.

When maintaining street lights and traffic signals, conventional bulbs should be replaced with lower energy options where possible to reduce CO₂ emissions (see also **Chapter 4**). It is also important to ensure that street lighting in Conservation Areas contributes to the integrity of historic and cultural settings. This means that when replacing street lights in Conservation Areas as part of the maintenance regime, consultation should be undertaken with the Sustainable Development Team to determine the type of street light that would be most appropriate to the historic character and setting of the area.

6.3 Road Maintenance

First and foremost, the structural condition of the highway asset is a major consideration, but prioritisation should be informed by other factors. Those road assets requiring structural maintenance that are within Flood Zone 3 and are also part of the network of Economically Important Routes (**Section 4.2.5 and Map 5, Appendix A**) or inter-urban bus routes should be seen as a priority of a high order when decisions are being made about programming.

Other considerations for structural road maintenance will include the skid resistance of a carriageway, which will need to be greater on certain parts of the transport network, notably on bends and the approaches to junctions and pedestrian crossings, as well as in the vicinity of schools.

Pothole repairs, and other similar hazards, will be given extra priority along inter-urban bus routes, Economically Important Routes and on-road core cycle routes. This will improve both road safety and journey experience, and in the case of cycle routes should support modal shift.

Wherever running surfaces are to be renewed or resurfaced during highway maintenance activities, the option of a lower noise surface should be evaluated, and in cases where there

would be a significant benefit to the local community they should be carefully considered. The priorities will be roads of 30mph or those that pass through residential areas.

Thurrock Council will ensure that maintenance regimes can cope with the increased cutting of verges that may arise from an extended growing season as a result of climate change. One way that this will be achieved is by ensuring that new planting schemes will be designed to cope with climate change, and require minimal on-going maintenance.

6.4 Footway Maintenance

The structural condition of the highway asset is a major consideration, but prioritisation should be informed by other factors. Those footway assets requiring structural maintenance that are within Flood Zone 3 and are also part of the network of Core Walking and Cycling Routes (**Maps 1 and 9, Appendix A**) should be given a priority of a high order. Although of a lesser priority, structural footway maintenance should also be focused on those parts of the network of Core Walking and Cycling Routes which are in poor condition but outside of Flood Risk Zone 3. Footway routine maintenance will be especially important on Core Walking and Cycling Routes. Keeping footways and off-road cycle ways in good repair along core routes will further improve conditions for pedestrians and cyclists, with a view to encouraging a modal shift towards these modes.

Some parts of the footway network have high usage by some of the more vulnerable road users, such as children, those with mobility problems or elderly people. Defects are therefore likely to represent an increased hazard in the vicinity of schools, hospitals, GP surgeries, shopping areas, retirement homes and sheltered housing. It will be particularly important around these sites to eliminate trip hazards.

Table 5: Asset Management

What	Where	How	Critical Success Factors
Structures	Borough wide but especially Inter-urban bus routes and Economically Important Routes (within Flood Risk Zone 3 if drainage - Map 8, Appendix A)	Maintenance funding Council revenue Developer contributions	Reduced overall council revenue funding will threaten availability of sufficient revenue funding for routine maintenance
Street Lighting	Borough wide but especially Core Walking and Cycling Routes (Maps 1, 1a and 1b, Appendix A)	Maintenance funding	Reduced overall council revenue funding will threaten availability of sufficient revenue funding for routine maintenance
Road Maintenance	Borough wide but especially Economically Important Routes (Map 5, Appendix A) and inter-urban bus route (particularly in Flood Risk Zone 3a – Map 8), and on-road Core Cycle Routes	Maintenance funding Council revenue Exceptional Maintenance	Reduced overall council revenue funding will threaten availability of sufficient revenue funding for routine maintenance
Footway Maintenance	Borough wide but especially Core Walking and Cycling Routes (Maps 1, 1a and 1b, Appendix A), particularly those in Flood Risk Zone 3a (Map 9, Appendix A)	Maintenance funding Council revenue	Reduced overall council revenue funding will threaten availability of sufficient revenue funding for routine maintenance

7. Funding and Prioritisation

7.1 Funding

This Implementation Plan will be significantly affected by the current economic climate and the result of the Government's Spending Review. The implications of the Spending Review and its impacts, coupled with the formulaic changes to the calculation of the amount of capital funding the Council gets from Government, mean that there will be a significant reduction in the funding for actual transport improvements (the Integrated Transport block). However, this has almost been offset by an increase in funding for maintenance schemes. Nevertheless, **Table 6** below shows an overall decrease in capital funding from central government.

Table 6: Thurrock Local Transport Capital Funding (£)

Funding Stream	2010/11 Baseline	2011/12	2012/13	2013/14 ¹¹	2014/15 ¹²
Integrated Transport Block	1,822,000	823,000	878,000	878,000	1,235,000
<i>Reduction compared to 10/11¹³</i>		-55%	-52%	-52%	-32%
Maintenance Block	1,314,000	1,853,000	2,132,000	1,711,000	1,612,000
<i>Reduction compared to 10/11</i>		+41%	+62%	+30%	+23%
TOTAL	3,136,000	2,676,000	3,010,000	2,589,000	2,847,000
Overall changes (%)		-15%	-4%	-17%	-9%

In terms of local transport revenue funding, the Spending Review has committed to savings of 28%, in line with the wider revenue savings that the Department for Transport is making from its overall budget for transport. Apart from the overall decrease in the amount of Revenue Support Grant the Council will receive, the main impacts of the Spending Review savings on transport revenue resources are:

- The Department for Transport will no longer be providing a specific ring-fenced grant to support road safety delivery and enforcement – including camera enforcement - at local level. This funding stream is being wrapped up into the wider local government funding settlement, and allocated by formula.
- From 2012/13, the Department for Transport plans to make a reduction in the subsidy paid to bus operators by reducing the rate at which subsidy is paid by 20%. The incentives for smartcards, low carbon buses and automatic vehicle location will be maintained.

In addition to the Council's revised Local Transport capital settlement and revenue grants, the Department for Transport has created a new funding source through which local highway authorities can bid for additional transport funding. It is called the Local Sustainable Transport Fund and "the purpose of the fund is to enable the delivery by local

¹¹ Indicative only

¹² Indicative only

¹³ 2010/11 funding figure before the in-year reductions

transport authorities of sustainable transport solutions that support economic growth while reducing carbon. The fund also provides the opportunity to deliver additional wider social, environmental, health and safety benefits for local communities”.

The Council will be bidding for up to £5m of funding through the Local Sustainable Transport Fund. The Council will be submitting a Local Sustainable Transport Fund bid to the Department for Transport in April 2011 to cover measures within this Implementation Plan period, and will be working closely with Essex County Council and Southend Borough Council, as well as other key partners, when delivering these measures. The measures likely to be included within the bid are shown within the Implementation Plan tables. The process allows the Council to bid for both capital and revenue funding, and this will be extremely helpful in supporting the intensive application of Smarter Choices measures as well as public transport, walking and cycling improvements in Thurrock. The aim will be to enable people to choose more sustainable forms of transport, especially for short journeys. This should reduce traffic and congestion, which will have important benefits for the local economy and for reducing CO₂ emissions in the borough. The Smarter Choices measures will include workplace travel planning and Personalised Journey Planning whilst walking and cycling infrastructure improvements will focus on the core routes.

Furthermore, other funding may be made available by the Department for Transport. For 2011/12, the Council expects to receive funds to address problems with potholes caused by the severe winter of 2010/11.

The more constrained financial climate means that some difficult decisions have been made and may continue to be made. This makes it particularly important for Thurrock Council to continue efforts to secure funding from other sources in order to mitigate any adverse impact on the programme for improving transport in the borough. Possible other funding sources during the Implementation Plan period include, but are not limited to:

- Major scheme funding for *sert*, in partnership with Essex County Council and Southend-on-Sea Borough Council. In February 2011, the Department for Transport invited us to submit an improved funding bid for *sert* by September 2011, and will decide by the end of 2011 whether it will be supported.
- Developer funded measures and contributions to other wider transport measures. Depending on the wider economy, Thurrock should be hosting some major developments over the coming years, such as the expansion of Lakeside and London Gateway port development. With regard to Lakeside, the Council will during 2011/12 be leading on the development of a Supplementary Planning Document¹⁴. This will set out the transport policies and measures that will be necessary as part of the transformation of the Lakeside basin into a town centre and regional shopping centre
- Advertising revenue by enabling the commercial sector to advertise on, amongst other things, bus and cycle shelters

In addition to seeking additional funding, the Council is identifying new ways of working to reduce costs. The Council has developed a number of shared working arrangements with Essex County Council, including the strategic management of passenger transport and the roll-out of Real Time Passenger Information.

¹⁴ Part of the Local Development Framework process

7.2 Prioritisation

Given the confirmation of reduced transport funding from the Spending Review, it has been necessary to prioritise transport investment in Thurrock. To that end, the Council developed a prioritisation process that will help guide the on-going decision-making on how funding should be allocated to which packages of measures and schemes, and indeed which ones the Council has to postpone.

The starting point for prioritisation was with the main themes of the Implementation Plan, namely accessibility, congestion, climate change and air quality, and road safety. However, given that the modal shift measures to tackle congestion also reduce CO₂ emissions, these key themes were grouped together. Using various considerations such as the scale of the issue locally and the importance each theme has in national policy, the result was the following:

Table 7: Relative importance of each key theme

Transport theme	Priority assessment
Congestion and CO ₂ emissions	High
Accessibility	Low to medium
Safety	Medium
Air quality	Medium to high
Climate change adaptation	Medium to high

As can be seen, tackling congestion and reducing CO₂ emissions were assessed as being the highest priority. Separately, and generally from different funding sources, the Council continues to see maintaining its roads as a priority.

However, whilst this helps with how the Council will make broad funding allocations, each strategic theme has a range of different types of measures. The Council has therefore assessed all of the potential measures against how well they would contribute to the range of objectives in the Thurrock Transport Strategy. The highest scoring measures were (not in any particular order):

- Core walking and cycling routes
- South Essex Rapid Transit (*sert*)
- 20mph zones in residential areas
- Travel plans (part of smarter choices)
- Sustainable access to London Gateway, including the London Gateway travel plan
- Individualised travel marketing (part of smarter choices)
- Public transport, especially interchange improvements

In developing annual programmes of work, and in seeking funding from other sources, these areas of delivery will be given a priority. Further key priorities have been identified by virtue of the scale of the impact they have on particular objectives or Thurrock residents. These are mainly those measures that relate to HGVs, such as the need for better formal HGV parking arrangements, and the need to reduce the more serious road traffic accidents.

8. Managing Performance and Programming

A number of performance indicators will be used to measure the outcomes of the measures outlined within the Implementation Plan tables shown earlier. These will be monitored over the four year Implementation Plan period, and will build on a good track record of delivery in recent years which culminated in the Council being awarded the ‘most improved transport authority’ in the National Transport Awards.

Table 8: Performance Indicators for Monitoring

Delivering accessibility
Access to services and facilities by public transport, walking and cycling
Percentage of households with good transport access to key services or work
Number of local bus passenger journeys originating in Thurrock
Tackling congestion
Congestion on local roads
Proportion of bus services running on time
Mode of travel to school
Traffic flows (target of a 10% reduction in <i>forecast</i> traffic levels in 2021 – see below for details)
Number of cycling trips
Improving air quality and addressing climate change
Number of newly registered ultra low emission vehicles
Greenhouse gas emissions from transport
Nitrogen dioxide and/or particulate matter concentrations in Air Quality Management Areas
Safer roads
Number of people injured in road traffic accidents
Number of fatalities
Number of people killed or seriously injured in road traffic accidents
Number of children injured in road traffic accidents
Pedestrians and cyclists injured in road traffic accidents
Asset management
Condition of principal roads
Condition of non-principal roads
Condition of Footways

Rather than setting arbitrary targets, the Council will mostly compare its performance with the performance of similar local authorities where possible. This will be through a number of mechanisms including a unitary council benchmarking group, which includes councils such as Medway and Luton, an Essex district councils’ benchmarking group, and the East of England Directors of Environment and Transport performance sub-group.

The Council will work with partners to deliver at least a 10% reduction in car traffic from the 2026 levels that have been forecast, which equates to a modest increase in car traffic up to 2021. This is an integral target for the Local Development Framework. Work on the planning document found that simply planning for increasing traffic levels resulting from housing and economic growth would be untenable in view of the congestion or the high cost of new infrastructure needed. The Council has therefore set this challenging target and this implementation plan will be a central part of achieving it.

The target itself was based on the work of the national Sustainable Travel Demonstration Towns project. This project found that the intensive application of Smarter Choices in three urban areas over a couple of years, during which job and housing growth continued, resulted in a 9% absolute reduction in car trips and a 5% absolute reduction in car mileage. In setting a target for Thurrock, it had to be recognised that Thurrock was unlikely to achieve absolute reductions in car traffic because:

- It has a sizeable rural area where modal shift will be less likely
- The scale of growth and change is significant in Thurrock
- Many of the new jobs will be created at London Gateway which is remote from the Thurrock Urban Area and will therefore be more car-based

With regard to managing the transport programme, as discussed earlier, smaller schemes are not shown in the Implementation Plan tables, but instead are found within a detailed annual programme of transport schemes, which the Council prepares each year. Schemes are brought forward for consultation and implementation after being reviewed and determined through an agreed process. A whole host of criteria are investigated before a scheme is delivered.

The Council has adopted a comprehensive approach to assessing and determining schemes in order to allow for greater involvement of partners and stakeholders in reaching decisions. This should allow much greater transparency.

There will be three principal means from which schemes will be drawn:

- Strategy direction / commitments, including the Implementation Plan, such as target congestion measures on economically important routes, or a package of schemes in a particular area
- Data-led, such as accident prevention schemes, though with a general policy steer
- Requests for service from Community forums, members of the public and other organisations.

An assessment panel will use a range of criteria, particularly policy fit, deliverability, risk, acceptability and cost. The panel will then examine the results and recommend priorities. Once the programme has been agreed, it will be taken through the democratic process.

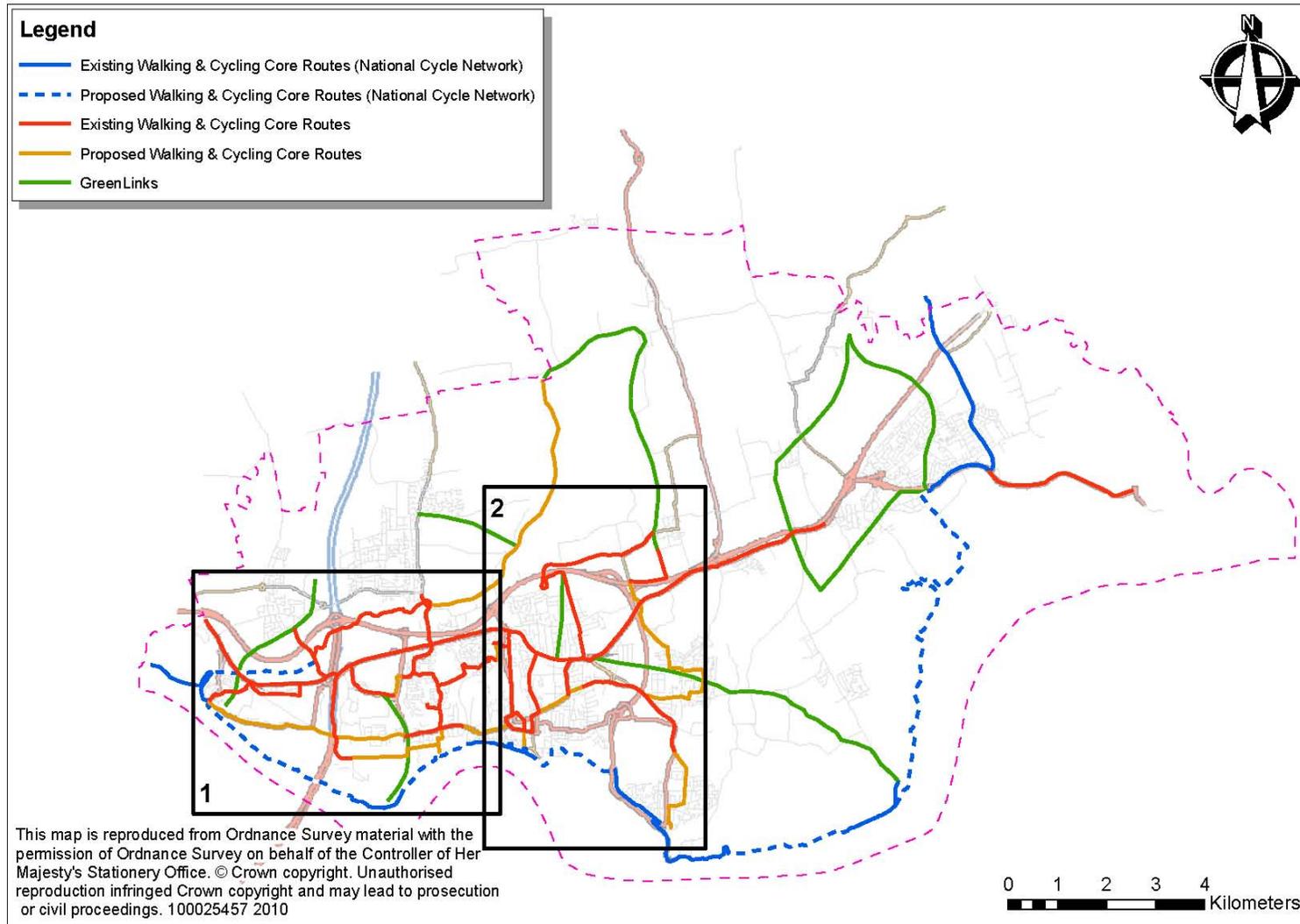
Table 9: Key Risks

Risk	Description	Primary Impact	Mitigation
Funding for revenue measures	Local Sustainable Transport Funding uncertain	<ul style="list-style-type: none"> • Reduced programme of transport improvements, particularly revenue measures • Potential adverse impact on progress made against indicators 	<ul style="list-style-type: none"> • Increase efforts to secure funding from other sources (see Chapter 7) • Improve partnership working with other key delivery agencies, such as the NHS South West Essex or the police, so that interventions deliver multiple shared objectives • Increase the role of the voluntary and community sector
Delivery Partners	Key delivery partners who make a significant contribution to some objectives and indicators could reduce their commitment, particularly in the light of the prevailing economic recession as this is resulting in a reduction in the profits for public transport operators and a reduction in government funding for some other public sector agencies.	Mainly on public transport related objectives and indicators	Continue to work closely with public transport operators, such as through the Shaping Thurrock Transport group
Growth	Failure of planned growth, as laid out in the Local Development Framework, to materialise.	Less new development will reduce funding from developers which will reduce the programme of transport improvements	In addition to the actions described above under funding, work will be undertaken to identify any support that can be given to promote new development

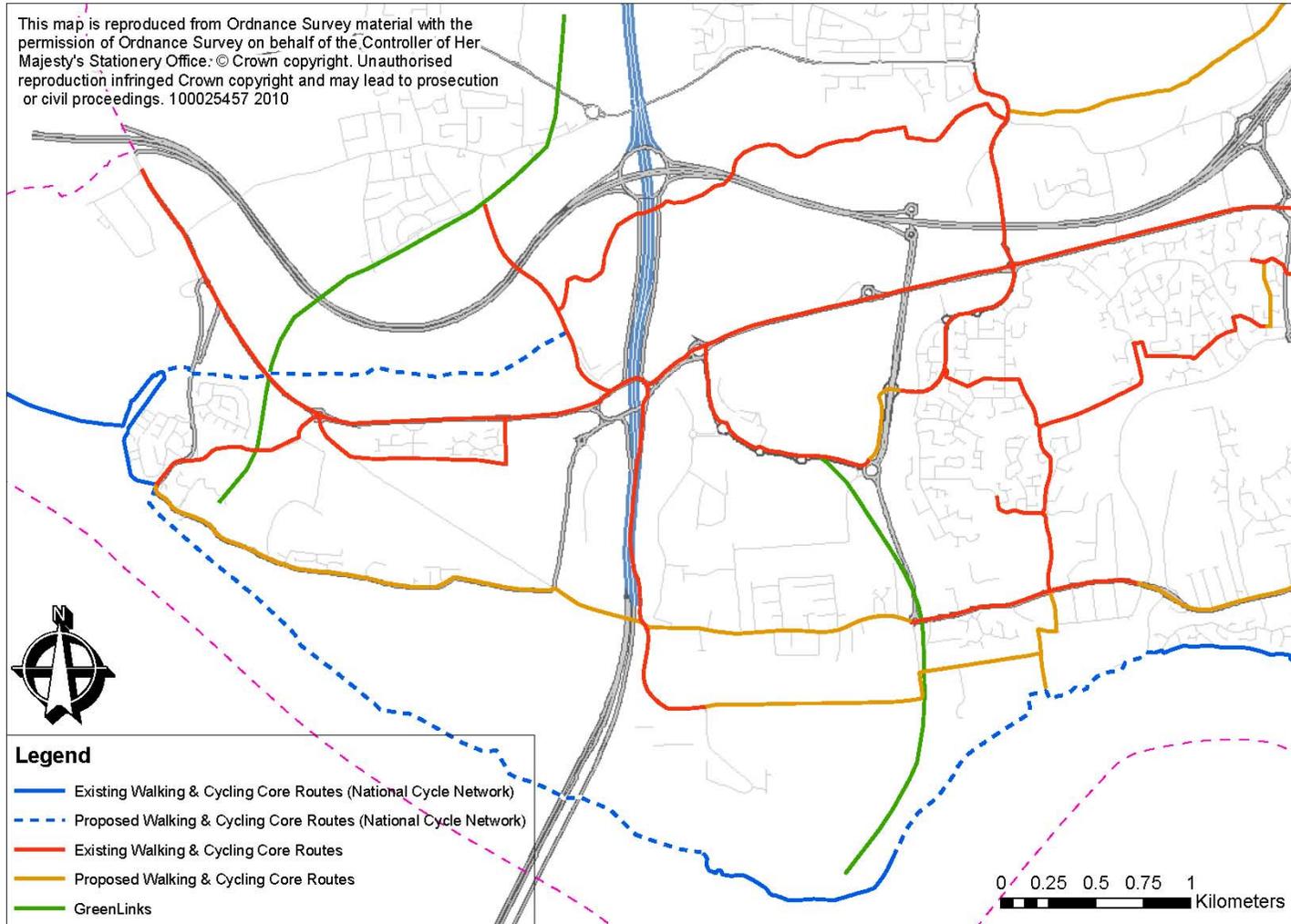
Risk	Description	Primary Impact	Mitigation
Growth	Failure to properly integrate sustainable transport in planning decisions and the delivery of new development.	This would impact on most indicators through higher than expected traffic growth and lower than expected modal share for more sustainable means of transport. Congestion and CO ₂ emissions are both likely to increase, contrary to their prioritisation at Chapter 7	<ul style="list-style-type: none"> • Clear transport policies in the adopted version of the Local Development Framework core strategy. Develop a clear approach to securing funding from developers for smarter choices measures • Having penalties in place if developers do not deliver on smarter choices

9. Appendix A: Maps

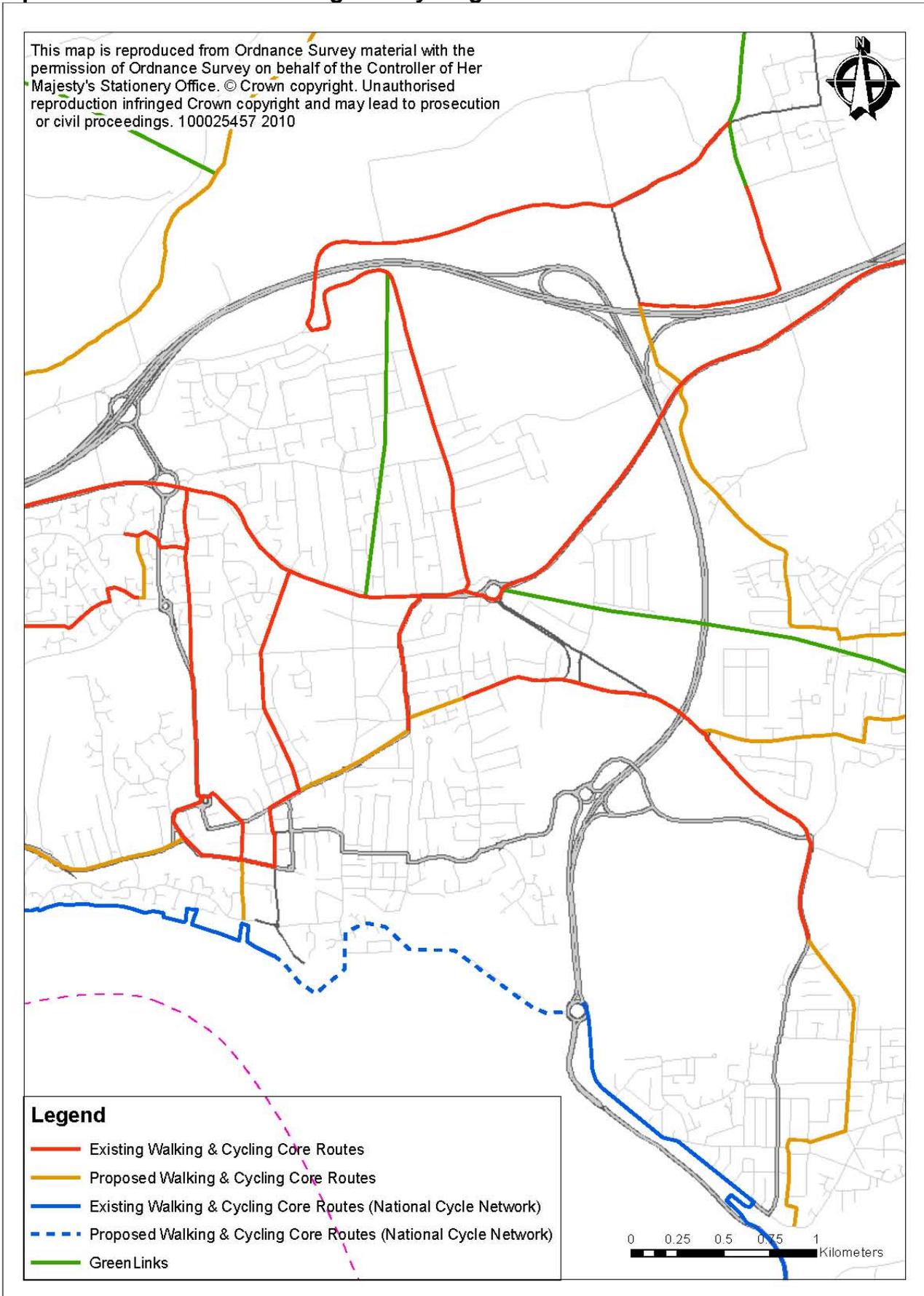
Map 1: Thurrock Core Walking and Cycling Routes



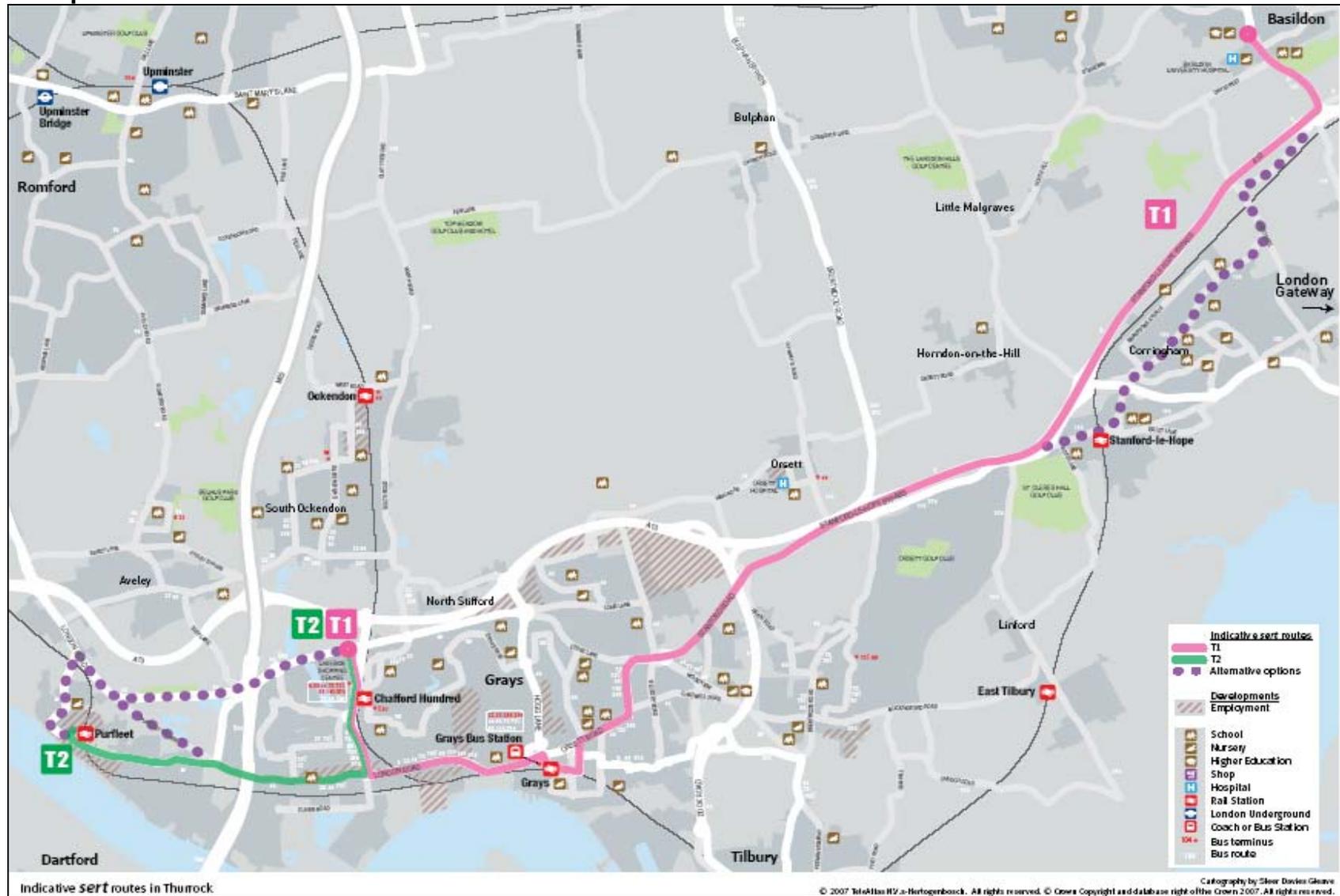
Map 1a: Inset 1 of Core Walking and Cycling Routes



Map 1b: Inset 2 of Core Walking and Cycling Routes

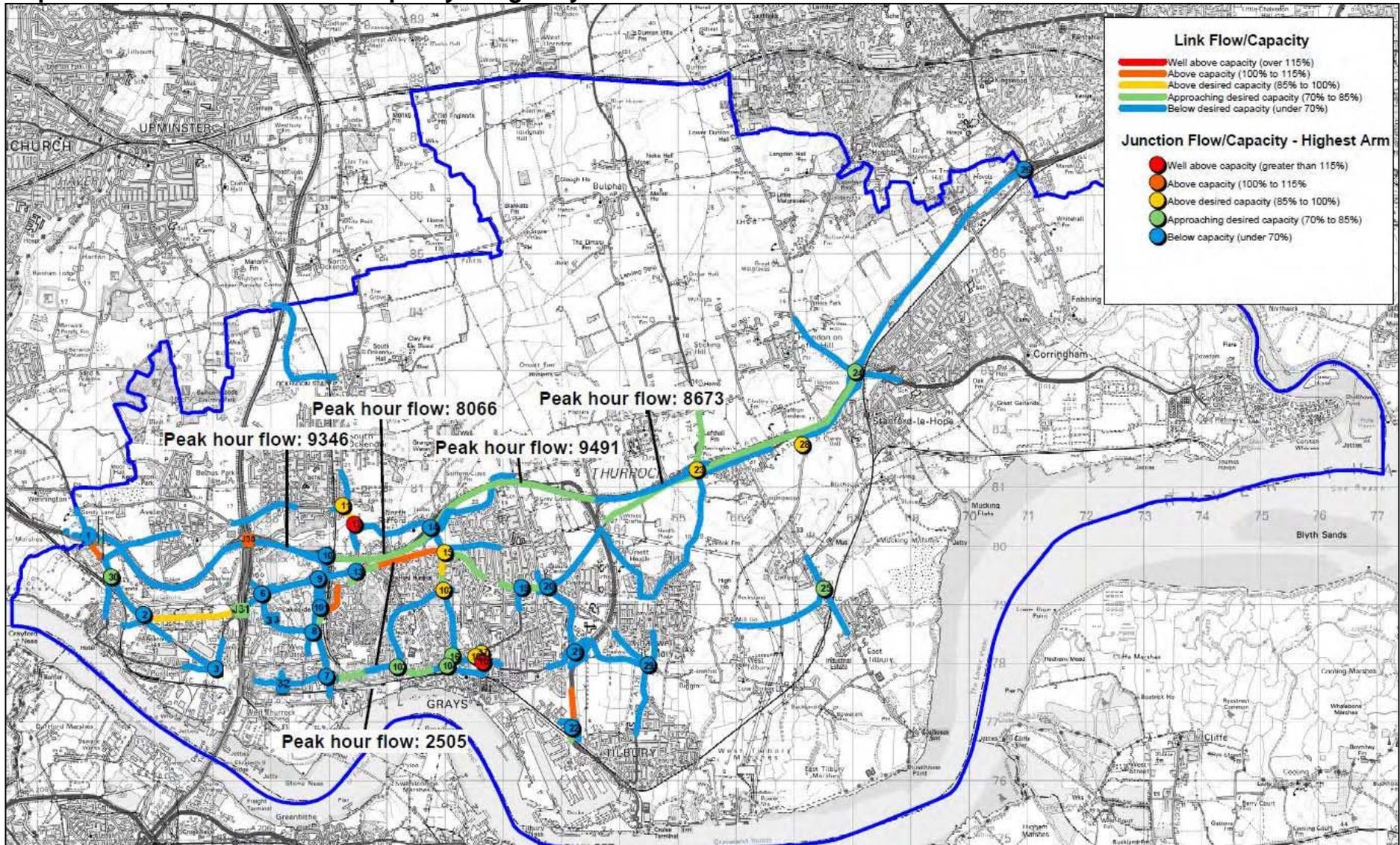


Map 2: Proposed SERT Route in Thurrock



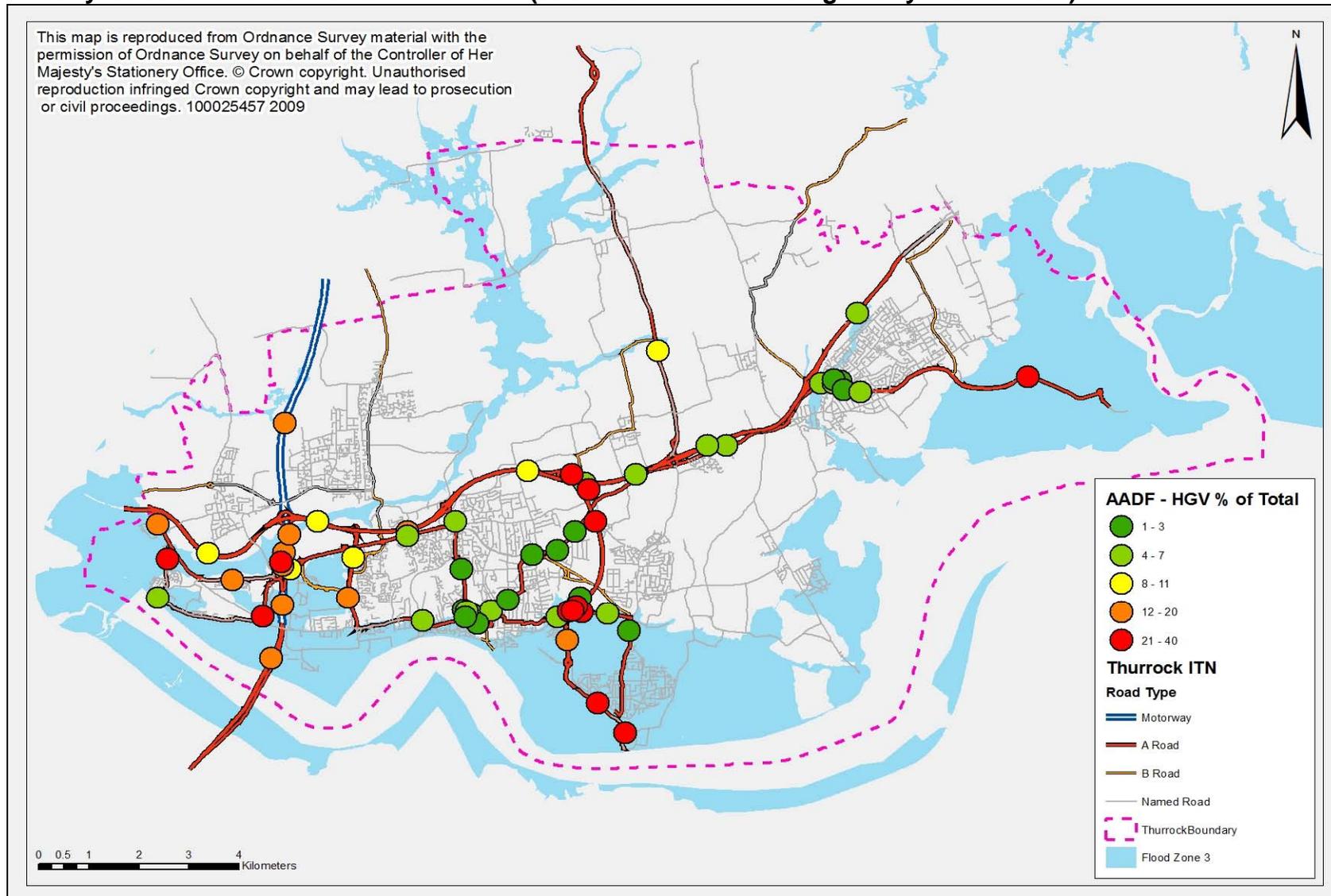
Source: South Essex Rapid Transport, <http://www.sert.org.uk/area.asp>

Map 3: Baseline AM Peak Flow/Capacity – Highway Links and Junctions



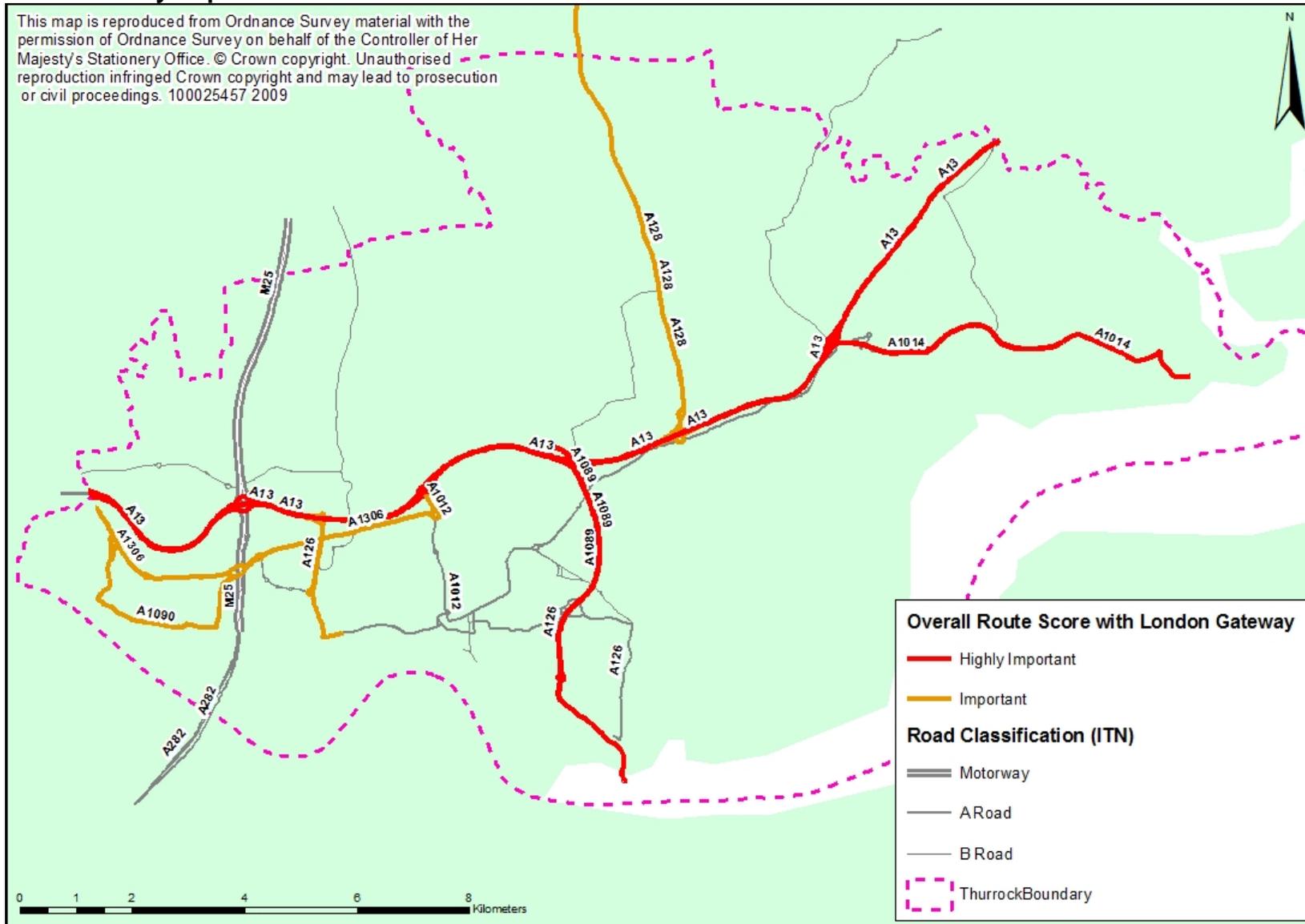
Source: Colin Buchanan, Thurrock Infrastructure Prioritisation and Implementation Programme, Report 4.2: Transport Modelling Draft Final, 2009

Map 4: Heavy Goods Vehicles Flows in Thurrock (% of total Annual Average Daily Traffic Flow)

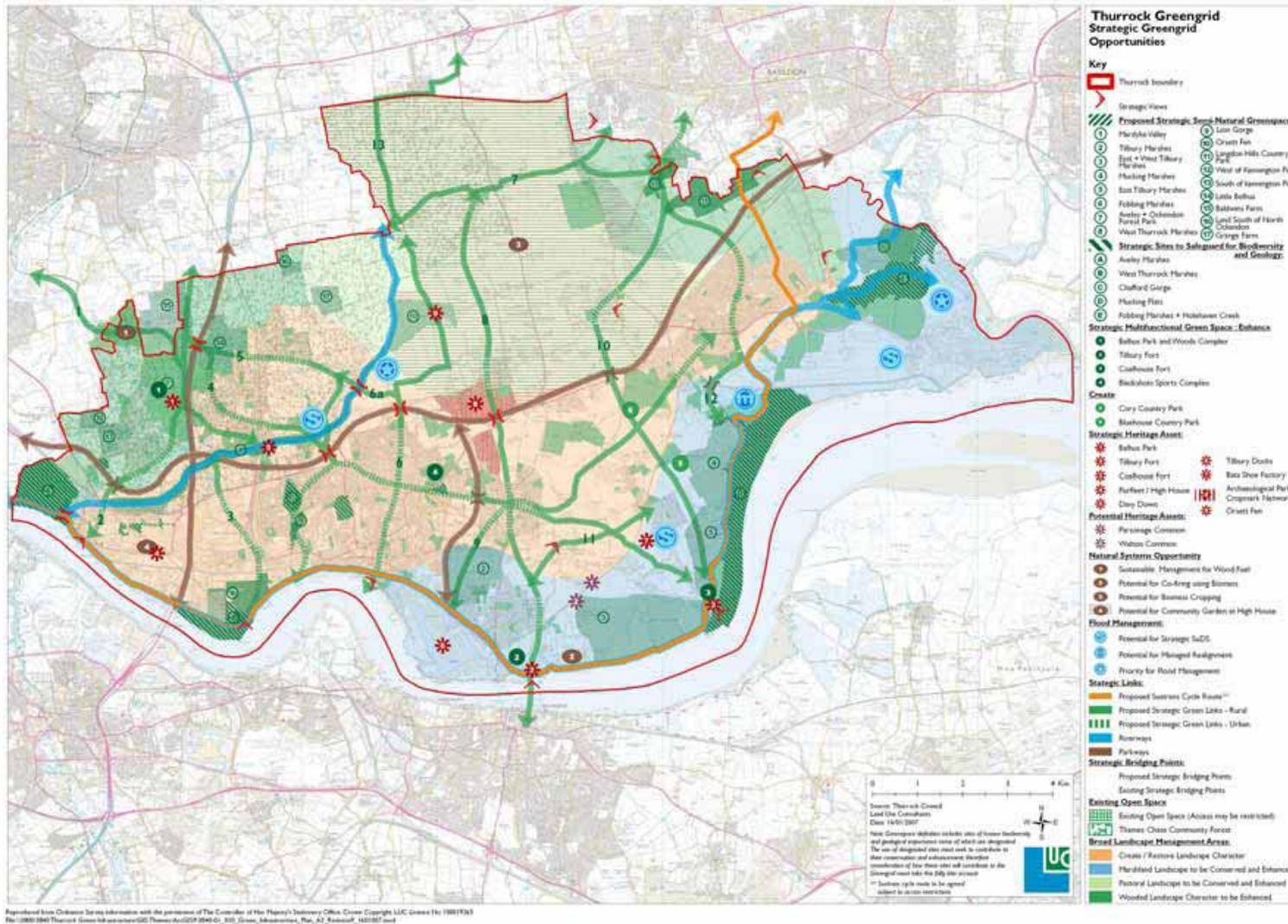


Data Source: Department for Transport, National Traffic Survey, 2008

Map 5: Economically Important Routes

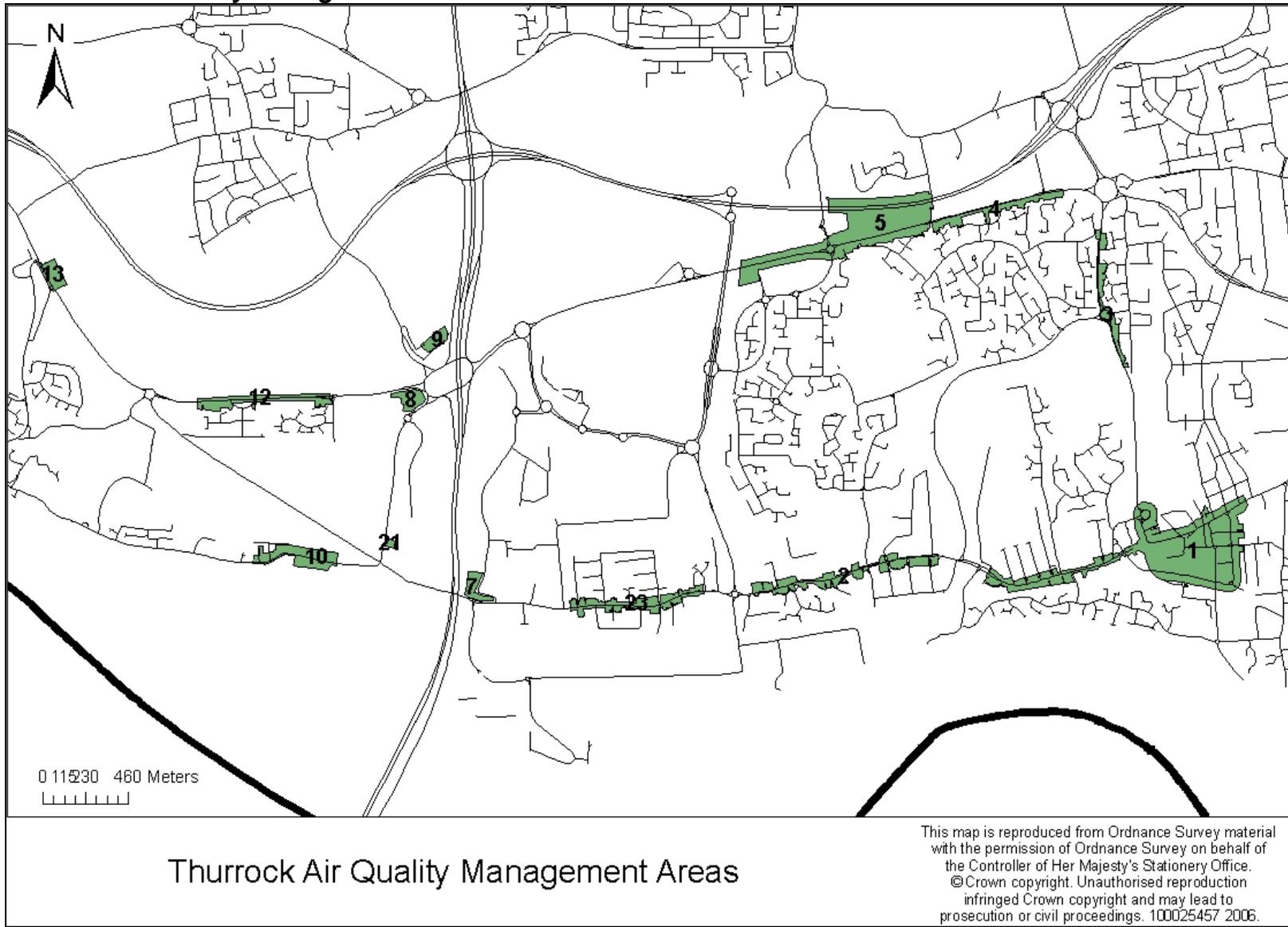


Map 6: Thurrock Greengrid Strategic Opportunities (including Sustainable Drainage Systems)

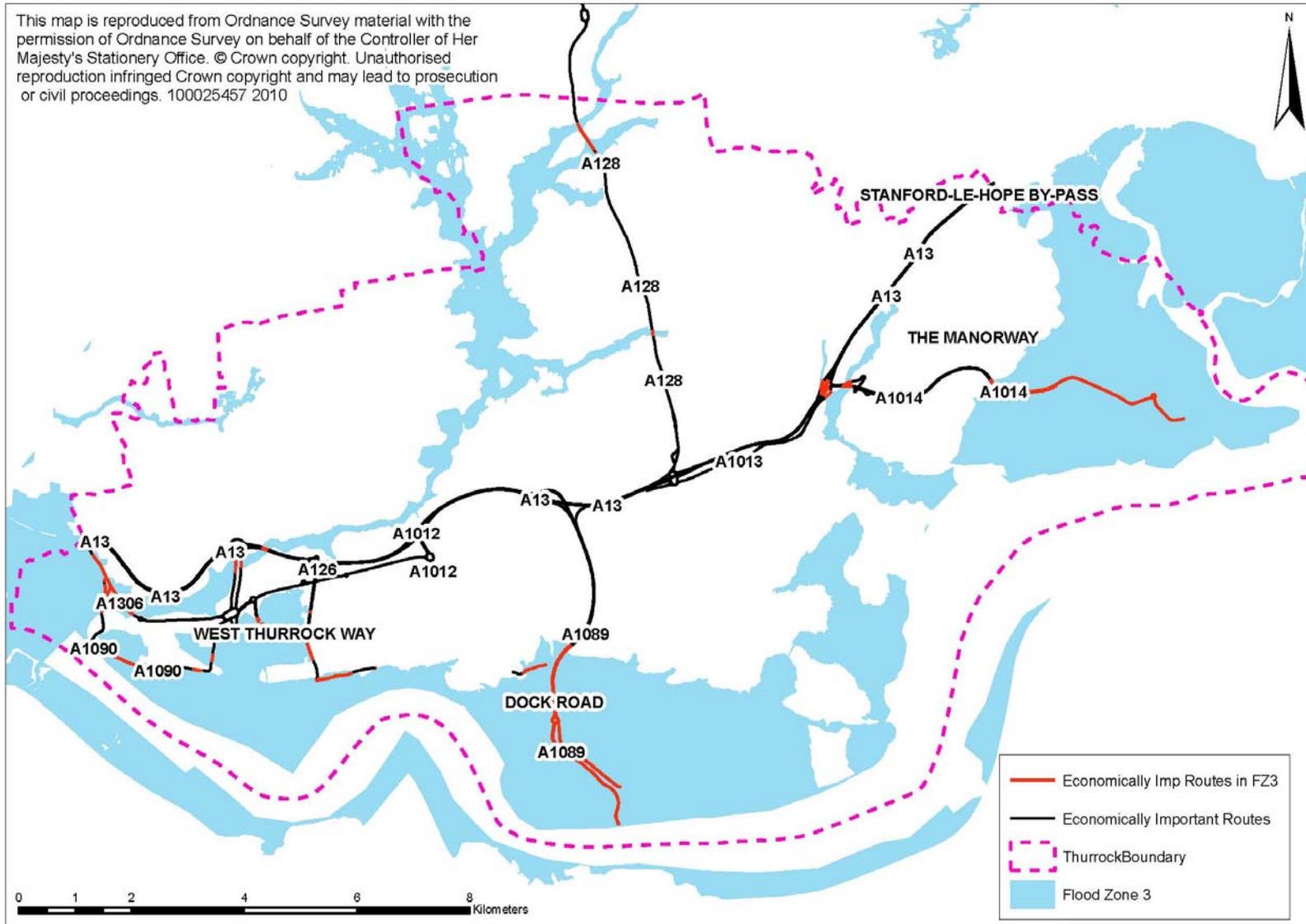


Source: Thurrock Council, Green Infrastructure Framework Plan

Map 7: Thurrock Air Quality Management Areas



Map 8: Economically Important Routes within Flood risk Zone 3



Map 9: Core Walking and Cycling Routes within Flood Risk Zone 3

