Thurrock Borough Council

Thurrock Infrastructure Prioritisation and Implementation Programme

February 2010

Report

TRANSPORT
TRAFFIC
DEVELOPMENT
PLANNING
URBAN DESIGN
ECONOMICS
MARKET RESEARCH

colinbuchanan.com

Thurrock Infrastructure Prioritisation and Implementation Programme
Report

Project No: 17162-01-1
February 2010

10 Eastbourne Terrace,
London,
W2 6LG
Telephone: 020 7053 1300
Fax: 020 7053 1301
Email : London@cbuchanan.co.uk

Prepared by:	Approved by:
Roland Brass	Hugh Roberts

Status: Final Issue no: 1 Date: 12 February 2010

thurrock ipip report v13 100210.doc

Contents

1	**Introduction**	**1**
1.1	Context	1
1.2	Objectives	1
2	**Methodology**	**3**
2.1	Baseline and Future Needs	3
2.2	Costs and Revenue	6
3	**Social Infrastructure Baseline and Future Needs**	**10**
3.1	Health	10
3.2	Education	20
3.3	Community Facilities	30
3.4	Green Infrastructure and Sport and Leisure	35
3.5	Flood Defence	41
3.6	Emergency Services	45
3.7	Waste Management	49
4	**Transport Infrastructure**	**52**
4.1	Introduction	52
4.2	Outline Methodology	52
4.3	Land Use Options	53
4.4	Transport Assessment	55
4.5	Planned Transport Improvements	60
4.6	Possible Solutions, Measures and Costs	61
5	**Utilities**	**65**
5.1	Water	65
5.2	Sewerage and Sewage Treatment	66
5.3	Electricity	67
5.4	Gas	68
6	**Social Infrastructure Capital Costs**	**69**
6.2	Health	69
6.3	Education	71
6.4	Community	71
6.5	Emergency Services	72
6.6	Green Infrastructure, Sport and Leisure	73
6.7	Waste Management	74
7	**Infrastructure Revenue Ratios**	**75**
7.1	Overview	75
7.2	Thurrock's Budget and Approach to Cost Attribution	75
7.3	Principles to Consider	76
7.4	Transport	76
7.5	Education	79
7.6	Health	82
7.7	Adult Social Care	83
7.8	Open Space, Sport and Leisure, Libraries and Culture	83
7.9	Waste and Recycling	85
7.10	Future Revenue Costs	87
8	**Funding**	**88**
8.1	Introduction and Context	88
8.2	Initial scoping of European funding sources	88
8.3	Wider policy context for England	89

8.4 Making the case 89
8.5 Funds 90
8.6 Initial scoping of public sector funding mechanisms 97
8.7 Local government finance 99
8.8 Growth funding 101
8.9 Economic development 102
8.10 Funding Options Overview 102
8.11 Scale and Sources of Infrastructure Funding 103

9 Housing and Infrastructure Needs Trajectories 105
9.2 Housing growth commitments 105
9.3 Infrastructure needs trajectories 108

10 Conclusions 116

Tables

Table 2.1: Population Thresholds by Facility 7
Table 4.1: Preferred LDF Land Use Option 53
Table 4.2: Lakeside Basin land Use Options 55
Table 4.3: Total Person Trips Derived from TRICS 55
Table 4.4: Reductions in Car Demand due to Soft Measures 56
Table 4.5: Thurrock Highway Links – Cost of Improvements 62
Table 4.6: Summary of Junction Updates Required 63
Table 6.1: Summary of Social Infrastructure Provision and Costs 70
Table 6.2: Proxy cost estimates for Green Infrastructure Schemes 73
Table 7.1: Highway costs in Thurrock 2007/08 78
Table 7.2: Transport costs in Thurrock (excluding parking) 2007/08 78
Table 7.3: Highways and transport revenue costs 78
Table 7.4: Thurrock education budgets 2007/08 80
Table 7.5: Education and Children 82
Table 7.6: Thurrock PCT Commissioning Budgets 2008-2011 82
Table 7.7: Healthcare provision 83
Table 7.8: Adult Social Care 83
Table 7.9: Open space, Leisure, Libraries, Sport and Culture Budget 84
Table 7.10: Open space, Leisure, Libraries, Sport and Culture 84
Table 7.11: 2007/08 the budget for cleansing 85
Table 7.12: Public realm 85
Table 7.13: Waste collection, recycling and disposal budget 2007/08 86
Table 7.14: Waste collection, recycling and disposal 86
Table 7.15: Future revenue costs 87

Table 8.1: EU Funding Programmes pre and post 2006 90
Table 8.2: Summary of main EU funds available 2007-2013 91
Table 8.3: Summary of first bidding round 92
Table 8.4: INTERREG West Europe Region Priorities 94
Table 8.5: Summary of INTERREG approved projects with UK partner 94
Table 8.6: Summary of future capital costs 98
Table 8.7: Summary of future revenue costs 99
Table 8.8: Sources of Infrastructure Funding 103
Table 9.1: Mid 2008 population estimates for planning zones 105
Table 9.2: Housing Commitments by Zone 107
Table 9.3: Average Household size in Thurrock 1981-2001 107
Table 9.4: Population growth by zone derived from housing trajectory 108
Table 9.5: Purfleet (Zone A) Local Infrastructure Needs Trajectory 0 to 15 years 109
Table 9.6: Aveley and South Ockenden (Zone B) Local Infrastructure Needs Trajectory 0 to 15 years 110
Table 9.7: Lakeside and West Thurrock (Zone C) Local Infrastructure Needs Trajectory 0 to 15 years 110
Table 9.8: Grays and NE Grays (Zone D) Local Infrastructure Needs Trajectory 0 to 15 years 110
Table 9.9: Tilbury and Chadwell St Mary (Zone E) Local Infrastructure Needs Trajectory 0 to 15 years 111
Table 9.10: Stanford le Hope, Corringham and East Tilbury (Zone F) Local Infrastructure Needs Trajectory 0 to 15 years 111
Table 9.11: Rest of Borough, Green belt/ Villages (Zone G) Local Infrastructure Needs Trajectory 0 to 15 years 111
Table 9.12: Whole Borough (Zones A to G) Local Infrastructure Needs Trajectory 0 to 15 years 112
Table 9.13: Local infrastructure needs of the existing and future population 113
Table 9.14: Infrastructure Needs Trajectory Borough wide for years 0 to 15 114
Table 9.15: Borough wide infrastructure needs of the existing and future population 115

Figures

Figure 3.1: Doctors Surgeries 14
Figure 3.2: Health Centres 15
Figure 3.3: Secondary Healthcare 16
Figure 3.4: Adult Social Care 19
Figure 3.5: Pre Schools 27

Figure 3.6:	Primary and Secondary Schools	28
Figure 3.7:	Post 16	29
Figure 3.8:	Community Facilities	34
Figure 3.9:	Environmental Designations	36
Figure 3.10:	Open Space and Parks	37
Figure 3.11:	Flood Defence	44
Figure 3.12:	Emergency Services	48
Figure 4.1:	Location of Preferred LDF Employment Space	54
Figure 4.2:	Location of Preferred LDF Housing	54
Figure 4.3:	Baseline AM Peak Flow/Capacity Ratio – Highway Links and Junctions	57
Figure 4.4:	2025 AM Peak Flow/Capacity Ratio – Highway Links and Junctions	58
Figure 4.5:	Baseline PM Peak Flow/Capacity Ratio – Highway Links and Junctions	59
Figure 4.6:	2025 PM Peak Flow/Capacity Ratio – Highway Links and Junctions	59
Figure 4.7:	2025 Flow/Capacity Ratio – Rail	60
Figure 8.1:	Distribution of spending by LAs 2006/07	100
Figure 8.2:	Financing of local authority capital expenditure: England 2002-3 to 2006-7 (£ millions)	100
Figure 9.1:	TBC Core Strategy Housing Growth by Phase (Jan 2010)	106

1 Introduction

1.1 Context

1.1.1 Colin Buchanan was originally commissioned by Thurrock Borough Council (TBC) in 2006 to advise on the infrastructure needed to support substantial growth in the Borough between that year and 2021. Since then, there have been a range of iterations of the work, mainly in terms of frequent, if sometimes irregular, updates of the data relating to various service providers as they came to realise the importance of integrating their longer term budget planning with that of the future spatial planning of Thurrock. Growth of 18,500 new homes and 26,000 new jobs was allocated to Thurrock in the East of England Plan and this study therefore considers the service provision interventions that are required to sustainably accommodate this substantial pattern of growth for the Borough.

1.1.2 As for anywhere else, the availability of local services close to where people live, and the presence of an efficient transport system will be key factors affecting how Thurrock is viewed by existing and future prospective residents and employers. Regeneration initiatives will need to take into account the direct implications that the expected growth will have on service infrastructure, community facilities and utilities as well as the roads and rail network.

1.1.3 An increasing number of Local Planning Authorities (LPAs) and Local Delivery Vehicles (LDVs) are adopting a business plan approach to the delivery of infrastructure but this has only evolved as an integrated trend in planning for the future provision of services during the period of this commission. To that extent, TBC was innovative in its thinking in 2006 and has acted as a pathfinder for many local authorities which have followed their lead. Being first in such a process has its price however, and the gestation of this inventory of existing and necessary future infrastructure and report on implementation and prioritising has thus taken over 3 years to come to fruition. This should not be seen as a disadvantage if the Council gets the right answer as to how to move forward with its core strategy and helps point the way with good practice for others.

1.1.4 TBC is now close to completing its Development Framework (LDF) and, as part of this process, now needs to marry the substantial body of data on existing and future infrastructure provision with its intended locations and trajectories for housing growth. This is a focus for the latter half of the report after the inventory of diverse infrastructure services has been set out.

1.1.5 Realising the severe infrastructure deficits which were building up across the country, the 2007 Budget advocated a systematic approach to infrastructure planning where delivery was to be an essential component of core strategy spatial planning at the strategic scale, and the local implementation level, a means of supporting applications for funding of individual projects. Consequently, infrastructure planning for Thurrock has slowly evolved as an integral part of the LDF preparation process and this report represents a key part of the necessary framework, to transform sound planning into well implemented delivery to match necessary growth.

1.2 Objectives

1.2.1 The original specification for this project set out the following objectives:

A. A comprehensive assessment of the infrastructure requirement, backed up by sound argument and an evidence trail.

B. Modelling of spatial options and the impact of associated infrastructure interventions including transport modelling.
C. An understanding of the infrastructure delivery options related to the phasing of specific developments.
D. An assessment of the financial options available to the Council to deliver the infrastructure, including a revised basis for securing Section 106 investment, a municipal bond and other public / private funding sources.
E. Recommendation of a preferred delivery programme that draws together the above elements, to include an assessment of risk.

2 Methodology

2.1 Baseline and Future Needs

Overview

2.1.1 The capacity of existing facilities is important in determining the location of future development. Two obvious examples are primary schools and road network capacity. A primary school is supposed to have a local catchment area, as young children are not expected to travel far to attend school. Thus, an individual school may have spare capacity, but it will be little use to a housing development on the opposite side of town which will not be able to utilise it. By identifying gaps in provision and the location of surpluses both now and in the future, together with understanding the relationships between different infrastructure types and the way they relate to the communities they serve, the distribution and phasing of development can be planned for in an integrated manner.

2.1.2 As observed in the previous versions of this Infrastructure Prioritisation and Implementation Programme (IPIP) study compiled by Colin Buchanan:

"most social and community infrastructure serves local needs. Hence it is possible to produce a quantitative assessment of needs relative to population. However, transport infrastructure and social and community infrastructure that has a more strategic catchment and also infrastructure that is provided by the private sector, is more difficult to assess and to quantify shortfalls / oversupply. The relationship of this type of infrastructure with population distribution is more complex. […] *Hospitals, higher and further education and transport infrastructure are seen as key examples of this as the manner in which demand is met (relative to increasing population growth) is not necessarily bound by existing facilities and the manner in which services are provided within the District.* […] *This does not mean that failing to provide more infrastructure is a viable or recommended option, but is a recognition of the limitations of applying ratios to facilities and using simplistic models to assess infrastructure shortfalls* (pp.11, 12)*."*

Social Infrastructure

2.1.3 The provision of social infrastructure (such as Childcare or Adult Services, Elderly Persons Care and many of the community activities of active Faith Groups etc) is not expressed spatially as readily as the provision of physical utilities such as Power, Water, Sewerage or Roads and even open space, sports fields and recreation facilities. Thus the methodology used to collect social infrastructure baseline provision is necessarily different to physical services provision. Colin Buchanan has applied its own approach to this challenge to engage those providing such services in the necessary dialogue to identify capital or revenue budget commitments.

2.1.4 The process involves contacting relevant service providers to discuss existing and future provision. Due to the wide range of social and community infrastructure investigated, and associated information provided by services providers, the quality and detail of data gathered varies considerably. This report groups data collected under three main headings: baseline, future needs and costs. The baseline sets out existing provision of all existing infrastructure, primarily focussing on supply, location, capacity and condition (where data renders this possible). Future needs are set out as infrastructure requirements in light of population growth in relation to planned development, and any funding which has been secured towards implementation of specific projects or non spatial service provisions. A costs section then estimates capital costs to develop

required infrastructure. Some services and facilities have more sophisticated budgetary and planning frameworks than others. Thus some future requirements and costs attributed to increase in provision are set out on a project by project basis, while in other cases these have been estimated using global standards and costs at a necessarily summary and strategic level. Where possible, baseline data has been processed into a GIS database and mapped.

2.1.5 To supplement discussions with service providers, information such as the condition of existing infrastructure, has been gathered from existing plans and strategies prepared by service providers. However, detailed assessment of the quality of existing infrastructure is outside the study scope.

2.1.6 This work was variously undertaken via previous Colin Buchanan Infrastructure Deficit Studies for TBC during 2006, '07 and '08), culminating in a final comprehensive review during the summer of 2009. Information has been obtained for the following:

- Health, including:
  - Primary healthcare
  - Secondary healthcare
  - Dentists
  - Adult social care
- Education, including:
  - Early Years
  - Primary schools
  - Secondary schools
  - Post-sixteen institutions (including Colleges and Universities)
- Community facilities, including:
  - Community centres
  - Libraries
  - Faith groups
- Open space, including green infrastructure
- Waste Management
- Flood defence, and
- Emergency services, including:
  - Police
  - Fire
  - Ambulance

2.1.7 Service providers contacted include TBC departments including Adult Services, Education and Children's Services, Housing, Cultural Services, Sustainability and Environment Planning, Sport and Leisure and Waste and Recycling. Other providers contacted include Building Schools for the Future, South West Essex Primary Health Care Trust, Essex Police, Essex Fire, East of England Ambulance Service NHS Trust and The Environment Agency.

Transport Infrastructure

2.1.8 Typically where transport infrastructure is concerned, the planning regime can rely on a much more quantitative approach than is usually available for social services and those relying only on revenue funding. The following aspects of the existing situation in Thurrock have been assessed:

- Highways
  - On major links
  - On 30 key Junctions
- Public Transport:
  - On the rail system

2.1.9 For highways, current demand has been calculated from the existing 2006 traffic data supplemented by additional data collected as part of this study in October 2007. The observed data have been used directly to assess:

- link flows, on an Annual Average Daily Traffic (AADT) basis compared with the Congestion Reference Flow (CRF)
- junction capacities during the AM peak hour (0800-0900).

2.1.10 The links and junctions assessed are shown in Figure 4.2.

2.1.11 For rail, the existing demand has been calculated using a spreadsheet demand model. The demand from the model has then been used to assess the capacity of the rail system based on the existing frequency and the number of seats available in each service.

2.1.12 The spreadsheet demand model produces demand matrices for the base year 2006 and for all future years:

- For highways, the incremental change in demand from 2006 is used to calculate the change in link flows and junction turning counts between 2006 and the forecast year.
- For rail, the demand from the future year spreadsheet model is used to assess the capacity of the rail system in the same way as for the base year.

2.1.13 The analysis of future demand has factored in the additional capacity which will be provided by new and committed transport schemes. A complete analysis of the outcomes of the transport modelling exercise is provided in Report 4.1.

2.1.14 Capital costs related to upgrading the Borough's transport infrastructure were obtained by liaising with the relevant Council departments, the Highway's Agency, Network Rail and City to City (c2c). Local interventions required to ease congestion and correct deficiencies related to future demand identified in the model, have been included in the list of infrastructure needs presented below. In Grays and West Thurrock, the main physical infrastructure improvements planned are the lengthening of platforms to accommodate 12 coach trains.

2.1.15 The outcomes of the transport modelling exercise will be provided in Chapter 4.

Utilities Infrastructure

2.1.16 Halcrow is acting as a sub-consultant to Colin Buchanan to provide information on the potential constraints to the proposed growth in relation to utility services, possible strategic solutions to these constraints, and identification of any gaps in knowledge.

2.1.17 The broad objectives of establishing a suitable baseline of utility provision are:

- to identify those components of urban infrastructure that lack the capacity to support the planned growth for an area and define outline solutions to these constraints;
- to assess where environmental and natural components of this area may be detrimentally affected beyond those limits defined by the appropriate legislation and to suggest planning and mitigation actions where appropriate.

2.1.18 The cost for augmenting existing utility infrastructure to support planned growth can be significant, meaning the phasing of investment and improvement works is often directly related to the phasing of development. However, in planning this work, it is important that due consideration is given, by both local authorities and utility companies, to the potentially long timescales involved in delivering large-scale infrastructure projects in order to facilitate development. Where significant infrastructure works may be required to meet the demands of the proposed levels of growth within Thurrock, then indications of likely timescales for delivery have been provided.

2.1.19 With the large scale development currently underway in the South East of England, much of the necessary new and augmented infrastructure will be required solely to provide capacity for new development. Regulatory laws relating to each utility sector provide a framework for the funding of infrastructure required for growth. A general guideline is that the developer will cover the cost of distribution infrastructure within a development site, plus the cost of the infrastructure required to connect the development to the live network, at the nearest point of connection of sufficient capacity. So in cases where development will necessitate the need for investment in the trunk or transmission systems, utility companies will often seek funding, in full or in part, from developers, who in turn will pass on these costs to landowners via the price they pay for the land or the prospective property buyers via the asking price of the property. The application of regulatory funding rules in these cases is not always straightforward as there may be secondary benefits to the utility companies and other customers. Hence the apportioning of funding between the developer/s and the service provider will often be negotiated and agreed on a case by case basis, within the rules set out by the regulator.

2.1.20 Another route for funding is through the periodic price reviews undertaken between utility companies and regulators. Essentially, through this mechanism, the costs of large-scale investment programmes are covered by increases in utility bills and are hence spread across the whole customer base for a particular supplier or distributor. This would likely be the mechanism through which for example, Anglian Water would seek the funding for large-scale investment in wastewater treatment assets in Thurrock and neighbouring areas.

2.2 Costs and Revenue

Overview

2.2.2 The policy context for the procurement of local infrastructure, how this should be integrated into Development Plan Documents (DPDs) and its overall deliverability are all set out in a number of Government documents including:

- Tests of Soundness for LDFs (PINS, 2005)
- Local Government White Paper (CLG, November 2006)
- Lessons learned from LDFs (PINS, 2007)
- Sub National Review of Economic Development and Regeneration (HMG, July 2007)
- Delivery PSAs in SR07 (HMT, October 2007)
- Streamlining LDFs and proposed changes to PPS12 (CLG, November 2007)
- Community Infrastructure Levy (CIL) (CLG, January 2008)

2.2.3 This report will support the Council in developing further its approach to infrastructure planning infrastructure based on three sets of information:

- Identification of capital costs related to the provision of additional facilities and an analysis of committed expenditure.
- Identification of public service investment will be generated to support increasing population numbers on an automatic basis e.g. health services which are funded on Standardised Mortality Ratio (SMR) data from the Office of National Statistics (ONS). In these services, the key issue will be the time lag between new population arriving and the triggering of funding.
- What services cost to run – on the assumption that additional population or economic growth will generate additional costs.

Social Infrastructure

2.2.4 The original baseline report provided estimates of future demand for social and community infrastructure based on pro-rata calculations against overall population and household growth in the Borough.

2.2.5 The first step was to translate housing numbers into population. Population projections from the Office of National Statistics (ONS) released in 2008 and set at mid 2006 indicate a population in 2026 of 177,400. However, a caveat to bear in mind, is that the ONS projections are based on the preceding five years' data and they do not take account of the increased level of housing provision resulting from the draft RSS. Therefore, in calculating population estimates for this study, average household size has been multiplied by the Borough's housing allocation. This results in a significantly different population projection just under 21,000 greater than the ONS projection, but is in our view a more reliable projection than the ONS trend based projections.

2.2.6 A broad idea of the scale of new facilities was then obtained by applying a ratio of population threshold per service and facility. Using the ONS demographic data and the housing trajectory, it has been possible to identify when the growth in population triggers the need for a new facility or an infrastructure component. This initial understanding of required facilities was complemented by data obtained from local service providers.

2.2.7 The table below provides a ratio of population threshold per service and facility. This list is derived from various best practice sources including 'Towards an Urban Renaissance' (Urban Task Force, 1999) and Planning Policy Guidance 13 (ODPM, 2001).

Table 2.1: Population Thresholds by Facility

Facility	Population Thresholds
Primary School	1,500-4,000
Secondary School	5,000-15,000
FE/Technical College	25,000-50,000
Doctor/Primary Care Surgery	1,800-2,000
Health Centre (4+ doctors)	9,000-12,000
General Hospital	50,000+
Corner Shop	1,000-3,000
Group of Shops	3,000-10,000
District Centre/Supermarket	20,000-40,000
Post Office	2,000-10,000
Library	15,000-30,000
Church	Minimum of 9,000
Local Community Centre	1,500-10,000
Youth Club	3,000-12,000
Sports Centre	15,000-40,000
Major Entertainment Facilities	20,000-40,000
Infants Play Area (0.8ha/1000 pop)	1,000-3,500
Playground/Local Green Space (0.8ha/1000 pop)	1,000-5000
Playing Fields (2.4ha/1000 pop)	2,000-5,000
Local Open Space (1-12ha) (2.4ha/1000 pop)	Minimum of 1,000
Larger/Strategic Open Space (12ha+) (2.4ha/1000 pop)	Minimum of 5,000
Bus Stop	2,500

2.2.8 Colin Buchanan acknowledges that this simple methodology has its limitations. Most social and community infrastructure serves local needs and is sensitive to local

demographic characteristics and capacity of existing infrastructure. Strategic infrastructure that has a more sub regional and regional catchment is equally difficult to assess as the relationship of this type of infrastructure with population distribution is more complex. Retail (comparison and some convenience shopping), hospitals, higher and further education are seen as key examples of this, because the manner in which demand is met (relative to increasing population growth) is not necessarily bound by existing facilities.

2.2.9 The Core Strategy was circulated internally to technical departments and Colin Buchanan as a draft submission document in mid January 2010, ahead of consideration by the Council at the end of the month. We have modelled growth figures according to the spatial distribution of growth from this document and these are elaborated upon in chapter 9 to follow.

2.2.10 Capital costs related to the provision of additional social infrastructure have been obtained as far as possible from the various service providers, and identified any proposal for additional social or community infrastructure investment, including proposals for new services/facilities for which funding has been secured. Examples of report sources used include the *Strategic Outline Case for Development of a New Generation Community Hospital in Grays* by South West Essex NHS (Sept 2008), and *Team Effort*, *A Sports PE and Physical Activity Strategy for Thurrock 2004-07* by Thurrock BC.

2.2.11 Where this has not been possible, indicative costs from a series of sources including the Roger Tym and Partners (RTP) reports '*Costing the infrastructure needs of the south east counties'* (November 2004) and '*The cost and funding of growth in south east England'* (June 2005) were used. The majority of costs provided in the above two reports are from 2004. In the instances where RTP costs were used, the retail price index (RPI) was applied to increase costs to provide what is considered a robust estimate of costs at 2007 prices. It is also worth noting that when calculating the level of investment required for infrastructure, no allowance has been made for the cost of borrowing or the cost of land.

Revenue Costs

2.2.12 The analysis of revenue expenditure by service provider was undertaken by RMJM Consulting Limited on behalf of Colin Buchanan. The methods adopted in determining revenue expenditure ratios vary between different services. Some are based on funding levels set by Government and others are based on current costs to the Council at current service levels. The cost attribution is based on 2007/08 revenue budgets.

2.2.13 The analysis has focussed primarily on key service costs to the Council and then determined the per capita cost of these services by appropriate age or whole population groups. In some cases, the Department for Children, Schools and Families (DCSF) figures have been taken. An overall cost per citizen of the Council's services as set out in the 2007/08 revenue Budget has also been calculated. However, this is a somewhat crude measure as it does not take into account the services used by business and the day time population of Thurrock i.e. people at work or in education. In some cases, there are those who receive services from neighbouring local authorities e.g. education.

2.2.14 Importantly in the allocation of revenue costs for some services, there is a consideration about whether the costs are attributed to facilities or on a capitation basis. Where development increases the use of land or services, these might be represented through additional health, day centre or school, but to these capital costs must also be added the underlying cost of the public service for that individual, dependent on their age or capacity. Hence older people might attend a day centre which needs servicing but they will also need the wider service set which is available from the Council. Attributing costs entirely to local fixed facilities may considerably underestimate the costs of each service.

2.2.15 To project future revenue expenditure to 2021 the current costs for provision within Thurrock were used assuming the same level of service. All figures provided are at 2007 prices. If the Council wishes to increase the level of service, it may be able to achieve this by keeping current budgets the same whilst improving efficiency, or it can allocate increased funding either by changing funding distributions between budgets or by increasing the scale of the overall budget.

2.2.16 The availability of funding to the Council in the coming years suggests that the way funding will be available will be contextualised as follows:

- The public expenditure targets for the SR07 period to 2012 are seen to be tighter than in the previous period from 2000 onwards. However, the Public Service Agreements (PSA) Delivery targets which will be delivering the programme as set out in the pre-Budget report of October 2007 do demonstrate that there will be local initiatives to support investment in:
  - Transport
  - Children
  - Older people
  - Housing growth
  - Sub-regional regeneration
- The new arrangements for regional funding will lead to a new Regional Funding Allocation Round from 2009 which will support infrastructure.
- The Thames Gateway Delivery Plan has a proposed spending programme for 2008-11 which includes £500 million for regeneration and to £100m for local transport improvements (CLG, 2007).

2.2.17 The 2008 Budget confirmed the spending figures set out in the CSR07. Alongside measures to curb fuel poverty and child poverty, the chancellor announced small changes in the enterprise policy which is meant to encourage the growth of SMES. These include:

- A temporary 20 percent increase in the funds available through the Small Firms Loan Guarantee (SFLG).
- Extending eligibility for SFLG to businesses over five years old with growth aspirations.
- Additional support through Enterprise Capital Funds (ECFs).
- A new capital fund, worth £12.5m for female entrepreneurs.

2.2.18 *"Infrastructure procurement: delivering long-term value"* published alongside Budget 2008 sets out the next steps that the Government is taking to secure value for money in its procurement of significant assets and long-term service provision. It recognises the evolving needs of the public sector and changing approaches to complex procurement, many building on experience of the Private Finance Initiative. It outlines a framework for infrastructure procurement designed to drive value for money across the full range of procurement approaches and ensure the effective scrutiny of key projects.

2.2.19 This work should enable the Council to be ready to anticipate these initiatives and to seek further funding from these sources as they emerge during mid 2008-2009. The majority of this funding is for capital investment and many of the new facilities will require maintenance and staffing in order to run them.

3 Social Infrastructure Baseline and Future Needs

This Baseline analysis addresses existing provision of different infrastructure services across Thurrock Borough and where available, makes reference to committed and budgeted new provision over a 15 year timeframe. As stated in the Introduction, this has been a three year process as service providers have progressively aligned their planning horizons with those of the emerging Core Strategy, such that housing and employment growth is one of the bases of identifying future needs alongside assessments of current deficit of provision for the existing population. Chapter 9 takes the results of these analyses and assesses future infrastructure needs against commitments in an exercise to identify overall service trajectories and their resultant deficits or surpluses. Each of the baseline service sector estimates is now dealt with in turn.

3.1 Health

Primary Health Care

Baseline

3.1.1 NHS South West Essex Primary Care Trust (PCT) covers Thurrock and is responsible for commissioning health services including general practitioners (GPs), pharmacists, optometrists, dentists, community and acute facilities.

3.1.2 Thurrock contains 34 GP surgeries and 6 health centres, as set out in Figures 3.1 and 3.2. These facilities are superimposed on the latest estimates of future housing growth throughout the Borough as of January 2010. The current configuration of services has developed historically and is predominantly delivered by small or single handed GP practices. The spatial distribution of surgeries is uneven. Two main clusters exist in central Grays and central Tilbury whereas the lack of provision in West Thurrock and Purfleet reflects their industrial character, even though as Figure 3.1 illustrates, these locations will in future accommodate a number of large future housing sites.

3.1.3 Our work on GP Surgeries has included an assessment carried out by the PCT, of their state of repair and general fitness for purpose as the primary point of access to healthcare. Three classifications of premises have been identified on Figure 3.1., from minor and major upgrades required; and premises deemed not fit for purpose. Tilbury has a high concentration of surgeries needing major upgrades and the two surgeries in West Thurrock and Lakeside are respectively deemed not fit for purpose and in need of major upgrade in the area due to receive the bulk of early years housing growth from 2009 to 2019.

3.1.4 The model of care that the NHS employs sets out a more strategically planned approach as follows:

- Tier 5 – Tertiary care
- Tier 4 – Secondary care services
- Tier 3 – Community hospitals
- Tier 2 – Health centres
- Tier 1 – Local service providers in fit-for-purpose premises
- Tier 0 – Support for self-care through community and voluntary services

3.1.5 The current configuration of SW Essex's property and estate portfolio is not aligned to deliver the five Tier service vision. The PCT has a set of principles for assessing the conditions of GP surgeries. The PCT describe the existing mix of healthcare properties

as mainly not purpose built for clinical provision and in a variable state of repair and function.

3.1.6 The PCT also considers local context in relation to determining future provision. It is acknowledged that a younger, more diverse and deprived population has different and higher demands in relation to health services and contains more "harder to reach" communities. Compared to the rest of SW Essex, Thurrock has a higher proportion of children and young people, with fewer older people, and has greater ethnic diversity. Furthermore, it displays health inequalities, with Grays, Tilbury, Belhus and Ockendon, amongst others, exhibiting lower life expectancy than national averages. Five areas in Thurrock have a deprivation score of quintile 5, which means they are in the 20% most deprived in the country, and therefore represent priority areas for new and improved resources.

3.1.7 Areas of development and regeneration provide the PCT with opportunities to develop health services to respond to future needs and work in partnership with stakeholders. The PCT aims to ensure that future provision responds better to the needs of the population. A Needs Assessment exercise recommended that provision should be more personalised, and designed and delivered to fit with people's lives, providing better access to services, in terms of time (including more flexible opening hours) and location. In considering the model of care, provision will be made more effective through the co-location of GP with community based and secondary healthcare (hospital) services.

3.1.8 The PCT receive a number of annual applications for GP development and improvement grants for existing premises and option appraisals are undertaken to ensure that the most appropriate schemes are selected. As part of the Tier 1 provision, developments currently being managed include GP surgeries in Chafford Hundred, South Ockendon, Stanford le Hope and Tilbury.

Future Needs

3.1.9 In Thurrock there is a requirement for 35 whole time equivalent (WTE) additional GPs by 2014, plus associated staff. This will also help meet existing shortfall and is based upon the local NHS requirement of 1GP per 2,000 residents. Applying this ratio, for the period 2014 to 2021, means that an additional 7 GPs will be required. This provision needs to be carefully planned with local authority partners to ensure that new practices are delivered in appropriate locations at appropriate times.

3.1.10 The PCT aims to develop new health centres in Purfleet, South Ockendon, Corringham, Tilbury and Grays (Darzi Centre). Health centres aim to deliver services in an integrated and multi-disciplinary manner and re-configure the Model of Care, by providing a proportion of Tier 3 and 4 services as well as the traditional locally-based Tier 1 and 2 services. Tier 4 services proposed to be provided may include ultrasound and some out-patients services, social services, specialist assessments, out-of-hours services, diagnostics and minor surgery (excluding Gastroenterology and General Surgery). Such health centres will serve the local and wider community, with 30,000 to 45,000 registered patients. The longer-term vision is to review Tiers 1-3 to further improve provision. The Primary Care Strategy, which is currently being prepared, will identify the preferred location and facilities to be provided in health centres.

3.1.11 Figure 3.2 superimposes existing and future health centres and clinics on the future housing trajectory. As for doctors' surgeries, the absence of existing or planned new facilities in the west of the Borough is contrasts with recent commitments to housing growth in Purfleet, west Thurrock and Lakeside in the next 10 years. Given the current state of most GP surgeries and the need to introduce new generation polyclinics as a more cost effective means of delivering primary healthcare, it is unlikely that this omission

of service provision matching future population growth can be permitted to prevail indefinitely.

3.1.12 In Grays, new provision planned will be developed in the form of the New Generation Community Hospitals (NGCH) and Darzi Centre. The NGCH will follow the new health centre model, providing Tier 1, 2 and 4 services. The Darzi Centre, a 'GP-led equitable access centre', is in the process of being commissioned and is expected to be operational in 2010. It will open from 8am-8pm seven days a week, to both registered and non-registered patients. In Tilbury, a location study is being undertaken, where the options appraisal has identified several potential sites to be assessed. Details of provision are yet to be determined but facilities are expected to be procured incrementally between 2009 and 2013.

3.1.13 The PCT is also engaging the local population in a number of key initiatives and projects including a healthier Tilbury, modern health centres, developing healthcare staff and utilising local pharmacists. These exercises will reach a wider cross-section of the community including hard to reach groups, through a range of public events including public meetings, the internet, road shows, face-to-face surveys and personal visits to hard-to-reach community groups.

Secondary Healthcare

Baseline

3.1.14 Thurrock contains two minor treatment hospitals namely Thurrock and Orsett Hospitals as shown in Figure 3.3. The Thurrock Hospital site is shared between S W Essex PCT which operates a day treatment centre and South Essex Partnership NHS Foundation Trust which provides mental health services on the site. Orsett Hospital is a day hospital providing a range of clinics and minor treatments.

Future Needs

3.1.15 Existing Tier 3 services at Thurrock and Orsett Hospitals have deficiencies that do not allow for cost effective redesign or expansion and are inconveniently sited for public transport links or to cater for future population growth in the west of the Borough. The NGCH in Grays will provide Tier 3 services, including x-ray, ultrasound, endoscopy, minor injuries, primary care assessment and Outpatient facilities.

Dentists

Baseline

3.1.16 Thurrock contains 57 dentists working from 19 dental practices. There are currently 21 GDS contracts held by 30 practitioners. There is one orthodontic practice that holds a PDS contract and is the main NHS Orthodontic provider in the Borough. The PCT has a local access standard, enabling patients to access an NHS dentist within 4 miles (within an urban area) and 8 miles (within a rural area). This target is being met in Thurrock given the limited surface area of the Borough. The PCT has stated that at present 55% of residents have access to an NHS dentist. Furthermore Thurrock has been identified as one of the most under resourced Borough within the PCT area, in terms of dental provision.

3.1.17 The PCT is working closely with providers to ensure that new patients can access services. In conjunction with this, a media campaign has been introduced to inform residents that NHS service provision is available with details of how to find a dentist.

Future Needs

3.1.18 The PCT has confirmed that population growth will lead to demand for an additional 8 dentists by 2026. Early provision of these additional resources will help the PCT achieve the access target of 66% of the population able to access NHS Dental Services by March 2011. In order to improve access, the PCT has increased funding for additional NHS funded dental treatment (technically called Units of Dental Activity (UDAs)). There is no spatial implication resulting from additional UDAs).

ID	PRACTICE
1	Colburn and Partners
2	Masson
3	Shehqadeh
4	Yadava & Partner
5	Joseph
6	Sidana
7	Tressider & Partners
8	Roy
9	Headon and Partners
10	PMS Practice
11	Yasin
12	Abela & Ptnrs
13	Leighton and Partners
14	Bellworthy and Partner
15	Kotecha
16	Dey
17	Kariyawasam
18	Garner & Partners
19	Acorns PMS
20	Abeyewardene & Ptnrs
21	Lake and Partners
22	Khan
23	Pattara
24	Abeyewardene & Ptnrs
25	Khan
26	Lake and Partners
27	Mohile and Partners
29	Mukhopadhyay
30	PMS
30	Ramachandran
32	Saha
33	Sunthralingham
34	PJ Patel
35	Colburn and Partners
36	Deshpande
37	Bansal & Partner
38	BN Patel
39	Shehadeh
40	Bansal & Partner
41	West Horndon Surgery

Drawing Title

DOCTORS SURGERIES

Client

Thurrock Council

Job Title

Infrastructure Prioritisation and Implementation Programme

Newcombe House
45 Notting Hill Gate
London
W11 3PB

T 020 7309 7000
F 020 7309 0906
www.cbuchanan.co.uk

COLIN BUCHANAN

Scale:	N/A
Designed by:	JH
Drawn by:	JH
Ckd/Appd:	HR
1st Issued:	January 2010
Job No:	17162-01-1

Drg No:

FIG 3.1

Drawing Title

HEALTH CENTRES

Client

Thurrock Council

Job Title

Infrastructure Prioritisation and Implementation Programme

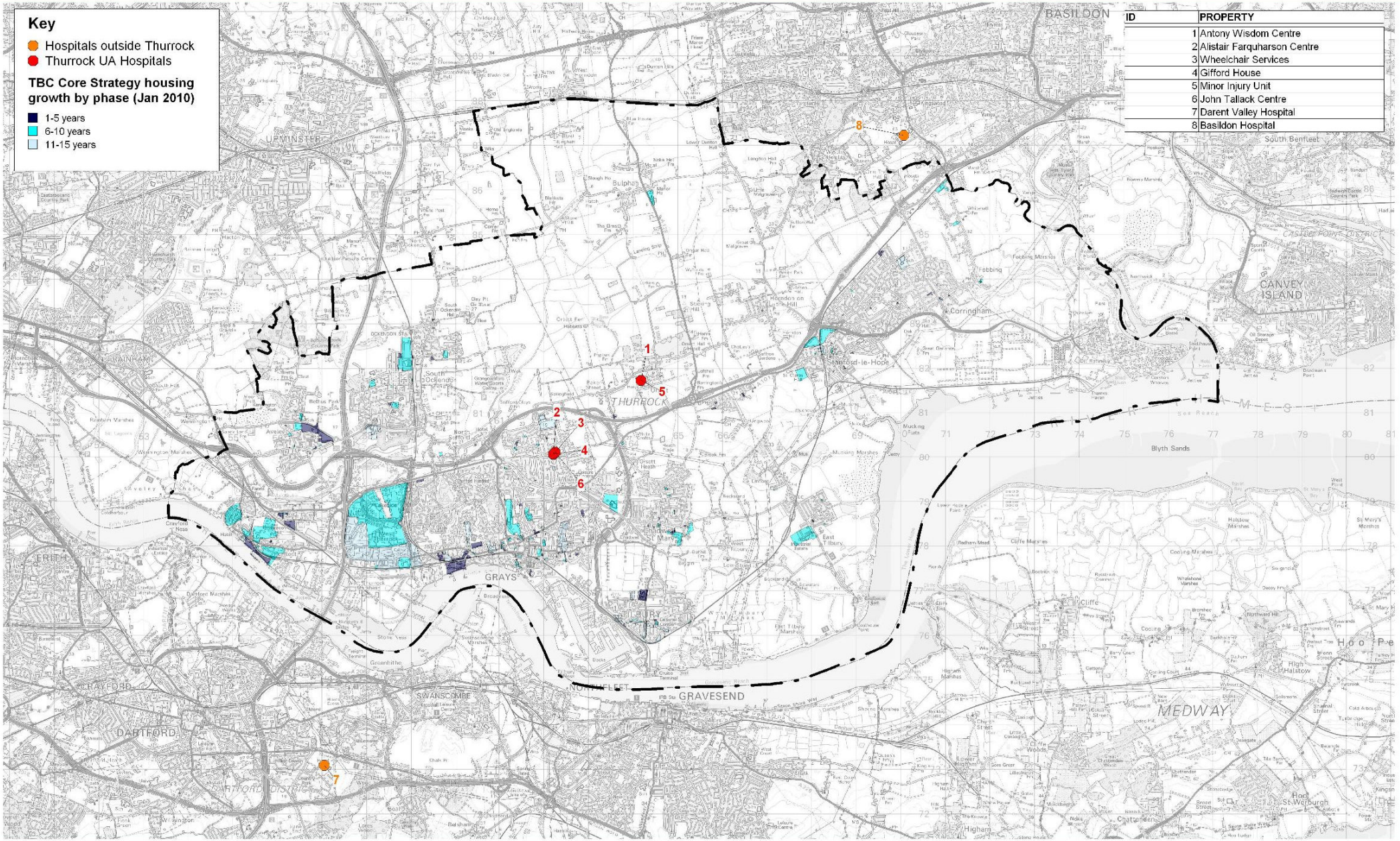
Newcombe House
45 Notting Hill Gate
London
W11 3PB

T 020 7309 7000
F 020 7309 0906
www.cbuchanan.co.uk

COLIN BUCHANAN

Scale:	N/A
Designed by:	JH
Drawn by:	JH
Ckd/Appd:	HR
1st Issued:	January 2010
Job No:	17162-01-1

Drg No: FIG 3.2



Drawing Title

SECONDARY HEALTHCARE

Client

Thurrock Council

Job Title

Infrastructure Prioritisation and Implementation Programme

Newcombe House
45 Notting Hill Gate
London
W11 3PB

T 020 7309 7000
F 020 7309 0906
www.cbuchanan.co.uk

COLIN BUCHANAN

Scale:	N/A
Designed by:	JH
Drawn by:	JH
Ckd/Appd:	HR
1st Issued:	January 2010
Job No:	17162-01-1

Drg No: FIG 3.3

Adult Social Care

Baseline

3.1.19 Adult social care covers services for people with learning difficulties, physical and sensory disabilities, mental health problems and the elderly. Thurrock contains 7 care homes with nursing and 27 care homes (without nursing). Care homes with nursing provided a total of 295 beds, ranging from 8 to 87 beds, all of which are privately provided. In comparison, care homes without nursing provide 336 beds, ranging between 2 to 48 beds, of which 70% are privately provided. These premises are set out in Figure 3.4. The PCT has conducted a survey of the suitability of about a third of these facilities and the results ranging in 4 categories from Poor, through Adequate and Good to Excellent are shown on Figure 3.4. There are no strong locational trends to observe here other than the absence of facilities in the west of the Borough where short and medium term (up to 10 years) future housing growth is destined to occur. Notably none of the care homes was deemed Poor in this survey.

3.1.20 Only three premises are directly owned by the Council, including Collins House, Hathaway Road and the Carers Centre, which provide approximately 10% of total beds. In line with the development of care homes in the rest of the country in recent years, entrants to the market have largely been from the private and not-for-profit sector (including Housing Associations). Over the last few years there has been a relatively large amount of development of new residential and nursing homes reflecting the growing numbers of elderly people in the population, the closure of old long stay hospitals and the growing demands particularly around learning disabilities and people with challenging behaviours. The previous Unitary Development Plan (UDP) published in 1995 stated that there was a deficiency in residential and nursing homes. This is no longer the case though locationally speaking, a focus on the west of the Borough will have to be addressed over the next 10 years to match population growth now planned here.

3.1.21 Four tiers of provision are identified. Tier 1 relates to primary healthcare and other frontline services, of which there is inadequate provision of services. Tier 2 relates to domiciliary care and day services, of which there is adequate provision. Tier 3 covers extra care housing and intermediate care, of which there is a notable under provision. Tier 4 covers residential and nursing homes, of which there is an over provision and bed spaces are available. The largest homes are located at Blue Bell Court in Grays and Grapecroft in Tilbury, each with 80+ beds. Residential and nursing homes is offered in large units and can deliver a range of care, up to a high-level, including caring for people with mental health problems, severe disabilities and dementia. Extra care housing provides moderate to high level care, which is personalised to respond to the needs of individuals. Sites are generally small and might contain as few as 4 beds, and in some cases they might also accommodate a 24-hour warden.

3.1.22 Issues in the sector relate to staffing by qualified and experienced personnel, which is an inherent problem. However, this situation has eased over the last six months due to the current economic climate as employees are remaining in the sector or are returning to it. Major recruitment obstacles relate to attracting specialist skilled staff such as occupational therapists.

3.1.23 The Council will publish an Older People's Strategy by the end of 2009, which will update demand modelling to cover the next 20 years. Existing demand modelling is based on Projecting Older People Population Information system (POPPI). Also, a Government Green Paper is to be published in 2009, will make recommendations with regard to future provision and will also cover funding options for new development. The Green Paper has been subject to a public consultation exercise the results of which will not be available until after this report is finalised.

3.1.24 Similarly to primary care, social care must also respond to changes in population demographics. The upper quartiles of population age profiles, particularly for those aged 80+ years, are increasing in size. In addition, there are more people with physical and learning disabilities as treatments for young people have improved. This is reflected in people requiring care, as approximately 50% are aged 80+ years, 25% are 70 to 80 years and the remaining 25% are 65 to 70 years. As elsewhere in the country, the Council's priority is to assist the very elderly.

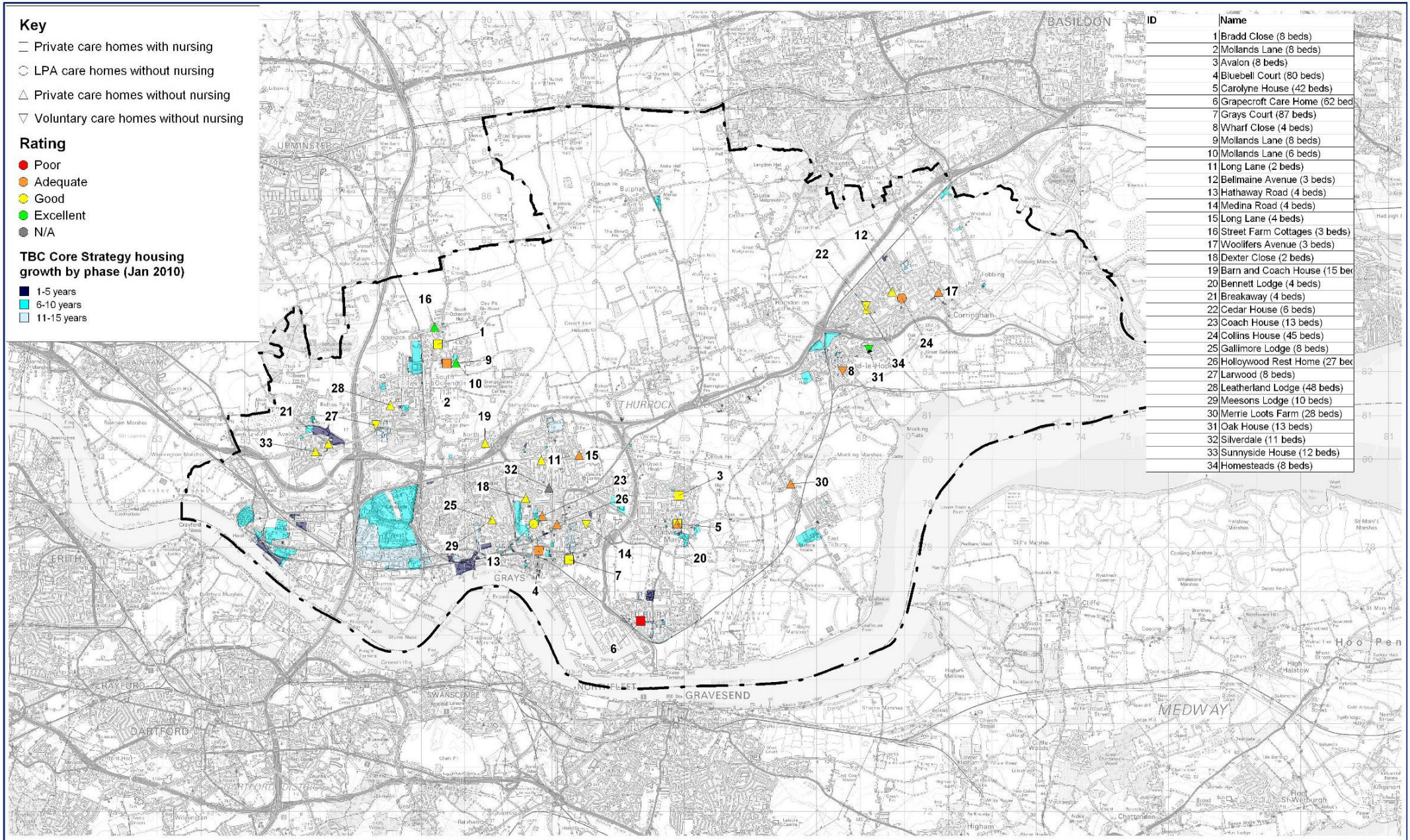
Future Needs

3.1.25 At the national level there is shift away from more traditional institutional care at home, and within residential and nursing homes, to encourage people to promote their own well-being. This approach promotes healthier lifestyles, independence, personal initiatives and more choices to support people in their homes for as long as possible. The aim is to create a more user-focussed service to give people increased freedom to determine how their care is delivered and by whom. Future provision will be delivered by a range of options, for example extra care housing as well as residential and nursing homes.

3.1.26 This approach is reflected through adult social care provision. In relation to helping people get back into employment, tailored approaches for individuals in need are developed to support individuals to get work which suits them, as opposed to traditional one-size-fits-all methods.

3.1.27 As a result, the Council aims to rebalance provision of the four tiers, to reduce the number of people going into care, and requiring beds in residential and nursing homes. In addition, extra care housing is considered to be the preferred option for a growing amount of people, and represents a more flexible solution to residential and nursing homes.

3.1.28 Under the new approach, the first extra care scheme is to be developed at Elizabeth House, in Stifford Clays. The procurement process has recently commenced. The site is owned by the Council and is expected to be developed by a RSL or a private investor. This is the development model which the social care service aims to take forward and apply elsewhere in the Borough. In terms of delivery, this package requires sites to stimulate investment and development. Therefore, an important element of delivery is site availability. This strategic policy drive will require a number of sites to be identified over the next five years, and beyond, to accommodate extra care facilities. To help enable this, the Social Care team is working closely with housing teams in the Council, particularly in relation to potentially enabling the existing over-provision of sheltered accommodation sites to be made available for redevelopment. At this stage it is not possible to state how many sites will be required.



Drawing Title

ADULT SOCIAL CARE

Client

Thurrock Council

Job Title

Thurrock Infrastructure Deficit Study

Newcombe House
45 Notting Hill Gate
London
W11 3PB

T 020 7309 7000
F 020 7309 0906
www.cbuchanan.co.uk

COLIN BUCHANAN

Scale:	N/A
Designed by:	JH
Drawn by:	JH
Ckd/Appd:	HR
1st Issued:	January 2010
Job No:	17162-01-1

Drg No:

FIG 3.4

3.2 Education

Early Years

Baseline

3.2.1 Thurrock has 60 privately operated pre-school / early years facilities including 4 run by the Local Authority, 20 nurseries attached to primary schools and 15 registered child minders. Baseline analysis carried out in 2009 indicates that 2,000 additional nursery age children will be generated by housing growth in Thurrock up to 2021. Pre-schools are shown in Figure 3.5.

Future needs

3.2.2 Using a pre-school facility multiplier of 52 pupils per facility it is estimated that approximately 39 preschool facilities will be required to be developed by 2021 to meet demands of population growth.

3.2.3 With regard to planned future development, there are new nursery places due to open in September 2010 in Stifford Clays with an extension of the current school nursery provision by 26 places. Also, through partnership working with a private provider in East Tilbury a 50 place day nursery is now offered through the Children's Centre.

3.2.4 In terms of delivery, in general, new facilities are not developed as a part of schools as there is not the capital available. The emphasis is on joint working with the private and voluntary sector to attract private investment into the area.

3.2.5 Alongside the demand for additional places the need for flexible nursery provision rather than the traditional 2.5 hours in the morning or afternoon is a requirement for all early years providers from September 2010 when the nursery education entitlement increases from 12.5 hours per week to 15 hours per week, these changes are a part of the DCSF changes to the free early education entitlement. The Council is implementing models for the changes to the flexible offer.

Primary Schools

3.2.6 Information set out below has been extracted from the "*Assessment of demand for and supply of School Places up to 2020*" (Mouchel, April 2008). Without the pupils generated from new housing growth, primary schools would be 10% below capacity and secondary schools would be operating to capacity. Baseline analysis considers the existing capacity and condition of schools. Schools are set out in relation to catchment areas identified by the Council, including Purfleet, Aveley and South Ockendon, Grays and West Thurrock, Tilbury and Chadwell St Mary, Stanford le Hope, Corringham and E Tilbury and the rest of the Borough.

Baseline

3.2.7 Primary schools are set out in Figure 3.6. Aveley is served by Aveley and Kenningtons primary schools. Aveley has a small capacity with 210 places and is forecast to have a deficit of 159 places by 2020. By comparison Kenningtons has capacity for 351 pupils, with a declining roll so is forecast, to have a surplus of 119 places by 2020. Purfleet is served by Purfleet primary school. With a capacity of 420 it is forecast to have 644 on roll by 2020, therefore deficit on current capacity of 224 places. It is in poor condition and is identified to have capacity constraints by 2012, the site is also constrained. Both Aveley and Purfleet schools are identified for refurbishment works.

3.2.8 There are 5 primary schools in South Ockendon, Benyon, Bonnygate, Dilkes, Shaw and Somers Heath. All are currently operating below capacity with the exception of Dilkes Primary. The area had a surplus of 320 places as of October 2009. Building condition issues have been identified at Bonnygate and Somers Heath schools.

3.2.9 Chafford Hundred and Grays are served by 13 primary schools. Cumulatively the schools provide a capacity of 4965 places. Just over half of the schools are currently operating at less than full capacity, providing a capacity head room of 426 places across the area. Chafford Hundred, Warren Primary schools are particularly oversubscribed, accommodating an additional 75 and 58 students respectively. It is known that Stifford Primary has temporary accommodation and requires investment to bring the school up to a suitable standard. Several other schools are identified for refurbishment and expansion, including Chafford Hundred, Stifford, Deneholm, Little Thurrock and Quarry Hill schools.

3.2.10 Chadwell and Tilbury is currently served by 6 nursery and primary schools. All are operating under capacity except for Woodside Primary, resulting in a current surplus in capacity of 536 places. Total capacity is currently 2240 places. No information relating to the quality and condition of the schools is known.

3.2.11 There are 7 additional village based primary schools in Thurrock, 4 of which are faith based. The total combined capacity of the schools is 1939 students. The village schools are small, and currently all except Holy Cross RC Primary and St Marys RC Primary are operating below capacity. There is currently a surplus of 50 places, which is projected to change to a deficit of 21 places by 2020. As longer term pupil growth projections are limited, and the current approach is to federate schools with each other. No information relating to the quality and condition of the schools is known.

Future Needs

3.2.12 The Core Strategy (CSTP12) outlines the future programme for refurbishment, expansion and new schools. In summary, new additional primary schools will be required in Purfleet and South Stifford, with a long-term further primary in Grays. The Schools Strategy underpins this Policy and sets out needs in more detail, as described below.

3.2.13 In Aveley the planned 525 new homes will generate an additional demand for 150 primary school places, contributing to a deficit of approximately 190 places by 2025. The projections suggest that Aveley and Kenningtons Schools will need a combined provision of three forms of entry, up to 2015, with additional pressure from new housing the schools will have to expand to accommodate 350 and 420 children respectively.

3.2.14 In Purfleet housing development will rapidly impact upon the schools capacity, and result in an additional demand of 800 places by 2025. This will require provision for nearly 840 places, four forms of entry with 120 students per year group. A new site has been identified at Botany Quarry for a 3 form entry (fe) school to accommodate 630 students. In addition, Purfleet Primary might be expanded to a 4fe through expansions and/or rebuilding.

3.2.15 Given the current surplus of primary provision in South Ockendon, the current approach is to reduce surplus places. Not withstanding the expected demand for an additional 302 students in the longer term, as a result of housing growth, it is proposed to reorganise schools to ensure that they are strong, effective and capable of expansion to meet the need for 550 additional places by 2015.

3.2.16 Growth in Chafford Hundred and Grays will produce an additional demand for 2106 pupils over the next 10-15 years. By 2015, Chafford Hundred and South Stifford areas are forecast to have a significant deficit of places. The expansion of West Thurrock Primary School to 420 places assists with the overall deficit, but there will still be a need for around 560 additional places. The need to increase the number of places in Chafford

Hundred could be achieved by expanding Chafford Hundred and Warren primary schools to 90 students per year group (an addition of 480 places), giving a total of 9 forms of entry, 1890 places in total. This is still insufficient by 80 places for the predicted numbers in 2015. By 2025 Chafford Hundred will still have a deficit of nearly 180 places. The expansion of Chafford Hundred Primary is dependant on the proposed expansion of Chafford Hundred Secondary School and both rely on the acquisition of a neighbouring site known as the "Walkers Land".

3.2.17 The 637 additional pupils arising from new homes in the South Stifford area cannot be provided for by the expansion of the existing school and this leads to the need for a new school. A site for a new primary school in South Stifford has yet to be identified. The needs of Chafford (180) and South Stifford (758) could be partially met by a new 4fe school on the "Walkers Land", with a capacity of 840 places. By 2025 there would still be a need for an approximate additional 90 places.

3.2.18 New homes in West Thurrock are being provided for by the provision of the newly built West Thurrock Primary School, but this will only have capacity in the short to medium term. In the longer term there will be a need for around 1180 places in West Thurrock leaving a shortfall of 760 places. Consideration will need to be given to the provision of another form of entry at West Thurrock Primary School taking it to 630 places. This will still leave a deficit in West Thurrock of around 550 places which needs to be addressed. In the long term an additional three form entry school (630 places) will be needed to meet surplus demand in South Stifford and West Thurrock. A site on the Lakeside Basin development is identified as desirable.

3.2.19 The North Grays area will see new housing generate demand for 90 pupils leaving a deficit across the area of around 240 places. Deneholm Primary is being considered for expansion to provide capacity.

3.2.20 Significant demand for additional primary provision will be created in East Grays and Little Thurrock, with 517 places required over the next 10-15 years, leaving a deficit of around 500 places. Expansion to 3fe at Little Thurrock Primary is recommended. Additional capacity for primary places could be partially met by the expansion of Quarry Hill Infant and Junior schools. It is recommended that these schools amalgamate on a new site to provide a capacity of 630 places. Grays North and Grays East will have an outstanding shortfall of approximately 300 places, extension of one or more of the schools, or a provision of a new school is to be considered.

3.2.21 The overall deficit of approximately 170 places in Tilbury by 2025 indicates the need for expansion, which could not easily be accommodated within existing schools, as all are currently 3fe. Woodside primary should be expanded, to accommodate 420 students. It is recommended that the school could expand to a capacity of 630 in the longer term. There will be a remaining deficit of 220 places, which could be accommodated within a new primary school which could also serve Woodside, Little Thurrock and East Grays.

3.2.22 The Chadwell area is forecast to have a surplus of approximately 150 primary places by 2020. Taking account of additional demand from new development, the long terms sustainability of two schools in this area is to be reviewed.

3.2.23 Pupil numbers are forecast to remain low across the Stanford le Hope and Corringham area. With falling numbers, a reduction in capacity is recommended in the short term. In the longer term, surplus places will be filled by demand from housing growth. It is recommended that Arthur Buglar infant and junior schools should merge.

3.2.24 The schools strategy has taken account of the westerly bias for future housing growth in the Borough. Paragraph 3.2.18 above addresses future expansion in west Thurrock, but Lakeside is destined to accommodate 4024 new homes mainly over the next 10 years.

Warren and West Thurrock Primary are the only two primary schools in the West Thurrock / Lakeside area with Warren destined to have very limited expansion plans. Paragraph 3.2.14 addresses growth in Purfleet and appears to take adequate note of population expansion envisaged in the town.

Secondary Schools

Baseline

3.2.25 Secondary schools are also set out in Figure 3.6. Purfleet and Aveley are served by Ormiston Park Academy. It is a relatively small school and is currently almost operating to capacity with 636 pupils on roll. Oddly in the context of the growth of housing now planned for Purfleet over the next 10 years, the number of students is forecast to fall by 2015 to 614. However beyond this, it is expected to increase to 921 by 2020, resulting in a deficit of 257 places. The school is in poor condition and is due to be rebuilt on the existing site. This level of commitment to new investment is likely to change as the implications of new housing commitments in Purfleet are fully realised.

3.2.26 South Ockendon is served by Ockendon secondary school, which exceeded its 900 pupil capacity in 2009 by 23 pupils. The forecast for the school is relatively stable, with the number on roll projected to decrease by 51 to 2015, however new development is expected to generate a demand for 162 students by 2025.

3.2.27 Chafford Hundred and Grays are served by 3 secondary schools. Chafford Hundred secondary school, William Edwards School and Sports College and Grays Media and Arts College, with a combined capacity 2978 students. This capacity is expected to be exceeded by 2015, with a projection of 2999 students enrolled at these institutions. The relationship of demand vs. numbers on role is expected to worsen by 2020, with a deficit of 625 places. Chafford Hundred School has recently been constructed and is in good condition; however it has a playing pitch deficiency. Further school expansion will require significant extension of buildings. Grays Media and Arts College and William Edwards are in poor condition and are identified for relocation and / or reconstruction, but alternative sites have not yet been found.

3.2.28 In Chadwell and Tilbury, the Academy Gateway has capacity of 900 places and is forecast to have a deficit of 673 places by 2025, which include demand from new housing.

3.2.29 Stanford and Corringham are served by 3 secondary schools which are projected to have decreasing numbers on roll over the next 15 years. The surplus of school places will be most severe in 2015, with 388 over capacity. This situation will be balanced by demand form new development which will result in demand for an additional 178 students.

Future Needs

3.2.30 The Core Strategy (CSTP12) outlines the future programme for refurbishment, expansion and new schools. Ormiston Park Academy and other schools will be expanded. The Schools Strategy underpins this Policy and sets out needs in more detail, as described below.

3.2.31 For Purfleet and Avelely, the Ormiston Park Academy will be rebuilt under the Academies programme on the existing site. A new 1200-place secondary school is planned to be developed to accommodate 628 forecast from the planned 5,960 homes locally. This school will serve a catchment which includes West Thurrock and the substantial development now committed at Lakeside Basin. The new school will form a community hub, to include a youth centre, library and medical centre.

3.2.32 In South Ockendon the secondary school has sufficient capacity in the short term. By 2025, new development will generate demand for around 160 new pupils; this will require an additional form of entry. To facilitate the school expansion, consideration should be given to the acquisition of adjacent land to the north of the school.

3.2.33 Development at Chafford Hundred and Grays to 2025 will result in a deficit of 1465 school places. All secondary schools will require expansion unless a new school is built but no site has yet been identified. Chafford Hundred School could expand to 1,200+ places, Grays Media and Arts College to 1,200 and William Edwards to 1,800. However, constraints to this level of development exist such as relocation of the primary school at Chafford Hundred, limited scope of the existing site at Grays, and potentially relocated William Edwards to a more accessible location.

3.2.34 The Gateway Academy which serves the Chadwell and Tilbury area, has capacity to increase its admission and expand. The school is increasing in popularity and is likely to require capacity for an additional 600 students by 2025. There are no planned developments at Stanford and Corringham schools, as projected falling roll numbers could be offset by 2025 with demand from 1300 new homes locally. The resulting demand has not yet been determined by the LEA. Similarly, growth at Grays Convent for girls, the only faith secondary school in Thurrock, is not expected.

Post-16

3.2.35 The Core Strategy (CSTP12) outlines future development. In summary the following will be provided:

- Thurrock Learning Campus
- Palmers Sixth Form College
- Additional Sixth Form provision, as Gables Hall, Gateway Academy, Ormiston Academy and Chafford hundred
- Royal Opera House, and
- Logistics Academy.

3.2.36 Future provision is described in more detail below.

3.2.37 Post-16 education is primarily provided by Palmer's College and the newly formed South Essex College. Palmer's College has a single campus in Grays, as shown in Figure 3.7. South Essex College, formerly Thurrock and Basildon College, has a local campus in Grays, as well as teaching facilities within Lakeside Shopping Centre. It also operates other sites across the South Essex area.

3.2.38 Defining capacity for these colleges is complex, particularly as some courses may be fully subscribed, while others are not, and this changes over time. Unlike schools, colleges do not work with 'net capacity' figures.

3.2.39 The ability of the colleges to provide for future educational needs is in part dependent on the local employment sectors, and their education and training requirements. The Colleges have to consider the aspirations employers have for future staff in order to attract students, with relevant courses and opportunities.

Palmers College

3.2.40 Palmer's College is a 6th form college with 'Outstanding' status (Ofsted). It caters mainly for AS and A2 level students and delivers 40% applied/vocational courses from level 1 to level 3. The College offered Diplomas in 'Business Administration and Finance', Creative and Media', and 'Society, Health and Development at level 3 in 2009. The International Baccalaureate (IB) at level 3 was introduced in 2008.

3.2.41 Palmer's College catchment area is not distance restricted. All students from Thurrock are accepted and there has been a recent increase in students coming from Basildon, Rainham and boroughs in east London.

3.2.42 In 2008 Palmers College was operating close to capacity with over 2,000 students enrolled. Future capacity has previously been negotiated with the Learning & Skills Council (LSC), and forecasts estimate that in September 2010 there will be a demand for 2,120 places. As a result, additional spaces are likely to be required. At present, a major capital bid is to be submitted to increase capacity by 200 places. The LSC Is to be abolished in 2010 to be replaced by the Young People's Learning Agency, charged with helping local authorities work coherently together in providing for the 14-19 age bracket, supported by the Skills Funding Agency (SFA) to administer the funding to colleges and training organisations.

3.2.43 The College is developing proposals to submit a planning application, to build a new campus building in Grays town centre. Palmer's College has a further education presumption, whereby the LSC is able to prioritise its bid for 16-19 capital funding from existing successful colleges wishing to expand and deliver the 14-19 offer. These building plans have been included in the Local Development Plan. The new campus, in combination with the future influx of students, staff and visitors to the area, will encourage investment and new business growth. The proposals will be based around faculties specialising in Construction and the Built Environment, ICT, Retail and Creative and Cultural Industries.

South Essex College (formerly Thurrock and Basildon College)

3.2.44 Thurrock and Basildon College has historically specialised in vocational courses for pupils aged 14-19 years, as well as post-19 learners from Entry Level through to Higher Education (HE). It provided specific vocational courses for 14-16 year olds and currently has over 100 learners on HE equivalent programmes. The total number of full and part time enrolled students was 3,400 at Woodview and 1,900 at Nethermayne sites in 2007. The college has been operating close to maximum capacity. To accommodate all learners and maximise workspace, the College is open from 9am to 9pm to encourage study outside traditional hours. Like other post 16 facilities, the College does not have a specific catchment area, and recruits students locally and from wider south Essex.

3.2.45 The Learning and Skills Council (LSC) currently provides funding for 16-18 year old students, which are recruited by the College. There is no set 'net capacity', as with all colleges, and is dependent upon the number of students the institution can attract. Thurrock and Basildon College has been addressing the Mathematics and English skills gap of school leavers by introducing the Vocational Plus Pathway, this has recruited approximately 100 learners per year.

3.2.46 In January 2010 Thurrock and Basildon College merged with South East Essex College, and has formed an institution with over 20,000 students. The newly formed South Essex College intends to create centres of excellence with links to the new National Skills Academies, in sectors key to the future of the local and regional economies. The merger is seen as a means to improving participation amongst young people and adults across Basildon and Thurrock which currently have low rates of participation post -16 and in HE.

The new College plans to take forward redevelopment projects in Basildon and Thurrock, the details of which are not currently known.

Thurrock Learning Campus

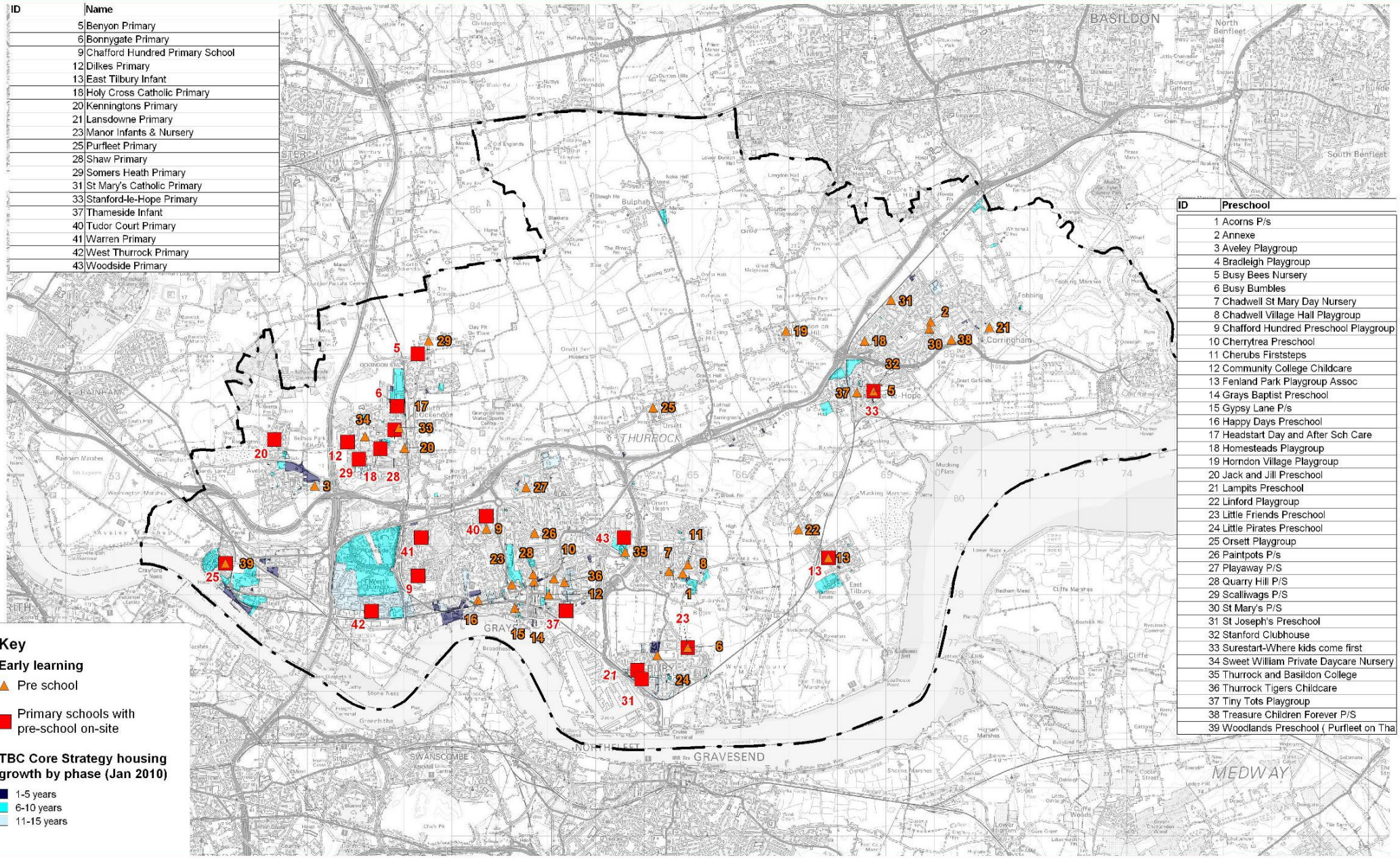
3.2.47 The current low level of participation in post 16 education and attainment in Thurrock, prompted the LSC to generate additional learning opportunities. Since 2009, additional post-16 provision has been provided by the Thurrock Consortium at the interim facility on the Thurrock Learning Campus. South Essex College now leads the Thurrock Consortium, in partnership with Barking College, Palmer's College, Life Skills Solutions and the National Construction College.

3.2.48 Thurrock Learning Campus is planned to be built on a site in Grays Town Centre to incorporate the existing college campus at Richmond Road as well as the existing adult education centre also in Richmond Road. It is expected to open in 2011/12 and will cover 30,000sqm of workspace. It will also feature a public piazza with café kiosk and outdoor seating and a wider range of facilities. The central location will increase accessibility and is intended to increase demand and participation.

3.2.49 The campus will provide FE, HE, and work-based learning, opportunities for adults. It will play a key role in increasing opportunities for the local community to gain skills and knowledge needed to access high quality and better paid employment.

3.2.50 Thurrock Learning Campus is estimated to cost between £90m to £104m. Service providers believe that the number of private training providers in Thurrock is likely to grow and this will provide a broader work-based learning offer. Post-16 education includes apprenticeship opportunities, which are provided by the private sector in Thurrock, including SEETEC and the Nova Partnership (15 partners in total with the contract administered by South Essex College). The Nova Partnership operates a shared facility in Grays Town Centre.

3.2.51 Furthermore, two other developments will contribute towards Post 16 facilities. Firstly, a Royal Opera House development, together with the National Academy for Creative Arts is planned to come forward in Purfleet. Secondly, The Logistics Academy at London Gateway, Stanford-le-Hope/Corringham.



ID	Name
5	Benyon Primary
6	Bonnygate Primary
9	Chafford Hundred Primary School
12	Dilkes Primary
13	East Tilbury Infant
18	Holy Cross Catholic Primary
20	Kenningtons Primary
21	Lansdowne Primary
23	Manor Infants & Nursery
25	Purfleet Primary
28	Shaw Primary
29	Somers Heath Primary
31	St Mary's Catholic Primary
33	Stanford-le-Hope Primary
37	Thameside Infant
40	Tudor Court Primary
41	Warren Primary
42	West Thurrock Primary
43	Woodside Primary

ID	Preschool
1	Acorns P/s
2	Annexe
3	Aveley Playgroup
4	Bradleigh Playgroup
5	Busy Bees Nursery
6	Busy Bumbles
7	Chadwell St Mary Day Nursery
8	Chadwell Village Hall Playgroup
9	Chafford Hundred Preschool Playgroup
10	Cherrytrea Preschool
11	Cherubs Firststeps
12	Community College Childcare
13	Fenland Park Playgroup Assoc
14	Grays Baptist Preschool
15	Gypsy Lane P/s
16	Happy Days Preschool
17	Headstart Day and After Sch Care
18	Homesteads Playgroup
19	Horndon Village Playgroup
20	Jack and Jill Preschool
21	Lampits Preschool
22	Linford Playgroup
23	Little Friends Preschool
24	Little Pirates Preschool
25	Orsett Playgroup
26	Paintpots P/s
27	Playaway P/S
28	Quarry Hill P/S
29	Scalliwags P/S
30	St Mary's P/S
31	St Joseph's Preschool
32	Stanford Clubhouse
33	Surestart-Where kids come first
34	Sweet William Private Daycare Nursery
35	Thurrock and Basildon College
36	Thurrock Tigers Childcare
37	Tiny Tots Playgroup
38	Treasure Children Forever P/S
39	Woodlands Preschool (Purfleet on Tha

Drawing Title

PRE-SCHOOLS

Client

Thurrock Council

Job Title

Thurrock Infrastructure Prioritisation and Implementation Programme

Newcombe House
45 Notting Hill Gate
London
W11 3PB

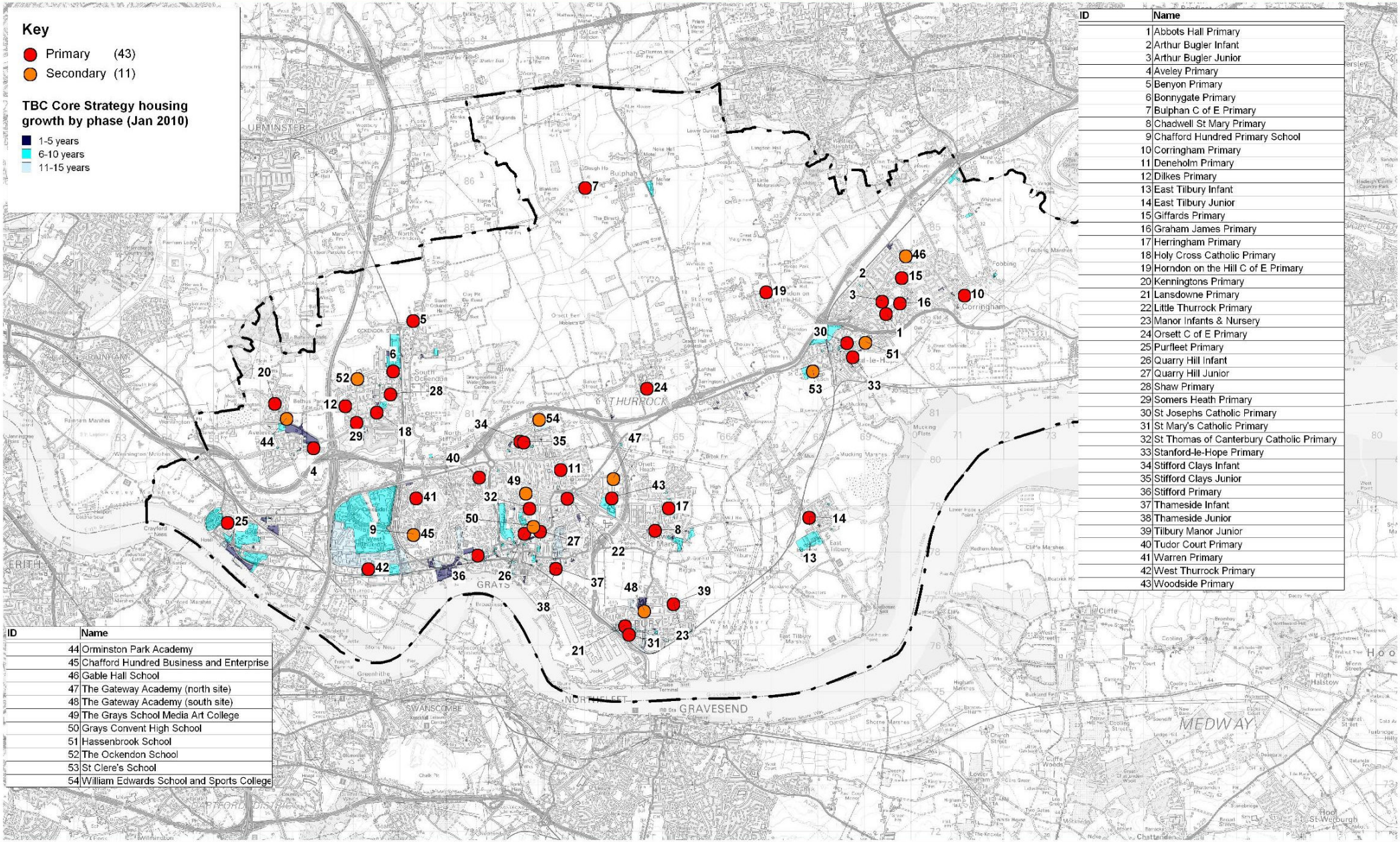
T 020 7309 7000
F 020 7309 0906
www.cbuchanan.co.uk

COLIN BUCHANAN

Scale:	N/A
Designed by:	JH
Drawn by:	JH
Ckd/Appd:	HR
1st Issued:	January 2010
Job No:	17162-01-1

Drg No:

FIG 3.5



ID	Name
1	Abbots Hall Primary
2	Arthur Bugler Infant
3	Arthur Bugler Junior
4	Aveley Primary
5	Benyon Primary
6	Bonnygate Primary
7	Bulphan C of E Primary
8	Chadwell St Mary Primary
9	Chafford Hundred Primary School
10	Corringham Primary
11	Deneholm Primary
12	Dilkes Primary
13	East Tilbury Infant
14	East Tilbury Junior
15	Giffards Primary
16	Graham James Primary
17	Herringham Primary
18	Holy Cross Catholic Primary
19	Horndon on the Hill C of E Primary
20	Kenningtons Primary
21	Lansdowne Primary
22	Little Thurrock Primary
23	Manor Infants & Nursery
24	Orsett C of E Primary
25	Purfleet Primary
26	Quarry Hill Infant
27	Quarry Hill Junior
28	Shaw Primary
29	Somers Heath Primary
30	St Josephs Catholic Primary
31	St Mary's Catholic Primary
32	St Thomas of Canterbury Catholic Primary
33	Stanford-le-Hope Primary
34	Stifford Clays Infant
35	Stifford Clays Junior
36	Stifford Primary
37	Thameside Infant
38	Thameside Junior
39	Tilbury Manor Junior
40	Tudor Court Primary
41	Warren Primary
42	West Thurrock Primary
43	Woodside Primary

ID	Name
44	Orminston Park Academy
45	Chafford Hundred Business and Enterprise
46	Gable Hall School
47	The Gateway Academy (north site)
48	The Gateway Academy (south site)
49	The Grays School Media Art College
50	Grays Convent High School
51	Hassenbrook School
52	The Ockendon School
53	St Clere's School
54	William Edwards School and Sports College

Drawing Title

PRIMARY AND SECONDARY SCHOOLS

Client

Thurrock Council

Job Title

Infrastructure Prioritisation and Implementation Programme

Newcombe House
45 Notting Hill Gate
London
W11 3PB

T 020 7309 7000
F 020 7309 0906
www.cbuchanan.co.uk

COLIN BUCHANAN

Scale:	N/A
Designed by:	JH
Drawn by:	JH
Ckd/Appd:	JH
1st Issued:	January 2010
Job No:	17162-01-1

Drg No:

FIG 3.6

Drawing Title

POST 16 EDUCATION FACILITIES

Client

Thurrock Council

Job Title

Infrastructure Prioritisation and Implementation Programme

Newcombe House
45 Notting Hill Gate
London
W11 3PB

T 020 7309 7000
F 020 7309 0906
www.cbuchanan.co.uk

COLIN BUCHANAN

Scale:	N/A
Designed by:	JH
Drawn by:	JH
Ckd/Appd:	HR
1st Issued:	January 2010
Job No:	17162-01-1

Drg No:

FIG 3.7

3.3 Community Facilities

Community Centres

Baseline

3.3.1 Thurrock has 32 community halls, as set out in Figure 3.8. The Council own and maintain over half of the premises, and they are managed by local voluntary committees. Other facilities are also leased to groups that have been granted the rights to use the premises to provide defined services including private clubs and groups.

3.3.2 A survey by United Utilities Property Solutions (UUPS) in 2007 assessed the condition of the 18 Council owned centres. Overall, three were graded as being in 'Poor' condition; nine were scored as 'Fair' and five were graded as being in 'Good' condition.

3.3.3 The capacity of centres ranges from 70-300, with the average approximately 100-120. The space in most centres is fully utilised. There is a strong feeling of supporting local needs demonstrated by provision of reduced rates and priority time slots, prioritising disabled and elderly users and fundraising activities to keep the halls open.

3.3.4 During 2007, Colin Buchanan conducted a telephone survey of persons responsible for bookings at a range of community centres. It was concluded that a number of centres were operating under capacity with free time slots during the week. The only time that over booking occurs is on Saturday nights, which run on a first-come-first-serve basis.

3.3.5 The service provider confirmed the main reason for under capacity operations related to a decrease in utilisation by pre-school nursery groups which have moved to school sites or new purpose-built facilities. Another reason for this trend relates to availability of necessary facilities and equipment such as a sufficient supply of portable tables and chairs or specialist sports apparatus.

3.3.6 Most centres have managed to find alternative users, and during the mid-2009 update it is understood that centres are virtually operating at capacity. At least once a month the Council receive a request from a potential hirer, whose needs cannot be accommodated in any of the existing centres. Community centres are well advertised in the local press and the majority of premises now work together regarding bookings under the Thurrock Federation of Village Halls (TFVH). Currently, there are only occasionally vacant slots in a minority of centres.

Future Needs

3.3.7 A refurbishment programme is underway, since 2007, and is expected to rectify existing deficiencies in facilities. By June 2009 this programme was about 40% complete.

3.3.8 Aveley Public Hall, Cowdray Hall Community Centre and East Tilbury Village Hall scored 'Poor' and have been prioritised for repair and improvement over the next three years. The Council commented that Cabinet has approved a scheme to bring all existing centres (other than ones at Aveley, East Tilbury and Long Lane) up to at least good condition. This scheme will be financed by the Prudential Code of borrowing. Aveley is expected to be relocated to a new site as part of the Inter-generational Centre, a multi-functional facility, which is included in the TTGDC's masterplan for Aveley. East Tilbury requires £200,000+ to bring it up to good condition. Such a sum cannot be found from the capital generated by the current proposed Prudential Code scheme. The Council has actioned emergency repairs, including the replacement of the floor, so that the hall can remain in use. However it is likely that only external funding will bring about the necessary refurbishment and modernisation. Long Lane will be demolished as part of the

development of the "greater" Elizabeth House site. The new development will include community provision.

3.3.9 The Council does not intend to build new stand alone halls. Instead multi-functional centres will be built alongside new planned housing and be funded through developer contributions. For example, specifications for a community centre are set out in the masterplan for Purfleet which is being prepared by the Development Corporation. Multifunctional buildings are also more flexible as spaces can be adjusted according to user needs, to accommodate a number of different key services such as local councillors' office hours and doctors' surgeries. The average cost of new build cannot be estimated as this is dependent on the size of premises yet to be agreed.

3.3.10 The Council indicate that single use facilities are not financially sustainable in the medium to long term. In spite of this it is acknowledged that most of the existing single use facilities are currently financially viable and will continue to be so for at least the next 10-15 years.

3.3.11 In addition to the proposed refurbishment programme, and given the scale of expected growth, it is expected that new centres will be required. Previous Colin Buchanan studies have applied a standard of one community hall (1,750 sqm) per 7,000 population. Using this ratio, approximately 6 new community halls totalling some 11,300 sqm will be required to meet population growth.

Libraries

Baseline

3.3.12 Thurrock contains 10 libraries, as set out alongside community facilities in Figure 3.8. Thurrock's Cultural and Leisure Services Department states that conditions vary and there are limitations on expanding provision due to the size of buildings, budget and staffing constraints.

3.3.13 Excluding West Thurrock, libraries are evenly distributed and serve the majority of built-up population areas. However, the service provider comments that Aveley or Blackshots are not optimally located and, dependent on the regeneration of Tilbury town centre, facilities might be best located elsewhere.

3.3.14 Libraries are increasingly utilised for wider community events such as meeting spaces for community forums, councillors' surgeries and various advisory services as well as places where community events can be advertised. Also, importantly, libraries provide free internet access. As a result, the number of visitors to Thurrock libraries has increased significantly in recent years. Two years ago, for the first time, visitor targets satisfied the Visitor Figures Public Library Standards. Thurrock Library Service is one of only three library services in the country that matches all ten Public Library Standards.

3.3.15 In addition, the Council offers a Mobile Library Service which visits outlying areas of the Borough not served by a local library. The old mobile unit was in poor condition and a brand new vehicle was operating in January 2009.

3.3.16 The Council is currently exploring the opportunity to set a tariff for community and cultural facilities. This should work along the lines of that proposed by the South East Museum, Library and Archive Council which requires developers to pay an average of £90 per person, per residential development at 2005 prices. However, the department will press for a % contribution per residential development rather than a fixed sum per person.

Future Needs

3.3.17 Generally, library maintenance is provided on an ad-hoc basis when required. The Asset Management Programme (AMP), published in 2007 commented that Chadwell Information Centre is the facility in most need of maintenance. A Big Lottery bid worth £1.5 million supporting its demolition and rebuilding was recently submitted but was unsuccessful. Following this, a group of officers proposed an alternative funding package to resurrect the project. The ambition is to build a new multi-functional community facility on the site of the existing library. The Council and its partners have agreed to fund a feasibility study for this project, which is scheduled for completion by the end of 2009.

3.3.18 A bid for the East Tilbury Library was submitted in 2007 and received funding from the East of England Development Agency (EEDA). The refurbished and modernised library and reminiscence centre at East Tilbury re-opened in November 2007. The AMP also commented that Belhus and Corringham Libraries were not in good condition. Refurbishment of Corringham library was completed in May 2009.

3.3.19 Bids have also been submitted to the TTGDC regarding the modernisation and refurbishment of Belhus, Stanford and Blackshots libraries. Stanford-le-Hope Library obtained £35,000 for renewal works last year. Capital investments for a library in Aveley are currently being considered as part of the master planning exercises carried out on behalf of the TTGDC. The Purfleet area is also a likely candidate for the opening of a new library in view of the bias for early years housing growth in west Thurrock. This is likely to be located in High House Farm, Purfleet as part of the Royal Opera House Production Campus/National Skills Academy scheme. There were discussions regarding an unstaffed library facility at the newly built St. Clements Church Hall and Community Centre in West Thurrock, but nothing materialised. Therefore, the service provider believes there is still a need for some kind of library provision in West Thurrock.

3.3.20 Similar to community centres, the future provision of libraries needs to be considered in the context of dual or multifunctional uses. The service provider commented that an increase in population at a specific location may necessitate new facilities whereas the same number of houses in another location area may not. Where required, the expansion or modernisation of existing facilities will be considered. In political terms, the relocation of community services, including libraries is often a sensitive issue. Evidence suggests that in recent years the relocation of libraries has been resisted on several occasions.

3.3.21 Previous Colin Buchanan studies have applied standards published by the Museum, Libraries and Archives Councils (MLA) whereby 30.2sqm of library floor space is required per 1,000 population. Therefore, approximately 1,360 sqm of additional library floor space is required.

Faith Groups

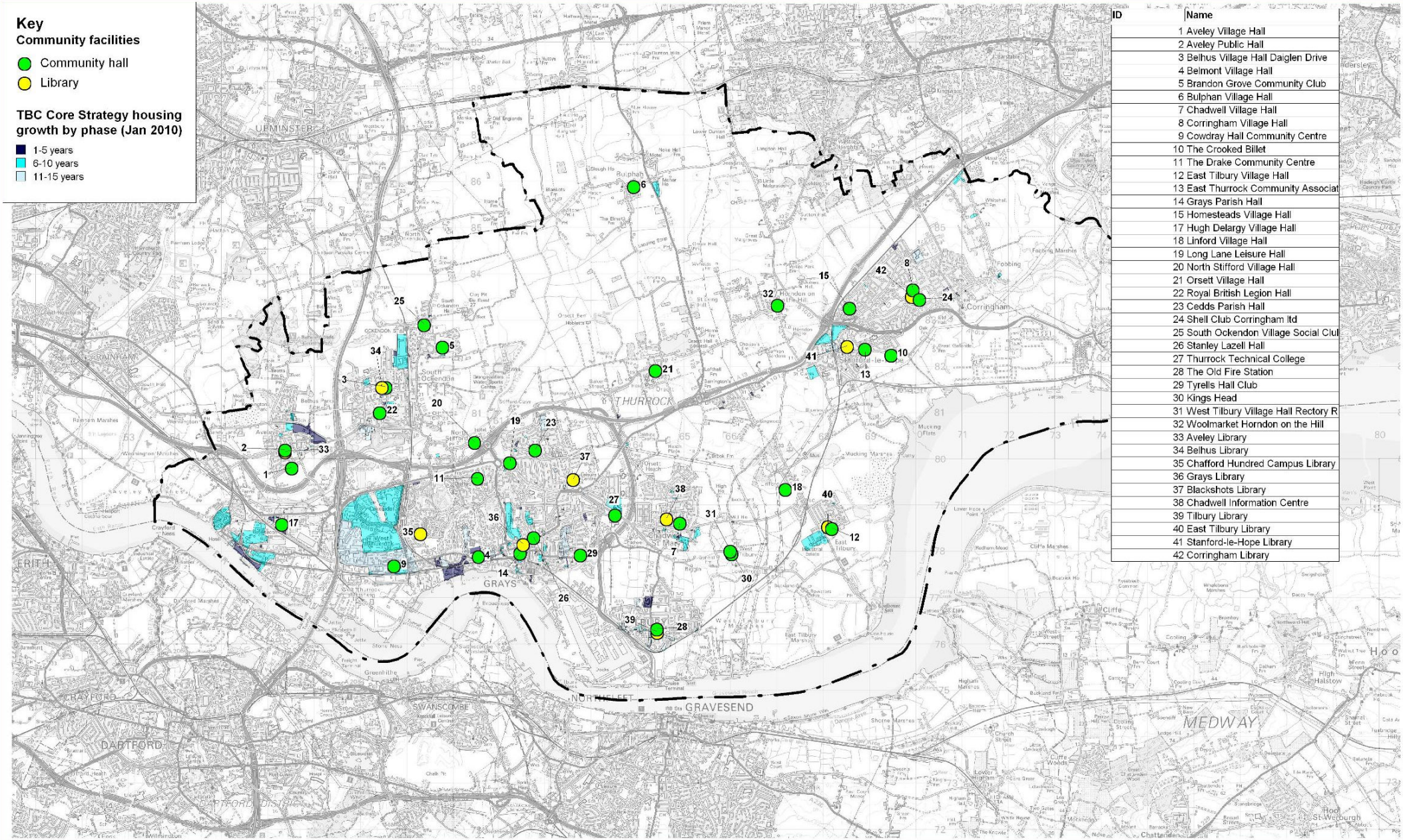
3.3.22 In November 2009, Colin Buchanan prepared an additional study on the premises requirements for faith groups throughout the Borough. Many of these are small scale requirements enabling, subject to their agreement, some degree of multiple use of common accommodation. The conclusions to this report stated that the Council's planning policy should provide clear guidance on the appropriate locations for faith-based activity and key issues to be addressed in any proposals for new facilities arising from new development or a change of use of existing premises. The Core Strategy could usefully provide clear policy criteria for the determination of new, or conversion of existing premises for use by faith groups, particularly in relation to the change of use from employment land, especially where larger scale facilities are being proposed..

3.3.23 Policy could be made more flexible to acknowledge that the release of employment land could serve community needs as well as Council needs. Decisions on where such changes of use could occur should consider the Employment Land Review and be in consultation with those faith groups interested in large spaces.

3.3.24 With a need to provide four new sites as part of the development of major housing schemes (through the application of the Three Dragons standards) and 38 new premises identified through direct consultation with faith groups. It should be noted that the 38 “new” premises does not mean that 38 separate facilities are required. At least some of the requirement for premises can be met through shared use of existing facilities or extensions to existing. Thurrock Council will need to work with a number of groups who are willing to share facilities. Some groups are well established within their local communities but others are more able to locate anywhere where there are suitable premises.

3.3.25 Exploring future needs for faith groups should be undertaken in parallel with assessing the wider needs of the community and new buildings can be designed to accommodate these needs. Increased co-ordination with the extended schools programme, together with use of libraries, community halls and theatres could also help to deliver space for a range of faith-based uses. This will result in the potential for a more efficient use of land.

3.3.26 For smaller faith groups, who often cannot afford premises on the open market, the possibility of using sites such as these should be investigated. The possibility for using school facilities should be explored further with the Education Department.



ID	Name
1	Aveley Village Hall
2	Aveley Public Hall
3	Belhus Village Hall Daiglen Drive
4	Belmont Village Hall
5	Brandon Grove Community Club
6	Bulphan Village Hall
7	Chadwell Village Hall
8	Corringham Village Hall
9	Cowdray Hall Community Centre
10	The Crooked Billet
11	The Drake Community Centre
12	East Tilbury Village Hall
13	East Thurrock Community Associat
14	Grays Parish Hall
15	Homesteads Village Hall
17	Hugh Delargy Village Hall
18	Linford Village Hall
19	Long Lane Leisure Hall
20	North Stifford Village Hall
21	Orsett Village Hall
22	Royal British Legion Hall
23	Cedds Parish Hall
24	Shell Club Corringham ltd
25	South Ockendon Village Social Clul
26	Stanley Lazell Hall
27	Thurrock Technical College
28	The Old Fire Station
29	Tyrells Hall Club
30	Kings Head
31	West Tilbury Village Hall Rectory R
32	Woolmarket Horndon on the Hill
33	Aveley Library
34	Belhus Library
35	Chafford Hundred Campus Library
36	Grays Library
37	Blackshots Library
38	Chadwell Information Centre
39	Tilbury Library
40	East Tilbury Library
41	Stanford-le-Hope Library
42	Corringham Library

Drawing Title

COMMUNITY FACILITIES

Client

Thurrock Council

Job Title

Infrastructure Prioritisation and Implementation Programme

Newcombe House
45 Notting Hill Gate
London
W11 3PB

T 020 7309 7000
F 020 7309 0906
www.cbuchanan.co.uk

COLIN BUCHANAN

Scale:	N/A
Designed by:	JH
Drawn by:	JH
Ckd/Appd:	HR
1st Issued:	January 2010
Job No:	17162-01-1

Drg No:

FIG 3.8

3.4 Green Infrastructure and Sport and Leisure

Green Infrastructure

Baseline

3.4.1 The Green Infrastructure (GI) Planning Guide defines GI as "the physical environment within and between our cities, towns and villages. It is a network of multi-functional open spaces, including formal parks, gardens, woodlands, green corridors, waterways, street trees and open countryside. It comprises all environmental resources, and thus a green infrastructure approach also contributes towards sustainable resource management".

3.4.2 Much of Thurrock is currently deficient in various types of open space. There are also barriers limiting access to existing open spaces, and severing of parts of Thurrock from the rest of the Borough. The Green Infrastructure Framework Plan (GIFP), Open Spaces Strategy and Greengrid Strategy collectively provide the evidence base for green infrastructure in Thurrock.

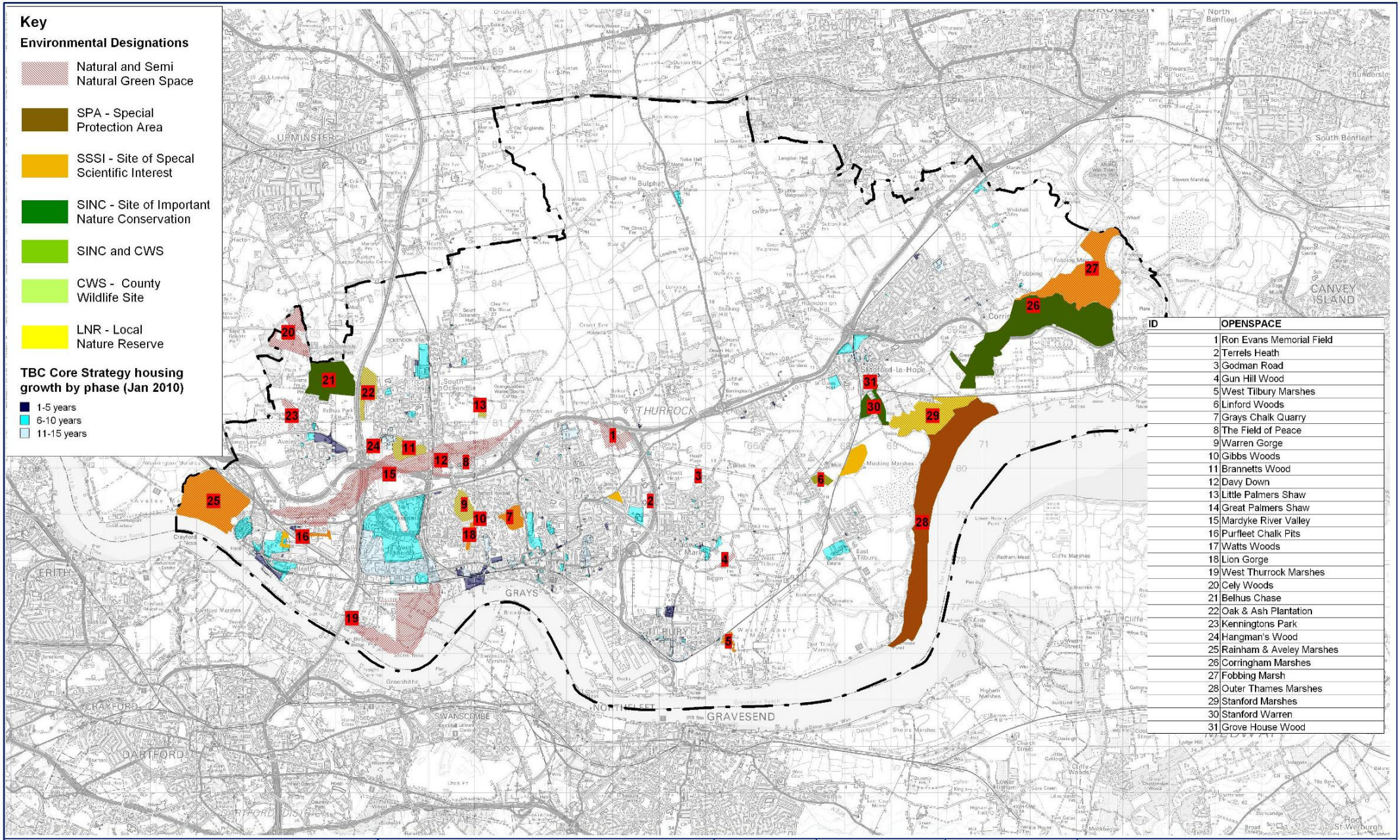
3.4.3 The Greengrid concept was introduced in the mid 1990s as a means of enhancing accessibility and quality of the network of green spaces making up the Thames Gateway environmental infrastructure. It was originally introduced by central government in RPG 9a, the Regional Planning Guidance for the Thames Gateway, and was further developed in Greening the Gateway (ODPM, 2005).

3.4.4 The new approach to defining open space places emphasis on multi-functional spaces which offer the potential to deliver a range of objectives, particularly in relation to: accessibility, protection and enhancement, biodiversity, healthy lifestyles, sustainable development and local energy production.

3.4.5 Thurrock Green Grid Strategy 2006-2011 provides the basis for developing GI in the Borough, and is supported by both national and local policy. This work is supported by the South Essex Parklands vision, whereby two projects, including Wildspace Thurrock and The Thurrock Riverside, are currently being developed in the Borough. Existing environmental designations and parks and garden are set out in Figures 3.9 and 3.10. The baseline conditions for relevant elements of green infrastructure are identified below:

3.4.6 **Parks and Gardens** - There are 28 parks and gardens in Thurrock that cover 62.12 hectares. Half of the sites surveyed scored poorly for quality and are identified for improvement, in the Open Space Strategy.

3.4.7 **Natural / Semi-natural Green space (Greengrid)** – Most of the Borough is deficient in natural and semi-natural green space. However, there are a number of nationally important sites within Thurrock. Many of the key biodiversity assets relate to the water environment, including the internationally designated Mucking Flats SPA and RAMSAR site. There are extensive wildlife assets in the Borough which exist outside of designated sites. Brownfield sites have become one of Thurrock's most species rich habitats and a valuable future resource. The Biodiversity Action Plan identifies priority habitats. The quality scores for semi- quality range from 96% to 42%, as identified in the Open Space Strategy. Only three sites scored under 50%.



ID	OPENSPACE
1	Ron Evans Memorial Field
2	Terrels Heath
3	Godman Road
4	Gun Hill Wood
5	West Tilbury Marshes
6	Linford Woods
7	Grays Chalk Quarry
8	The Field of Peace
9	Warren Gorge
10	Gibbs Woods
11	Brannetts Wood
12	Davy Down
13	Little Palmers Shaw
14	Great Palmers Shaw
15	Mardyke River Valley
16	Purfleet Chalk Pits
17	Watts Woods
18	Lion Gorge
19	West Thurrock Marshes
20	Cely Woods
21	Belhus Chase
22	Oak & Ash Plantation
23	Kenningtons Park
24	Hangman's Wood
25	Rainham & Aveley Marshes
26	Corringham Marshes
27	Fobbing Marsh
28	Outer Thames Marshes
29	Stanford Marshes
30	Stanford Warren
31	Grove House Wood

Drawing Title

ENVIRONMENTAL DESIGNATIONS

Client

Thurrock Council

Job Title

Infrastructure Prioritisation and Implementation Programme

Newcombe House
45 Notting Hill Gate
London
W11 3PB

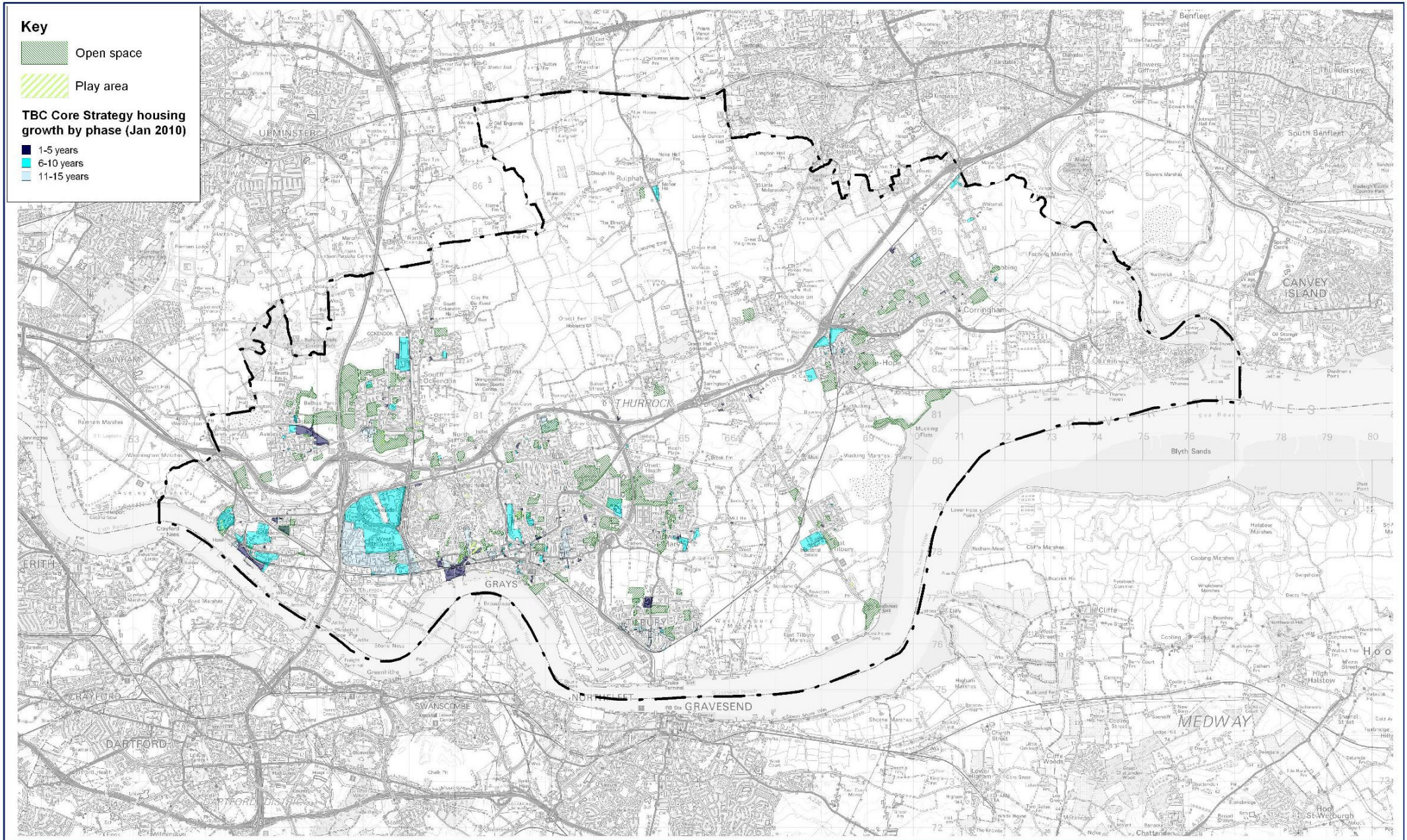
T 020 7309 7000
F 020 7309 0906
www.cbuchanan.co.uk

COLIN BUCHANAN

Scale:	N/A
Designed by:	JH
Drawn by:	JH
Ckd/Appd:	HR
1st Issued:	January 2010
Job No:	17162-01-1

Drg No:

FIG 3.9



Drawing Title

OPEN SPACE AND PARKS

Client

Thurrock Council

Job Title

Infrastructure Prioritisation and Implementation Programme

Newcombe House
45 Notting Hill Gate
London
W11 3PB

T 020 7309 7000
F 020 7309 0906
www.cbuchanan.co.uk

COLIN BUCHANAN

Scale:	N/A
Designed by:	JH
Drawn by:	JH
Ckd/Appd:	HR
1st Issued:	January 2010
Job No:	17162-01-1

Drg No:

FIG 3.10

3.4.8 **Amenity Green Space** – There are 96 identified sites that are 0.3 ha in size and a further 37 that are between 0.2 and 0.3 ha. The quality of amenity greens varies throughout Thurrock. The majority of the lowest scoring sites are in Purfleet, West Thurrock and Chafford Hundred where future growth of housing is focussed over the next 10 years..

3.4.9 **Children's play space -** At present the following levels of children's play space are available in Thurrock: Toddler Play Space – 100 sqm, Small Equipped Play Space – 400sqm, Large Equipped Play Space – 100sqm +. The assessment of quality has identified that sites range in quality from 13% to 82%. Grays Beach and Koala Park are the highest scoring children's play spaces for quality. A number of sites received poor quality results because the equipment was older and did not conform to European standards.

3.4.10 **Access and Public Rights of Way** – Thurrock has a dense network of footpaths, but it has frequently suffered from severance due to transport infrastructure and industrial development. The Greengrid seeks to address this. Thurrock has a network of cycle paths which are identified within national route (NCN 13). Within Grays the network is particularly dense.

Future Needs

3.4.11 An important element of GI is the need to ensure open space is well-connected, with the aim to create a strategic network of spaces. The concept aims to ensure all residents, workers and visitors have good access to these spaces.

3.4.12 The Council would like to see much of the deficiency in strategic and local open spaces overcome through the initiatives identified in the Greengrid Strategy. Currently, an updated strategy for delivering GI in the Borough is being prepared, and this will feed into a related supplementary planning document which is due to be adopted during 2010. Creating the grid, by connecting and integrating existing spaces, represents the main challenge to be overcome.

3.4.13 There are a number of sites within Thurrock which have potential to be enhanced and incorporated within a wider green infrastructure network. In summary, Thurrock aims to deliver eight Greengrid Improvement Zones. These will be located at:

- Aveley and South Ockendon (including Thames Chase)
- Mardyke Valley
- West Thurrock / Chafford Hundred including Lakeside
- Purfleet
- North Grays and Chadwell St Mary
- Grays Riverside / Tilbury
- East Thurrock / Rural Riverside
- Stanford / Corringham / Horndon / Langdon Hills.

3.4.14 In addition, three multifunctional spaces will be developed at:

- East Thurrock Marshes / Mucking Thameside Nature Park
- Project
- Davy Down and Mardyke Valley Project
- Coalhouse Fort Restoration Project

3.4.15 The Council has identified through its evidence base global requirements and strategic priorities for the following:

3.4.16 **Parks and Gardens** - The Open Space Strategy identifies a quantity threshold for parks (0.7 hectares per 1000 people), in addition to quality and accessibility thresholds. Parks and gardens selected for improvement are those that are classified as low quality and high value, and include Hardie Road Park, Spider Field, Elm Road, West Thurrock

Memorial Ground and Woodview Play Area Applying the quantity threshold, 30.1 hectares of new parks and gardens should be provided.

3.4.17 **Natural / Semi-natural Greenspace (Greengrid)** – The Open Space Strategy identifies a quantity threshold for natural / semi-natural green space (2 hectares per 1000 people), in addition to quality and accessibility thresholds. Applying the quantity threshold, 86 hectares of natural / semi-natural greenspace should be provided. Sites have been identified, to be managed as semi-natural greenspace due to their potential to provide informal recreation and biodiversity benefits. Creation of semi-natural greenspace adjoining protected areas is also encouraged to provide a natural buffer between development and protected sites. The GIFP also identifies that, where appropriate physical links should be made with sites to provide ecological corridors for the dispersal of flora and fauna, this will increase the biodiversity potential of the Borough. The Thurrock Biodiversity Study identifies sites which should receive local protection.

3.4.18 **Strategic Multi-functional Greenspace** – These are sites which should be created or enhanced to provide recreation facilities for the Thurrock community and beyond. This includes strategic parks identified in the South Essex Green Grid. Local multi-functional greenspace sites have also been identified. These are previously developed and have potential to provide an open space function.

3.4.19 **Amenity Greenspace** - The Open Space Strategy identifies a quantity threshold for amenity green space (0.8 hectares per 1000 people), in addition to quality thresholds. Therefore, 36 hectares needs to be provided up to 2021. The following opportunities have been identified to address deficiencies in open space provision, as outlined in the Open space Strategy:

- Claudian Way/Brentwood Road - Chadwell St Mary
- Dickens Avenue - Tilbury
- Ruskin Road - Stanford Le Hope
- Gabborns Crescent - Stanford Le Hope

3.4.20 **Children's Play Space** – The Open Space Strategy identifies a quantity threshold for children's play space (1.80 sqm per childbed space). Therefore, 16,200 sqm needs to be provided up to 2021 (based on 9,000 new children). The Council has also established quality and accessibility thresholds for this infrastructure type. The Council has identified the following strategic priorities which require enhancement:

- **Toddler play space -** Purfleet Garrison B, Drake, Douglas, Cruik
- **Small play space -** Garrison Shops, Spider Filed, Aveley Rec
- **Large play space** - Palmerston Gardens, Parker Road, Quince Tree Close, Dilkes, Aluric Close, Tilbury Rec, Linford, Chadwell Rec

3.4.21 **Strategic Green Links** – Additional routes are proposed across the Borough, and represent key routes along both existing and desired footpaths/bridleways. These are considered important to link communities to strategic multi-functional greenspaces and other strategic assets. A network of local green links has also been identified, some of which already exist. These are designed to link open spaces and community infrastructure more locally.

3.4.22 **Access and Public Rights of Way** – To develop enhanced and new networks, which provide safe, attractive continuous routes for pedestrians and cyclists, linking strategic points, communities and green spaces. New bridging points have been broadly proposed to overcome barriers to movement in the Borough.

Sport and Leisure

Baseline

3.4.23 Thurrock contains two sports sites of strategic importance, at Belhus Park and Blackshots Recreation Ground. Provision and issues relating to playing pitches (Playing Pitch Assessment, 2009) and sports halls, swimming pools, synthetic turf pitches (Sport and Active Recreation Strategy, 2007) are set out below.

3.4.24 Thurrock has a wide range of football, rugby and cricket pitches. However, in total, the 2009 Playing Pitch Assessment will identify a deficiency of 21 pitches across the Borough has been identified.

3.4.25 There are 54 sports halls (which are defined as being large enough for at least 2 badminton courts) in Thurrock. The majority are located in and are managed by schools and colleges, with eleven in commercial management. None are owned by the local authority. There are 8 halls available for public pay-and-play use and some halls do not contain the quality of equipment required by users to meet DDA requirements. Activities at a senior level, including netball, basketball and volleyball, require a larger space (three times the size of defined halls). Few sports halls offer such a large space that allows for run off, an official's table and a bench on the side of the court. Also, some leagues require 2 matches to be run simultaneously which require additional space. Access to indoor cricket nets has also been identified.

3.4.26 There are 6 swimming pools in Thurrock. Pools at Blackshots, Belhus Park Golf and Country Club, Corringham and Ockendon School are managed by the local authority. The remaining 2 are in commercial management. There is a current surplus of swimming pool provision. However, when inaccessible pools are discounted, there is a deficit. Furthermore, many community pools are in need of refurbishment and are costly to operate. Therefore the need for a new pool has been identified. Also, Thurrock Swimming Club requires additional pool time for training, during mornings, evenings and weekends as currently the Club makes use of more than one pool to accommodate sessions.

3.4.27 Thurrock has reviewed the provision of Synthetic Turf Pitches and football team generation rates at the request of the FA Regional Facilities Development Manager... There are currently 3 synthetic turf pitches and demand exceeds supply as the Borough generates a very high number of football teams.

3.4.28 There is an athletic synthetic training facility in Thurrock which is located at Blackshots stadium, and there are no indoor athletic training facilities. The track facility was refurbished in 2006.

Future Needs

3.4.29 Assessing the baseline information the following development is required:

- 21 pitches across Thurrock including football, rugby and cricket pitches
- Larger, more equipped sports halls and indoor cricket nets
- A 25 metre swimming pool x 8 lanes
- Synthetic turf pitches at Belhus, Blackshots and potentially a site near Lakeside Shopping Centre.

3.4.30 The Council aims to develop the two strategic sports sites at Belhus Park and Blackshots Recreation Ground. These sites will be transformed into Sport Hubs, as set out in the Core Strategy Preferred Option. Upgrades to these existing facilities are expected to meet all future needs in response to population growth. At present, feasibility, governance and partnership arrangements to be required to implement the Hubs are being explored.

3.5 Flood Defence

Baseline

3.5.1 All of the defences on the Thames Estuary are constructed to a 1:1000 year design standard. The Thames Tidal systems are all rated as being high priority and high risk systems. The Thurrock fluvial systems are mainly also listed as high priority and high risk. Thurrock benefits from two tidal barriers, one at Fobbing and the other at Tilbury Docks, designed to prevent tidal surges from swamping inland defences. The Mar Dyke from Purfleet to Stifford Bridge is built to a 1:1000 year standard and other related watercourses have a defence standard of 1:5 year. Thurrock includes the Tilbury Flood Storage Area, which is provided to store floodwater north of Tilbury during a flood event. Existing flood defences are set out in Figure 3.11.

3.5.2 The Thames Estuary 2100 project (TE2100), led by the Environment Agency, commenced in 2002 and aims to develop a long-term tidal flood risk management plan for London and the Thames Estuary. It is implementing an adaptable long term plan in the context of a changing estuary, in relation to climate, people and property in the floodplain and an underlying essential but ageing flood defence system. TE2100 Flood Risk Management Plan, published for consultation in April 2009, assesses options available to manage flood risk over the short (next 25 years), medium (the following 40 years) and long term (to the end of the century).

3.5.3 Thurrock contains two policy unit areas, identified in the TE2100 Plan, at: i) Purfleet, Grays and Tilbury, and ii) East Tilbury and Mucking Marshes. Purfleet, Grays and Tilbury contain Tilbury Town and parts of Grays and Purfleet urban areas, including two main areas being less than 1m AOD, and some of the developed areas are very vulnerable to flooding. These urban centres also lie within the Thames Gateway regeneration area, which will continue to be a key commercial and industrial centre, with major redevelopment and creation of parks and green corridors. East Tilbury and Mucking Marshes include marshes and designated inter-tidal habitat which run along the frontage parallel to the defences. Part of this area is being used for landfill and gravel extraction and will look very different in the future following re-instatement.

3.5.4 CSTP 27 of the Core Strategy refers to a policy with the Borough working with the Environment Agency and other main stakeholders to ensure that fluvial and surface water flood risk is managed within the Borough wherever possible. This will include supporting other policies identified in the South Essex Catchment Flood Management Plan which has been prepared by the Environment Agency in cooperation with other stakeholders.

Future Needs

3.5.5 A level 2 strategic flood risk assessment (SFRA) for the District has been undertaken and a draft final version has been made available to inform this study. The SFRA considers both the TE2100 project and the South Essex Catchment Flood Management Plan (CFMP). T2100 concludes that the current flood defences provide a much greater degree of protection to predicted water levels than previously thought. This means that many of the existing tidal defences including the Thames Barrier, with continued maintenance and planned improvements, could continue to provide protection to Thames Estuary floodplain areas for the longer term.

3.5.6 The TE2100 project has a number of initiatives that are of relevance to Thurrock, and these are listed below.

Rainham marshes & Mardyke Policy Management Unit

3.5.7 The recommended flood risk management policy is P4: to take further action to sustain the current level of flood risk into the future, responding to the potential increases in risk from urban development, land use change and climate change.

- Management of fluvial flood risk on the marsh drainage system will require outfall improvements, including pumps, and local fluvial flood storage.
- It is suggested that enhancement of the marshes could be carried out in the Aveley valley to improve the capacity and support freshwater and grazing marsh. This could contribute to compensation for losses of freshwater and grazing marsh features elsewhere.

Purfleet, Grays & Tilbury policy management unit

3.5.8 The recommended flood risk management policy is P4: to take further action to sustain the current level of flood risk into the future, responding to the potential increases in risk from urban development, land use change and climate change.

- There is likely to be a limit placed on the number of times the new Tilbury Dock flood gate can be closed because of interference with shipping. A possible mitigation measure would be to raise the quay edges in the dock, though there may be implications for interference with commercial operations.
- As sea levels rise and rainfall increases, upgrading of the drainage systems in Purfleet, West Thurrock and Tilbury will be required. Mitigation measures may include improvements to drainage channels and outfalls, additional pumping capacity, additional flood storage and new or improved local flood defences.

East Tilbury & Mucking Marshes Policy Management Unit

3.5.9 The recommended policy for East Tilbury and Mucking Marshes is P3: to continue with existing or alternative actions to manage flood risk at the current level, accepting that flood risk will increase over time from this baseline.

- Due to the low monetary value of assets in the area covered by this policy unit, it may become difficult to justify the replacement of flood defences when they reach the end of their lives. This situation therefore provides perfect opportunity for localised managed realignment in order to improve habitats in combination with local defences to protect important assets, including East Tilbury.
- New and improved flood defences should be designed so that all defences have continuous public access.
- Mitigation measures for fluvial flood risk include outfall improvement, flood storage and local flood defences.

Shell Haven & Fobbing Marshes Policy Management Unit

3.5.10 The recommended policy for Shell Haven and Fobbing Marshes is P3: to continue with existing or alternative actions to manage flood risk at the current level, accepting that flood risk will increase over time from this baseline.

- Fobbing marshes are designated as part of the proposed South Essex community parklands in the Thames Gateway Parklands vision. As a result, no new development should be permitted in the marsh areas.
- The southern part of the policy unit is likely to remain commercial and industrial for the foreseeable future, and secondary defences are recommended to provide localised protection against rising sea levels to these key sites.
- It is anticipated that the London Gateway port at Shell Haven will include improved flood defences, possibly by raising the new quay level above flood defence level.

- Managed realignment is proposed for Mucking to provide replacement intertidal area and salt marsh in conjunction with the proposed new London Gateway port.
- As sea levels rise and rainfall increases, upgrading of the drainage systems on the Fobbing and Vange marshes are required including improvements to channels and outfalls as the need arises. With these policies in mind, it will become increasingly important to manage flood risk through the careful positioning of development using the sequential approach and thorough emergency planning.

Catchment Management plan

3.5.11 Other than the Thames, there are two water courses that run through the Borough, these are the Mardyke and Stanford Brook. The SECFMP covers both the Stanford Brook and Mardyke and provides the broad policies for the sustainable management of present and future flood risk within Thurrock. A summary of the preferred policy options for the two water courses is presented below:

Stanford Brook

3.5.12 High surrounding topography and the urban character of much of the drainage basin means that the Brook responds rapidly to rainfall. The following actions are suggested to minimise flood risk:

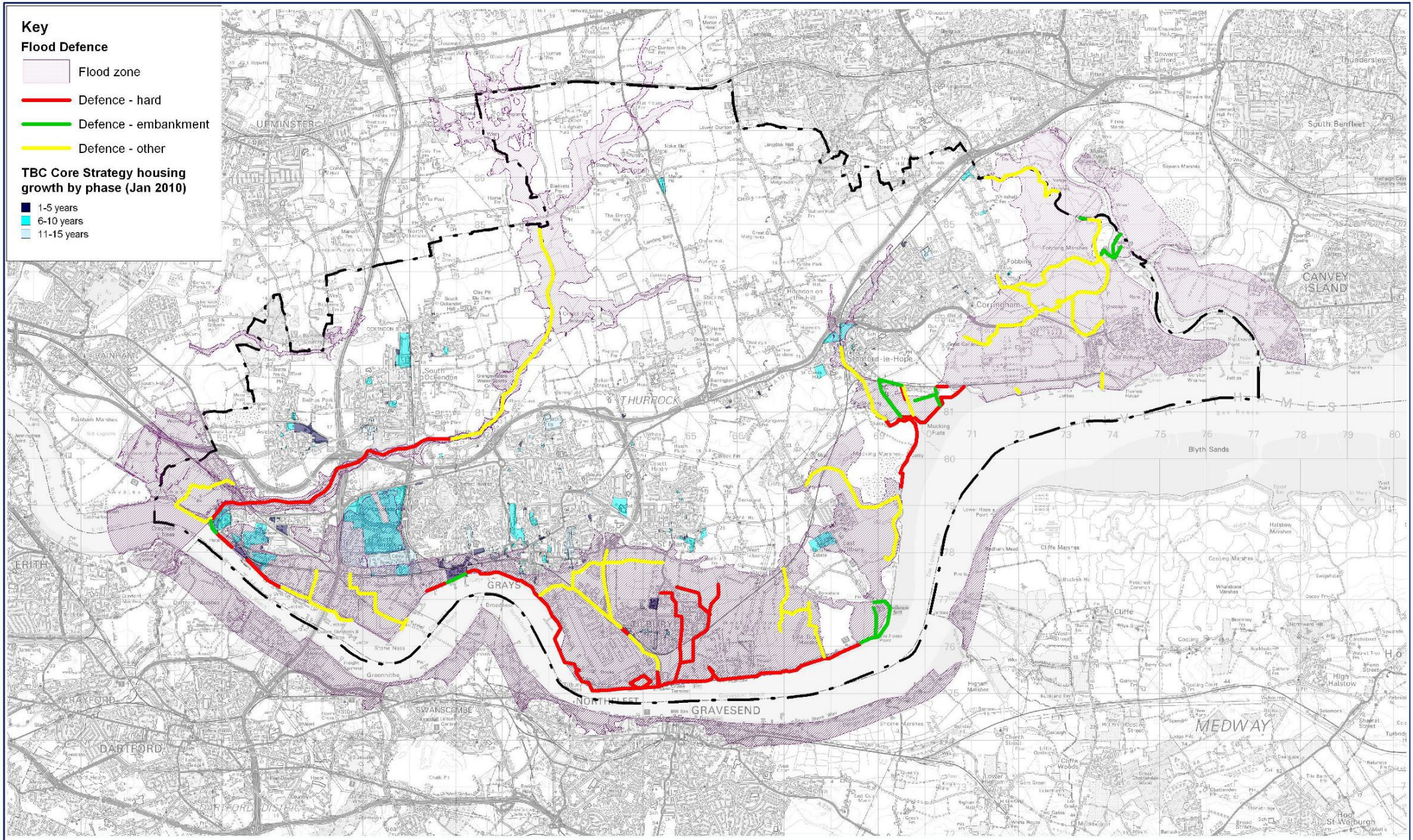
- A new flood defence scheme could be implemented to reduce the number of people and property at risk both now and in the future.
- Increased flood storage and managed runoff in upstream locations such as the upper Mardyke catchment could help to reduce flood risk in Stanford-le-Hope.
- Develop an urban drainage plan for Stanford-le-Hope to investigate the risk from surface water flooding.
- Develop emergency response plans for sites at risk of flooding.
- Investigate the feasibility of creating a flood forecasting and warning system for Stanford-le- Hope.

Mardyke

3.5.13 The predominant land use in the upstream area is agricultural and therefore there is limited flood risk to people or property. Downstream the Mardyke flows through a heavily urbanised area with both residential and industrial uses. The following strategies are suggested to minimise flood risk:

- A flood storage strategy is suggested because creating flood storage will benefit downstream areas of Tilbury, Purfleet and Stanford-le-Hope. Suitable storage options may include the creation of floodplain wetlands or attenuation sites. Alternatively, the floodplain could be naturally restored which would save on expense and potentially deliver environmental benefits.
- No development should be permitted within the floodplain, as this is deemed to be functional floodplain.
- A land management plan is proposed, to explore changes in land use and to develop sustainable land management practices.

3.5.14 Detailed proposals for both tidal and fluvial flooding have yet to be worked up and therefore there are no costs available at the time of writing. Funding for flood prevention measures will come from a combination of the Environment Agency, other stakeholders and developer contributions.



Drawing Title

FLOOD DEFENCE

Client

Thurrock Council

Job Title

Infrastructure Prioritisation and Implementation Programme

Newcombe House
45 Notting Hill Gate
London
W11 3PB

T 020 7309 7000
F 020 7309 0906
www.cbuchanan.co.uk

COLIN BUCHANAN

Scale:	N/A
Designed by:	JH
Drawn by:	JH
Ckd/Appd:	HR
1st Issued:	January 2010
Job No:	17162-01-1

Drg No: FIG 3.11

3.6 Emergency Services

Police

Baseline

3.6.1 Essex Police confirm that Thurrock contains 5 Police Stations, as set out in Figure 3.12. Stations are located in Grays (Divisional HQ), Corringham, South Ockendon, Tilbury and outside the Lakeside shopping district.

3.6.2 In terms of recent development, Grays station has been expanded to provide 5 additional cells to satisfy requirements up to 2021. This work was completed in 2008. The consolidation of Basildon and Thurrock services has allowed the Police to streamline resources, and enable opportunities to recruit new staff, mainly at the PC level, to respond to population changes in relation to increased levels of crime and diversity of the Borough.

Future Needs

3.6.3 Essex Police have launched an initiative (approved by the Association of Chief Police Officer's) to actively engage in the planning system to facilitate community safety. It is envisaged that the entire capital requirement for essential Policing infrastructure to meet the demands of planned growth and maintain an acceptable level of service will need to be met from developer contributions.

3.6.4 The Police intend to facilitate these requirements via a tariff based system for the provision of capital funding through developer contributions under S.106 of the 1990 TCPA for the mitigation of development impacts and the provision of essential policing infrastructure. At this point in time the costs are expressed as £267 per dwelling and £3.20 per non-residential sq m of development in Thurrock and those figures have been provided to ERM & in turn to TTGDC to inform their Developer Contributions SPD. These figures however may be updated based on the revised approach and Essex Police shall approach the Council's Planning Committee accordingly, as soon as these are available.

3.6.5 Incidentally, Essex Police have recently reinvigorated their expression to TTGDC of the need for a new Police Station at Purfleet through advice provided by consultants ERM to inform the Developer Contributions Strategy. This shall remain the stance which the Police wish both Planning Authorities (TTGDC & TBC) to adopt until such time as the emerging tariff system supersedes it.

3.6.6 The nature of planning for the Policing infrastructure requirement is such that it is inappropriate to apply a threshold to developments above which a contribution will be required. Essex police shall therefore propose that any increase in population within a policing area will have an impact on the ability of the Force to deliver an efficient and effective service, and accordingly the Police will require a proportionate contribution from each new unit of accommodation.

3.6.7 The purpose of the methodology is to automate the bid process as far as possible, and ensure transparency and consistency in the approach to calculating contributions, with the objective of increasing accountability, speed and certainty. The tariff based approach will be underpinned by a comprehensive rationale and justification and follows the advice set out in the DCLG Guide to Developer Contributions.

Fire and Rescue

Baseline

3.6.8 Essex Fire Service provides the fire and rescue service in Thurrock. There are 3 Fire and Rescue Service Stations in Thurrock, as set out in Figure 3.12. Grays and Orsett stations are crewed on a 24 hour basis and Corringham is retained as a part-time station where staff are called on when there is an incident. There is spare capacity at all stations as Grays has 5 bays in total and only 4 appliances (fire engines) and Orsett has four bays and two appliances. The Orsett station is also used for training purposes. Therefore, there is capacity to increase the service provision if required.

Future Development

3.6.9 Provision of fire and rescue services is based on the distribution of development and the Service's ability to respond to emergencies within the statutory timeframe. Future provision is determined by increases or decreases in risk. An increase in population impacts upon the level of risk, however there is no direct relationship between increases in population and risk. Critical factors relate to: i) the location of new development in relation to existing fire stations, ii) impact on traffic congestion, which might make existing services inadequate, iii) population characteristics and socio-demographics, such as poverty, education, and unemployment, and, iv) building and construction materials. Cumulatively, these factors change the risk profile of an area.

3.6.10 Essex Fire Service confirm that in response to population growth there will be no reduction in existing services and that resources will be better managed so that the service can operate more effectively and efficiently.

3.6.11 Essex Fire Service intended to publish an Integrated Risk Management Plan (IRMP) in July 2009, due to have been subject to public consultation in September. This Plan will review the management of the existing services over the short to medium term. It is understood that the IRMP will not recommend any changes to the total number of stations and their locations. However expansions might be required. The aim will be to develop the existing portfolio.

3.6.12 In spite of this the Fire Service have expressed a desire to relocate the Grays station, to be closer to Junction 30/31, and are exploring commercial opportunities on the existing site. If this move takes place a new site will need to be identified. However there are no firm plans for this development at present,

Ambulance

Baseline

3.6.13 The Ambulance Service for Thurrock is provided by the East of England Ambulance Service NHS Trust (EEAST). Stations are located in Thurrock and Corringham. There are currently three areas of service provided to the patients of Thurrock: i) The 999 response, ii) The Non Emergency Patient Transport Service response, and iii) The Primary Care response.

3.6.14 The 999 response provides 3 A&E double staffed ambulances operating from the central depot in Grays, of which there are 2 x 24 hour crews and 1 x 16 hour crews. In addition, there are 2 x 24 hour Rapid Response Cars and also a Duty Operational Managers vehicle operating 24 hours a day, 7 days a week. In total, 50 Ambulance Technicians and Paramedics operate these vehicles.

3.6.15 The Ambulance Service provides up to 3 vehicles and 5 staff to take patients into Thurrock Hospital and also provide a further double manned ambulance to take PCT

patients to PCT clinics. Provision for non-emergency patients in the Grays area is delivered through a combination of the EEAST and a private provider (Thames Ambulance), undertaking work on behalf of the Basildon Trust. This service takes Grays patients to Orsett and Thurrock Day units.

3.6.16 Out-of-Hours services (OOH) are provided by EEAST working in partnership with Take Care Now (TCN). The Ambulance Service handles all emergency calls and passes them on to TCN. They provide the Doctors and Emergency Care Practitioners (ECPs) who respond out of hours. The Ambulance Service ECPs do undertake work for TCN and this is agreed by the two organisations. During office hours the ECPs assist in admission avoidance.

3.6.17 Demand for the ambulance service increased in Essex by 100% over a ten year period from 1995-2005. For 2007/8, the rise of demand was at 6%, although lower than predicted, it remained higher than any other part of the East of England. On more occasions than previously experienced, due to the complexity of the calls, the service does not match the level of demand with the resources at its disposal. However, it is acknowledged, and it is common practice that, ambulance crews are routinely dispatched from Corringham, Basildon and Brentwood to respond to emergency calls in Thurrock.

3.6.18 The ambulance service, via the SLA looks to achieve a 75% attendance at all life threatening calls within 8 minutes. This target from April 2008 has changed. Currently, the time taken by any Ambulance Trust to accept the call, take the details and then dispatch a resource (nominally 60-90 seconds) is not included in the target. As from April 1 2008, the second the call is passed to the ambulance Control, the clock is started. In effect, this means the service provider needs to save those 90 seconds. This makes the 8 minute target a true reflection of the patient experience. Within the Thurrock area, the current target is not being achieved owing to the rise in demand.

3.6.19 The current premises used in Thurrock owned by the Trust are in excess of 50 years of age and are cramped. This issue has become increasingly apparent as recently an additional 42 staff have been recruited.

Future Needs

3.6.20 Premises are the major issue to be overcome in considering future needs. EEAST have advised that population growth will create demand for a new ambulance station, fully equipped ambulance and a rapid response vehicle. Therefore a larger depot will be required as the number of staff are expected to increase to match growth in demand. This situation is now acute as additional staff have been recently been recruited. In addition, a new ambulance station is required to enable the service to meet response times targets across the area.

Drawing Title

EMERGENCY SERVICES

Client

Thurrock Council

Job Title

Infrastructure Prioritisation and Implementation Programme

Newcombe House
45 Notting Hill Gate
London
W11 3PB

T 020 7309 7000
F 020 7309 0906
www.cbuchanan.co.uk

COLIN BUCHANAN

Scale:	N/A
Designed by:	JH
Drawn by:	JH
Ckd/Appd:	HR
1st Issued:	January 2010
Job No:	17162-01-1

Drg No:

FIG 3.12

3.7 Waste Management

Baseline

3.7.1 Thurrock Council is the Waste Planning Authority and is responsible for the collection and disposal of municipal waste. This comprises domestic refuse, street litter and waste from recycling centres. The Council also collects commercial waste from its own offices and depots although Thurrock divested itself of the collection of other commercial waste, such as waste produced by shops and offices, in 2003. Waste is collected on a weekly basis from 53,000 properties in a three bin system of 240-litre wheeled bins including glass, cans, plastic bottles, cardboard and paper and compostables. Refuse is collected from flats and maisonettes in large wheeled bins (1,100 litre capacity).

3.7.2 In the period 2008/09 Thurrock collected an overall tonnage of Municipal Waste of 75,633 tonnes. In addition, over the same period, 3,564 tonnes of re-usable construction waste was collected and recycled.

3.7.3 There are two active landfill sites in Thurrock, located at Mucking and at South Ockendon. The site at Mucking has been granted an extension until the incinerator at Belvedere is built. This is expected to be operational in 2012/13. The Mucking site contains waste from London waste, which is delivered by river transport. It contains no waste from Thurrock. The South Ockendon site is expected to reach full capacity between 2012 to 2015. In addition, the Aveley site has recently closed and sites at Pitsea and Rainham (located in bordering local authorities) are utilised by Thurrock for waste disposal.

3.7.4 The Civic Amenity Recycling Centre in Linford is available to residents for the disposal of household waste and recycling. The Borough also has 33 mini-recycling 'Bring Bank' facilities. A second Civic Amenity site was opened in West Thurrock in Autumn 2009.

3.7.5 Due to its proximity to London, Thurrock has a long history of land being used as waste tips. This situation has arisen partly because of the legacy of mineral working and the supply of materials to the construction industry. This has resulted in former quarries viewed as suitable locations for the disposal of household and other waste (TBC, 2003). As a result, of total waste put into Thurrock-based landfill sites, only approximately one percent is directly from generated from Thurrock.

3.7.6 The East of England Regional Assembly (EERA) has apportioned London's exported waste to its constituent Waste Planning Authorities including Thurrock. The apportionment draws on several factors, including proximity to London and available void space. Thurrock was allocated 12.8% of the total exports to the East of England but this quantity is expected to drop in the years running up to 2021. This equates to 304,000 tonnes in 2005/2006, 180,000 in 2011/2012 and 97,000 in 2020/2021 (EERA, 2004; ERM, 2007).

3.7.7 Best Value Performance Indicators suggest that recycling and composting of household waste in Thurrock is improving. The proportion of household waste that is recycled and composted has increased from 10.73% in 2002-03 to 32.2% in 2008/09. The remaining waste is land filled and has therefore decreased from approximately 89% to 68% (TBC, 2009). Residents are encouraged to recycle through new collection categories, introduced in 2009, which include blue bins for dry recyclables and brown bins for mixed kitchen and garden waste.

3.7.8 The waste management infrastructure currently in place provides limited scope for waste transfer, treatment and management in the area. The Landfill Allowances Trading Scheme issued in 2005 by DEFRA reinforces the need for the Council to support diverse re-use, recycling and composting schemes.

3.7.9 The Audit Commission (2006) described the waste collection service as providing poor value for money. These issues are expected to be addressed by the new waste disposal contract, to start in 2010.

Future Needs

3.7.10 The Council published a Municipal Waste Strategy in 2008, to provide a framework for the management of municipal waste for the period 2008-2020. In 2009 the Council are set to award a contract for the provision of an interim treatment capacity for approximately 30,000 tonnes of household waste. This will run until 2017. During this interim period, the Council will commence the procurement process for a long term waste solution to cover the 25 year period from 2017. A site, approximately 6ha in size, to accommodate this long-term solution might be required to be identified.

3.7.11 Furthermore, the Landfill Allowance Trading Scheme (LATS) introduces significant changes in the way municipal waste is managed and sent to landfill. The Waste and Emissions Trading Act (2003) gives the allocation of tradable landfill allowances to each waste disposal authority in England and provides the legal framework for reducing the landfilling of biodegradable municipal waste under Article 5(2) of the EC Landfill Directive. DEFRA's allocations for Thurrock starts at 43,803 in 2005/2006; 21,696 in 2011/12 down to 13,008 in 2020. Regardless of the growth levels assumed, between 50,000 and 115,000 tonnes of capacity are required. This means that one relatively small-medium scale treatment plant will be required to meet its recovery targets (ERM, 2007).

3.7.12 An assessment of Thurrock Minerals and Waste Sites including qualitative site information, concerning Transport and Access, conflict with policy, vicinity to population, likely limitations of use and environmental restrictions was published in December 2009. ERM (2007 updated 2009) conducted a survey to establish fill rates and landfill void space that is available up to 2026/27 in Thurrock (2007 survey only ran to 2021). The capacity of landfill sites as of 2008 (sites either in operation or consented) was 3.83m tonnes for inert landfill and 5.6m tonnes for non-hazardous landfill. Disaggregating this by waste class, the capacity (in tonnes) in 2009 was:

- MSW & C&I waste recycling – 48,000
- C&D waste recycling – 75,000
- recovery of MSW only – 0
- non-hazardous landfill – 5.2m
- inert landfill – 3.7m

3.7.13 The volume of landfill available to Thurrock should cover the plan period because a significant amount of waste disposed of in the Borough is imported from London and this is set to decrease over the plan period. The ERM study projects that the additional waste disposal capacity is required to meet demand to the end of the plan period:

- recovery of MSW – between 70,000 tonnes per annum based on the municipal waste strategy and 111,000 tonnes per annum based on RSS data
- C&I waste recycling and other recovery – up to 299,000 tonnes per annum at 2021
- C&D waste recycling – 218,000 tonnes per annum
- non-hazardous landfill – none
- inert landfill - none

3.7.14 The Municipal Waste Strategy (2008) for 2008-2020 set a range of objectives. Future waste initiatives will be delivered in light of targets which aim to limit growth in annual waste, whilst increasing recycling and reducing land filled waste.

- Objective 1 – Municipal Waste Reduction Targets:
  - 1.0% growth in annual waste arisings by 2010/11
  - 0.5% growth in annual waste arisings by 2015/16

  - 0% growth in annual waste arisings by 2019/20
- Objective 3 – Municipal Waste Recycling Targets
  - 2008–2009: 30%
  - 2009–2010: 35% (LAA target)
  - 2010–2011: 40%
  - 2015–2016: 50%
  - 2019–2020: 60%
- Objective 5 – reduce the amount of biodegradable waste land filled, to achieve Landfill Allowance Trading Scheme (LATS) targets.

3.7.15 The major impact in terms of municipal waste management is the requirement to reduce the quantities of biodegradable municipal waste (BMW) to landfill by the following targets (using the UK derogation timetable):

- Reduction in tonnage of BMW to landfill by 25% of 1995 arisings by 2010
- Reduction in tonnage of BMW to landfill by 50% of 1995 arisings by 2013
- Reduction in tonnage of BMW to landfill by 65% of 1995 arisings by 2020

3.7.16 These are particularly challenging targets for TBC. The requirements of the Landfill Directive (implemented by LATS) or the Government's targets for waste recovery through recycling and composting will not be met by TBC alone. Thurrock is also committed to seeking an alternative sustainable solution to landfill as a treatment method for residual waste. Therefore a new method for managing residual waste is needed which meets the requirements of the waste hierarchy.

4 Transport Infrastructure

4.1 Introduction

4.1.1 The transport infrastructure study set out below is based on the work carried out during Summer 2009 as contained in Report 4.2 Transport Modelling – Draft Final dated September 2009. The land use scenarios referred to in the report as the preferred option is based on the land use scenario supplied by Thurrock Borough Council to Colin Buchanan at that time. The land use option considered in the latest Thurrock spatial option is slightly different from that of the transport assessment reported in September 2009 for the whole Thurrock but significantly different within Lakeside basin. Therefore, the differences in the two land use options are not expected to make a marked difference on the results of the transport assessment for the whole of Thurrock, although some changes may be expected within Lakeside. For clarity, the land use scenarios reported in September 2009 are also contained in this section.

4.1.2 The purpose of the transport modelling aspect of this study was predominately to assess the impact of the emerging future population and employment scenario on the highway network within Thurrock and to identify any problems or shortfalls in the existing infrastructure. The assessment has been carried out for the existing network (2007) and the future scenarios (2021 and 2025) when the Council's preferred land use option is in place.

4.1.3 The results of this study will be used to assist in identifying a suitable scheme or a package of measures which will improve the transport network. The study will also inform the Council which of these schemes/measures should be implemented first, or require most urgent attention and will therefore inform the phasing of development.

4.2 Outline Methodology

4.2.1 As part of the overall study, it was necessary to construct a three-stage spreadsheet demand model and a SATURN assignment model to produce a forecast of future demand, taking into account the additional development (households, population, jobs) that are expected in the future. The four-stage model is a behavioural model which can be described simply as representing four decisions made by transport users:

Trip Generation (should I travel?)

Distribution (where shall I travel to?)

Modal Split (which mode shall I take – car, public transport, walking or cycling?)

Assignment (which route shall I take?)

4.2.2 The future forecast years considered were 2021 and 2025. Forecasts of growth were constructed by applying growth in population and jobs from 2006 to 2021 and 2025. All trip generation estimates for the new land uses were derived from TRICS.

4.2.3 Other changes relating to policy and demand management were also incorporated in the traffic growth assumptions where sufficient data were available or alternatively assumptions on the percentage changes were agreed with Thurrock Council based on changes that would be dependent on improvements to public transport, traffic demand management and soft transport measures as described in Section 4.5

4.2.4 It was agreed that some 34 junctions will be assessed for the morning peak hour period of 0800-0900. For the evening peak hour period of 1700-1800, the study area has been reduced and concentrates upon 16 junctions in closest proximity to the Lakeside Basin development where the impact of new development will be greatest.

4.2.5 The capacity of all the junctions within the study area has been considered in detail for each scenario. Where any junction is considered to be at or approaching capacity by 2025, mitigation measures have been proposed along with an indicative cost.

4.2.6 The assessment scenarios considered for this study therefore consisted of the following;

- 2021 AM peak hour with LDF and Lakeside Basin Development for all 34 junctions
- 2021 PM peak hour with LDF and Lakeside Basin Development for 16 junctions
- 2025 AM peak hour with LDF and Lakeside Basin Development for all 34 junctions
- 2025 PM peak hour with LDF and Lakeside Basin Development for 16 junctions

4.3 Land Use Options

4.3.1 The proposed land uses considered are summarised in Table 4.1 below.

Table 4.1: Preferred LDF Land Use Option

LDF Designation	Total Areas	Land Use Mix	Split of Overall Area	
			Existing Sites	Proposed Sites
Primary Industrial Commercial	8,270,000sqm	B1- Light Industry	10%	10%
		B2 General Industry	40%	40%
		B8 – Warehousing	50%	50%
Secondary Industrial	840,000sqm	B1- Light Industry	10%	50%
		B2 General Industry	40%	N/A
		B8 – Warehousing	50%	50%
Mixed Use	822,000sqm	Various	100%	100%
Other	812,000sqm	Leisure	N/A	100%

4.3.2 For the preferred option, it has been assumed that all employment changes would happen between 2008 and 2021. In addition, there will be some 19,530 additional houses between 2008 and 2026 including 3,732 dwellings in Lakeside. Figure 4.1 and Figure 4.2 show the locations of the employment and houses for the preferred option respectively.

4.3.3 It should be noted that the number of housing units for the proposed submission is 19,281 including 6,243 units in Lakeside. Although the total number is very similar, the distribution of the housing allocation is slightly different in particular at Lakeside. However, the differences in the two land use options are not expected to make a marked difference on the results of the transport assessment for the whole of Thurrock, but some changes may be expected within Lakeside.

Figure 4.1: Location of Preferred LDF Employment Space

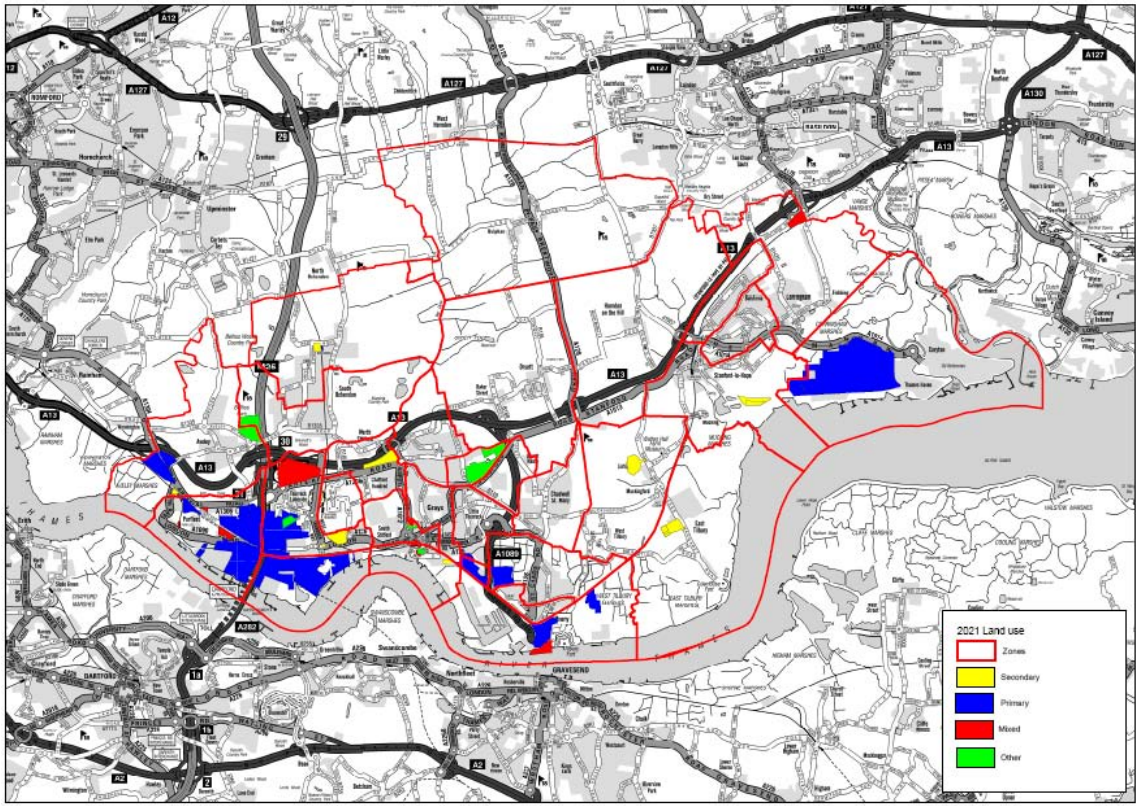
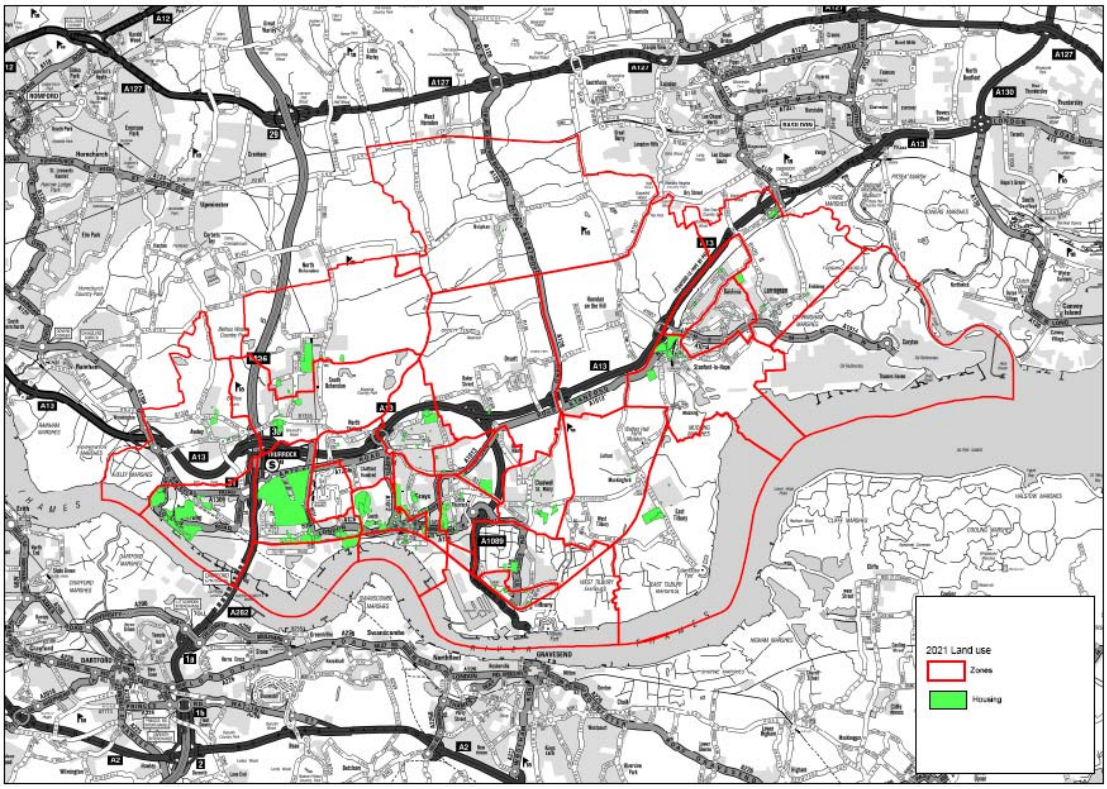


Figure 4.2: Location of Preferred LDF Housing



4.3.4 As discussed, in addition to the preferred LDF land use option, this assessment has also considered the likely quantum of development which will come forward in the Lakeside Basin area. Table 4.2 shows the land use options considered for Lakeside Basin.

Table 4.2: Lakeside Basin land Use Options

Land Use	TBC Assumption
A1 Retail	49,320sqm
B8 Warehousing	57,200sqm
B2 Industrial	40,850sqm
B1 Office	50,000sqm
Leisure	77,350sqm
Residential	49,320sqm(=3,732 dwellings)

4.3.5 The resulting person trip rates derived from the TRICS data are summarised in Table 4.3 below for the morning and evening peak hour hours.

Table 4.3: Total Person Trips Derived from TRICS

Land Use	Morning Peak Hour		Evening Peak Hour	
	In	Out	In	Out
B1- Light Industry	1.537	0.062	0.107	1.334
B2 General Industry	0.229	0.054	0.020	0.020
B8 – Warehousing	0.335	0.085	0.120	0.402
C1 - Hotel	0.760	0.727	0.710	0.620
D2 – Leisure (Lakeside)	0.499	0.349	1.77	1.03
D2 Leisure (other)			0.546	0.413
Education	9.821	0.563	0.103	0.312
Residential	0.133	0.322	0.214	0.093
A1 - Retail Park	0.655	0.235	3.207	3.426
C2 - Hospital	1.960	0.415	0.536	1.496

4.3.6 It is anticipated that many of the trips generated by the new development will be trips that already exist on the network or will be trips that visit more than one of the new development sites. To account for this, it has been assumed that those trips to the leisure and retail areas are likely to be linked trips and therefore a reduction of 30% has been applied to the estimated total trip generation. TRICS Report 97/1, 'Transport Characteristics of Non-food Retail Parks' refers to a reduction of 70% for linked trips; in this assessment a reduction of 30% has been used as a conservative assumption.

4.4 Transport Assessment

4.4.1 The main components of the transport analysis can be identified as being:

Highway Links: analysis of highway link flows compared with capacity as defined by the CRF (Congestion Reference Flow);

Highway Junctions: analysis of highway junction flow and capacity using appropriate software (ARCADY, PICADY, LINSIG or TRANSYT depending on junction);

Rail: analysis of rail passenger demand and capacity using a spreadsheet model.

Public Transport Improvements and Traffic Demand Management

4.4.2 Future car demand per person is expected to be reduced in Thurrock by the implementation of public transport improvements and traffic demand management (TDM) measures. Some of these measures can be achieved without increasing the cost of motoring (e.g. travel plans). These measures are described in Section 4.5 below.

4.4.3 For the purpose of this test, public transport improvements, TDM and other soft measures were modelled by adding an additional cost to all car trips, to encourage shift to other modes where possible. The costs were calibrated to produce a given reduction in demand. Table 4.4 below shows the assumptions made for the car demand reductions by purpose. These were agreed with Thurrock Council. The reduction of 25% in car demand for the education purpose (school run) trips for 2006 has already been achieved.

Table 4.4: Reductions in Car Demand due to Soft Measures

	2006	2021	2025
Education	25%	35%	35%
All other purposes	0%	10%	10%

Assessment Criteria

4.4.4 To demonstrate the performance of the highway network, the outputs of the above assessment for each link and junction have been grouped into five categories for each assessment period, based on the capacity of each link or junction. These categories can be summarised as:

Well above capacity (Flow/Capacity above 115%);
Above capacity (Flow/Capacity between 100% and 115%);
Above desired capacity (Flow/Capacity between 85% and 100%);
Approaching desired capacity (Flow/Capacity between 70% and 85%);
Below capacity (Flow/Capacity below 70%).

4.4.5 The stress diagrams as shown in Figure 4.3 and 4.4 below show the results of the transport analysis for the highway network during AM peak hour for the base and 2025 respectively.

Figure 4.3: Baseline AM Peak Flow/Capacity Ratio – Highway Links and Junctions

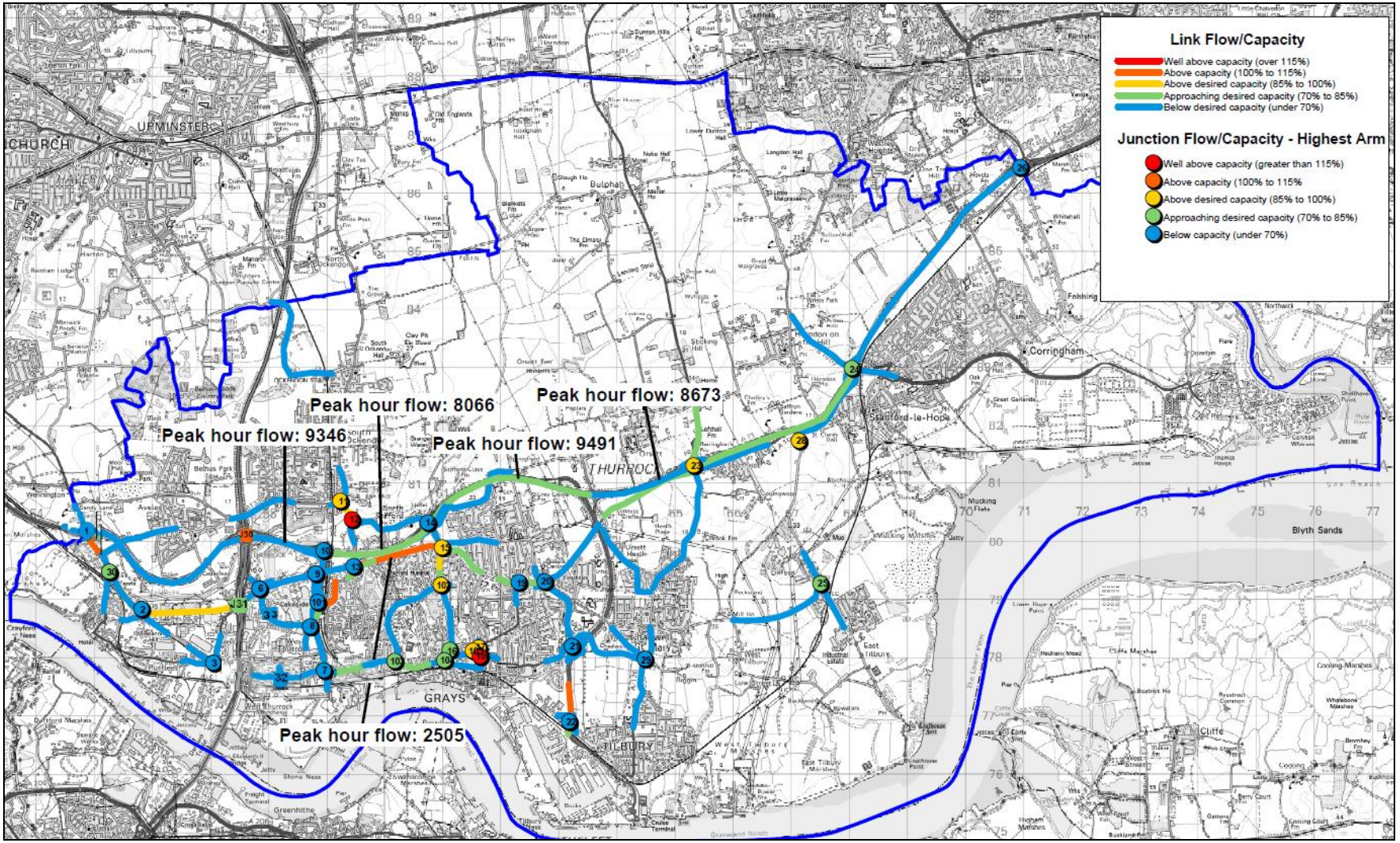
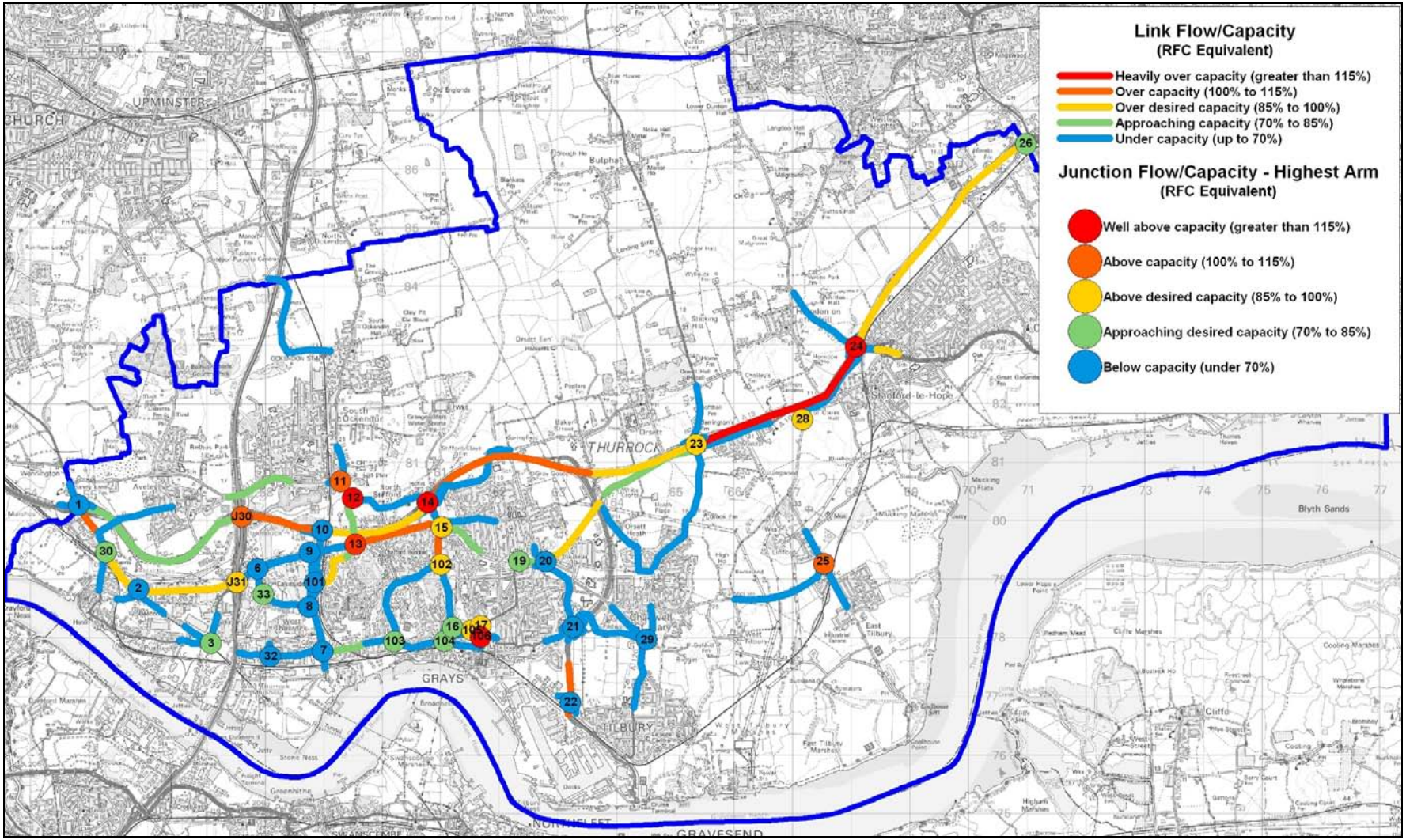


Figure 4.4: 2025 AM Peak Flow/Capacity Ratio – Highway Links and Junctions



4.4.6 Figure 4.5 and 4.6 below show the results of the transport analysis for the highway network during PM peak hour for the base and 2025 respectively.

Figure 4.5: Baseline PM Peak Flow/Capacity Ratio – Highway Links and Junctions

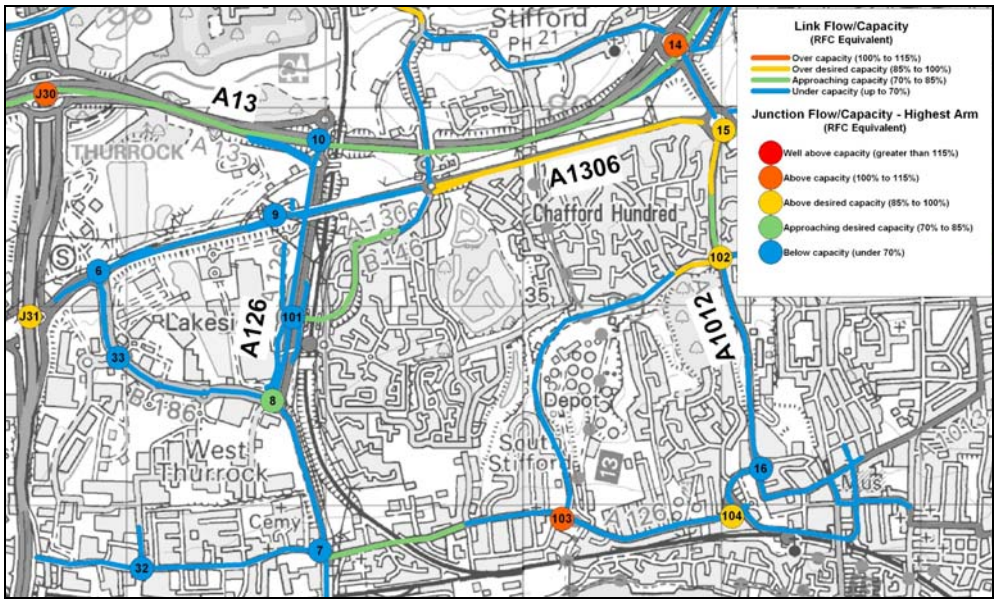
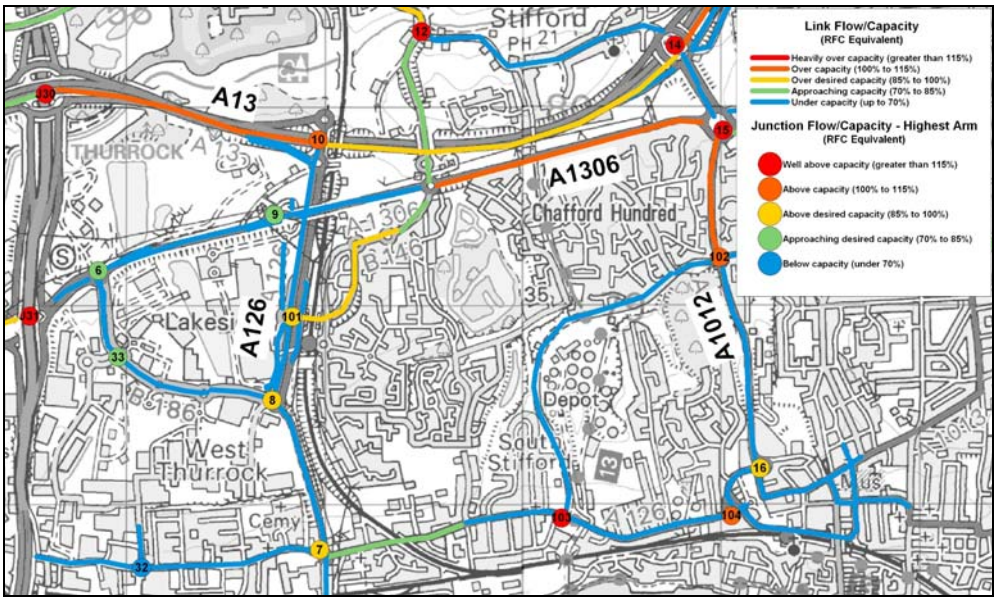


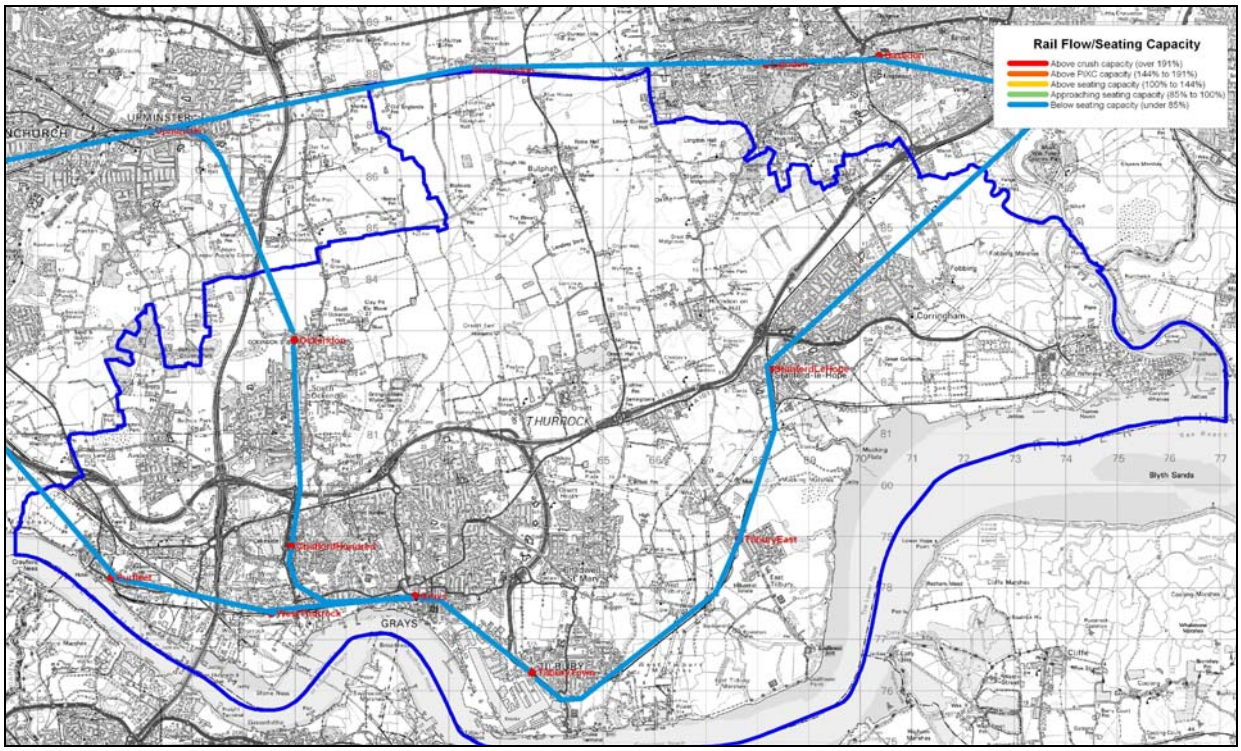
Figure 4.6: 2025 PM Peak Flow/Capacity Ratio – Highway Links and Junctions



4.4.7 The results of the rail network analysis show that the passenger rail demand in Thurrock can easily be accommodated by the train service in the base scenario and in all future scenarios tested. Figure 4.7 shows that there are no deficits in passenger rail capacity in Thurrock. This is consistent with previous Infrastructure Deficit Study carried out by CB. It

should be noted that the assessment of the rail capacity has been based on the capacity of the trains and their frequencies in terms of their seating capacity, PiXC (Persons in Excess of Capacity) Capacity and Crush Capacity and hence no allowance has been made for the capacity of the station platforms and the gates in our assessment.

Figure 4.7: 2025 Flow/Capacity Ratio – Rail



4.5 Planned Transport Improvements

4.5.1 The transport assessment includes the following committed improvements:

- SERT (South Essex Rapid Transit) – this is estimated to open in late 2012 subject to funding. In Thurrock SERT will connect Basildon to Lakeside Thurrock via Stanford-le-Hope and Grays and another line will connect Purfleet to Lakeside Thurrock.
- A new railway station in West Thurrock.
- Other investment in public transport services including bus and rail infrastructure through the Local Transport Plan.
- Interim Scheme for M25 Junction 30 as provided by the Highways Agency.
- Other TDM measures to reduce car use as mentioned in Section 4.4.

4.6 Possible Solutions, Measures and Costs

Current Deficits

4.6.1 The main deficits in the existing network are as follows;

Links

- A1306 between A1012 and B186

Junctions

- B1335 / B186 South Rd / B186 Stifford Hill
- B186 Stifford Hill / B186 Pilgrims Lane
- A1306 / A1012
- A1013 / Buckingham Hill Road
- A1012 / Hogg Lane / Devonshire Road
- A126 / Devonshire Road
- A1013 / Derby Road
- A126 Stanley Road / A126 Clarence Road
- M25 / A1306 / A1090

Future deficits

4.6.2 Tables 4.5 and 4.6 below show the deficits, possible solutions and the associated cost for highway links and junctions requiring improvement.

4.6.3 The following caveats apply throughout to the costs in Table 4.5 and 4.6:

- The costs are at 2008 prices and no allowance is allowed for inflation etc.;
- The costs have been estimated without any design layouts;
- All estimates are subject to detailed site investigation;
- Cost of bridge modifications, works etc. are subjective as details are limited at this time with respect to the possibility of using existing hard shoulders or narrow lanes, etc.;
- For links it is assumed that widening work can be accommodated within the confines of the existing dual carriageway;
- Costs for links are derived from the provision of a standard rate per km. For a more detailed estimate each link should be reviewed with regards to specific works encountered;
- The cost of acquiring land is not included;
- The cost of Stats is not included.

Table 4.5: Thurrock Highway Links – Cost of Improvements

Link Location	Link Length (Km)	Solution	Cost	Assumption On Cost
A13 (M25 to A126)	1.45	Widening by 1 lane	£6,775,000	Carriageway widening Bridge works, gantries and traffic signal costs Not inclusive of stat costs
A13 (A126 to A1012)	1.91	Widening by 1 lane	£9,190,000	Carriageway widening Bridge works and gantries Not inclusive of stat costs
A13 (A1012 to A1089)	2.76	Widening by 1 lane	£12,175,000	Carriageway widening Bridge works Not inclusive of stat costs
A13 (A1089 to A128)	2.25	Widening by 1 lane	£10,275,000	Carriageway widening Bridge works Not inclusive of stat costs
A13 (A128 to A1014)	3.35	Widening by 1 lane	£19,300,000	Carriageway widening Bridge works Not inclusive of stat costs
A13(A1014 to A176)	4.66	Widen by 1 lane	£20,600,000	Carriageway widening Bridge works Not inclusive of stat. Costs
A1306 Arterial Road	2.23	Widening by 1 lane	£9,600,000	No factoring applied to allow for a lower category of road over dual carriageway. Not inclusive of stat. Costs
A1306 London Road	1.32	Widening by 1 lane	£5,700,000	No factoring applied to allow for a lower category of road over dual carriageway. Not inclusive of stat. Costs
A1089 Slips (near junction 22)	0.6	New bus/cycle link	£2,600,000	No factoring applied to allow for a lower category of road over dual carriageway. Not inclusive of stat. Costs
Total Highway Link Costs			**£96,215,000**	

Table 4.6: Summary of Junction Updates Required

Junction No.	Location	Improvement Needed	2006 Base	2021	2025	Cost Estimate	Assumption On Cost
7	West Thurrock Way / Stoneness Road/ London Road	Remarking to improve flaring on one approach		✓	✓	£2,000	No construction work required
8	A1306 / A1012	Improve flaring on one approach		✓	✓	£30,000	Not inclusive of stat costs
10	A126 / A13	Improve flaring on both approaches		✓	✓	£240,000	Not inclusive of stat costs
11	B1335 / B186 South Rd / B186 Stifford Hill	1 arm upgrade to 2 lanes	✓	✓	✓	£520,000	Inclusive of junction resurfacing and replacement of traffic signals Not inclusive of stat. costs
12	B186 Stifford Hill / B186 Pilgrims Lane	Convert from mini to standard roundabout	✓	✓	✓	£640,000	Inclusive of junction resurfacing Not inclusive of stat. costs
13	A1306 / B186 Pilgrims Lane / B186 Burghley Road	1 arm upgrade to 2 lanes		✓	✓	£120,000	Widening to northern arm only - signal timing changes throughout Not inclusive of stat cost
14	A13 / A1012	Signalise roundabout		✓	✓	£1,200,000	Inclusive of a nominal amount of £250,000 for resurfacing Not inclusive of stat. costs
15	A1306 / A1012	Adjust signal timings and additional lanes on two arms	✓	✓	✓	£321,000	Not inclusive of stat costs
17	A1013 / A126	Adjust signal timings		✓	✓	£4,000	No construction work required
24	A13 / A1014 / A1013	Signalise roundabout		✓	✓	£325,000	Assume cable-less linking Not inclusive of Stat costs. Allowance made for re-surfacing
25	East Tilbury Road / Muckingford Road	Extend flare on 1 arm		✓	✓	£35,000	Not inclusive of stat costs
28	A1013 / Buckingham Hill Road	Signalisation / roundabout	✓	✓	✓	£520,000/ £295,000	Traffic signals, including junction resurfacing Roundabout inc resurfacing Not inclusive of stats costs
101	A126 / Fenner Road / Lakeside	Minor flare widening on one approach		✓	✓	£25,000	Not inclusive of stat costs
102	A1012 / Hogg Lane / Devonshire Road	Extend flare on 1 arm	✓	✓	✓	£34,000	Not inclusive of stat costs
103	A126 / Devonshire Road	Adjust signal phasing and create flared entry and exit	✓	✓	✓	£200,000	Not inclusive of stat costs
104	A126 London Road / Eastern Way	Create short two-lane approach on one arm		✓	✓	£40,000	Not inclusive of stat costs
105	A1013 / Derby Road	Signal timings	✓	✓	✓	£4,000	No construction work required
106	A126 Stanley Road / A126 Clarence Road	Additional lanes, remove parking or signal timings	✓	✓	✓	£545,000	Tight junction assumed CPO required to provide additional carriageway Not inclusive of stat costs Parking to be removed
M25J30	Junction of M25 and A13	Additional capacity is required on each arm of the roundabout	✓	✓	✓	Beyond Scope of this Study	
M25J31	M25 / A1306 / A1090	Additional capacity would be required on both M25 off-slips and the A1306 west approach		✓	✓	Beyond Scope of this Study	
Total cost of all junction improvements						**£4,580,000**	

4.6.4 The preliminary cost estimate for all link improvements is **£96,215,000** whereas all junction improvements are estimated to cost **£4,580,000**. This means a total infrastructure investment of **£100,795,000** is required.

4.6.5 As indicated earlier, there is no deficits in passenger rail capacity and hence no cost has been allowed in our estimate.

4.6.6 The capital cost of the planned public transport is estimated to be approximately £60m for SERT to be implemented between 2012-15, a total of £3m for other public transport costs (approx £200,000 per annum) plus an additional cost for a new railway station in West Thurrock Station (TBA).

5 Utilities

5.1 Water

5.1.1 The main increase in water resource availability positively affecting the Thurrock Borough region will be at Abberton Reservoir to the south of Colchester. This project had its planning application prepared for submission during December 2007, and will result in an increase in the capacity of Abberton Reservoir by 60%.

5.1.2 As part of the Abberton Scheme, it is proposed to vary the abstraction licenses from the Ely Ouse system to facilitate more water into the enlarged Abberton Reservoir catering for the proposed growth in the long term. The 'Abberton Scheme' has been investigated over the past 10 years and is expected to proceed, in which case it will be complete by 2014/15. The scheme also involves the construction of a new pipeline running parallel to the upper Stour and extra pumps at the Kennett pumping station. Two new pipelines will be required:

- A 16km (approx) 1200mm pipeline from Kirtling Green in Suffolk to Wixoe on the Essex Suffolk border which will run parallel to the River Stour.
- A 16km (approx) 1200mm pipeline from Wormingford, Essex where the additional water will be abstracted from the river and transferred to Abberton Reservoir.

5.1.3 High level modelling of the 2021 worse case scenario has identified the following potential supply strategies for supplying the proposed growth until this stage. The possible combinations of some or all of these options will depend upon the location and density of yet to be committed development. The options are:

- laying approximately 2.2km of 400/500mm main between the A1306 and London Road, West Thurrock. The route will be along the B186 and West Thurrock Way, Lakeside Retail Park;
- laying of approximately 600m of 300mm main between Hogg Lane and the end of the existing main in Chafford Hundred and Eastern Way in Grays;
- reinforcement of approximately 3km of main along Brentwood Rd with 600/700mm mains. The main would reach from the Orsett Cock roundabout and the junction of Linford and River View Rd, Chadwell St. Mary; and
- reinforcement of 3km of main with a 900mm main between Wyfields Farm and Orsett Cock roundabout.

5.1.4 Caution should be exercised when applying the above values as they are indicative only and may vary based on the actual distribution of growth. Also, ESW consider the implementation of all four mains reinforcement schemes to be a worst case scenario and it may be that only two are required. Detailed modelling and appraisal work will provide greater clarity to ESW of the required solution. With some capacity currently existing within the network, there may be sufficient time to allow for the implementation of these projects, with little or no impact upon the phasing of growth. However, capacity is limited and it is recommended that appraisal and planning work commences as soon as possible to allow for the timely delivery of the required trunk main projects.

5.1.5 Planning by ESW has predicted that the increased storage at Abberton along with raw water available from the Ely Ouse scheme is sufficient water to cater for the growth planning period running until and beyond 2021.

5.1.6 In summary, in the short to medium-term water resources will not be a restraint to development, so long as permission is granted for the additional capacity at Abberton, and the Abberton Scheme goes ahead. A number of mains reinforcement schemes, as detailed above, are also likely to be required, which will need to begin implementation as soon as there is further clarity on development locations.

5.2 Sewerage and Sewage Treatment

5.2.1 In regards to the Tilbury Waste Water Treatment Works (TWWTW), the treatment capacity will require expansion to accommodate proposed development, and to meet required new consents. Anglian Water has advised that it will undertake more detailed analysis of the treatment works capacity upon release of the Core Strategy and Site Specific Allocations and Policies Preferred Options documents; however, initial consultation regarding the treatment works has provided some insight into capacity issues.

5.2.2 Necessary extensions to treatment capacity would be required to treat a substantially increased domestic influent, the aeration tanks would need to be typically 4-6m in depth, and would therefore require a much greater footprint than the existing deep shafts.

5.2.3 If a fully nitrifying system is required to meet the revised consent conditions, an additional 70,000 m^3 of aeration capacity would be required, i.e. an area of 14,000 sqm at 5m depth to cater for all new development in Thurrock. This could not be accommodated on the present site, and it would be necessary to relocate or to provide a second treatment plant to serve part of the catchment. If a non-nitrifying solution is acceptable, an additional 2,000 m^3 of aeration capacity would still be required, i.e. 4000 sqm at 5m depth. It is likely that this could be accommodated on the existing site.

5.2.4 The existing final settling tanks will be adequate for the projected future load provided the aeration capacity is increased to enable the concentration of the suspended biomass to be maintained at a sustainable level.

5.2.5 The assessment of the sewerage network constraints that has been carried out is based upon a desktop study of the sewerage network alone. Please note that this review only considers the foul/combined sewer system and no assessment of surface water disposal potential has been undertaken.

5.2.6 In regards to surface water management through sewers combining surface water runoff as well as treated foul sewage, a desk top review by Anglian Water of sites in the Tilbury Drainage Area Plan 2016, , has indicated that with reference to flooding with reference to flooding associated with the Thurrock growth areas, this will still be restricted to those locations already predicted as being at highest risk, but with greater volumes.

5.2.7 Detailed modelling has not been undertaken of the foul water drainage network, but Anglian Water's initial analysis has identified areas for further investigation. Potential strategic solutions, which may vary based upon final development characteristics are:

- Further analysis into the capacity and upgrade options of the Corran Way Pumping Station in relation to the growth programme (See Figure 6.1).
- An approximate increase in the London Road Pumping Station capacity of 225 litres/second. Duplication of 3.5km of rising main from London Road PS at a nominal diameter of approximately 500mm.
- Reinforcement of transfer flows in the Grays and Chadwell St Mary areas to accommodate developments located at a distance from the tunnel, plus other areas which are inaccessible for direct connection where sewers and drains are of lower capacity.
- Major improvement works at Broadhope and St Margarets Pumping Stations to increase capacity. Significant growth within Stanford Le Hope area may require construction of new pumping stations and new rising mains to convey flow direct to the Tilbury WwTW (approximately 6.5 Km away (See Figure 6.2)). This would require significant investment.
- Capacity in North Orsett should be investigated, because while currently it is adequate, further investigation would be required as its capacity to accommodate large-scale development is likely to be limited.

5.3 Electricity

Baseline

5.3.1 EEDA have commissioned a regional power infrastructure study. It identifies that growth in new housing and new jobs will drive demand for new connections to the electricity networks. The national grid owns the England and Wales transmission system, and as transmission network owner, it has responsibility for building and maintaining safe and efficient infrastructure. The National Grid also has responsibility for the whole of the transmission system in Great Britain, and oversees national flows of electricity.

5.3.2 The network faces several challenges in the coming years, the first is asset renewal and the second is the accommodation and distribution of new sources of power generation to meet increased demand and renewable energy targets. The report identifies that additional sources of nuclear power are being considered in the region. In addition offshore wind generation schemes are being delivered, with the worlds largest offshore wind farm currently under construction 26km off the Suffolk coast. At present the local and regional distribution / transmission network is operated and maintained by EDF, and includes 21 substations. The report identifies that where local constraints to supply are identified, they are often subject to difficulties in gaining a local supply connection to the EDF network.

Future Needs

5.3.3 The power to meet additional demand will be delivered through the existing infrastructure which will require reinforcement in may cases. In addition, networks will need to be much more flexible in operation in order to match the requirements of increasing demand. The National Grid have embarked upon a significant programme of modification to accommodate new sources of energy, replace existing infrastructure and meet demands for additional power. Many of these measures are of national and strategic importance and lie outside of Thurrock. However, it is identified that local reinforcement will be required to the local EDF network, the West Thurrock Bulk Supply Point being one such facility. Supply Points at Barking and Tilbury also have capacity constraints.

5.3.4 Upgrade works have been proposed for Barking and Tilbury for asset renewal and system reinforcement. At both sites new sub-station developments are required; at Tilbury and a new 400kV substation is due to be completed by 2011. At Barking, a new 132kV substation is under discussion between National Grid, EDF and Belway Homes (the developer of the Barking Reach urban re-development project).

5.3.5 To accommodate additional demand at the local level, where insufficient supply exists, it is necessary to extend networks and replace local supply components with those of a greater capacity. In general, site connection works do not pose a constraint upon development, provided that connections are requested at the right time during the construction phase. EDF have advised that information on local connections requires consideration of economic and technical factors only possible on a site by site basis.

5.3.6 There are a number of projects proposed that will locate additional generation capacity within the Borough (although these will serve the national grid and are not local demand sensitive):

- Tilbury Green Power have consent for 60 Mega Watt Biomass and energy from waste plant in the Port of Tilbury site.
- RWE npower have identified the potential for feasibility of developing a new combined cycle gas turbine (CCGT) power station at the existing location at Tilbury. The existing Tilbury power station is to be decommissioned.

- Intergen are investigating the possibility of developing a 900 Megwatt natural gas-fired power station called the Gateway Energy Centre within the London Gateway site. This would be 1km west of the existing 800MW plant at the Coryton plant.

5.4 Gas

5.4.1 No specific upgrades to the gas transmission network have been identified by National Grid in order to accommodate the proposed level of growth in Thurrock. Any new distribution mains, or renewals or reinforcements, will be planned with the Distribution Network Operator, which is also National Grid for the Thurrock area, in response to specific development needs.

6 Social Infrastructure Capital Costs

6.1.1 Infrastructure costs are set out in Table 6.1 on the following page. The table shows figures to one decimal place, whereas the explanatory text in this section refers where possible to exact costs.

6.2 Health

Primary Healthcare

6.2.1 The PCT confirm that the New Generation Community Hospital will cost £60m. In addition, other future development includes the Darzi Centre and health centres at Purfleet, South Ockendon, Corringham and Tilbury. As a benchmark the new health centre at Tilbury is estimated to cost between £6.5m and £10m. Therefore, total costs for four new health centres are likely to range between £26m and £40m. These new facilities are expected to be able to fully accommodate new GPs surgeries.

6.2.2 The PCT have provided summary of the 2009/10 budget for GPs. In total, the GPs contracts budget is £17.8m. This compares with expenditure in 2008/09 of £17m.

Secondary Healthcare

6.2.3 Budget commitments associated with development of hospitals are expected to be minimal particularly given the new model for health whereby services traditionally located in hospitals are to be shifted to health centres.

Dentists

6.2.4 Approximately 8 new dentists are required. A single practitioner dental practice requires approximately 29.5sqm, at a cost of £2,000 per sqm. Therefore approximately 236sqm is required which is expected to cost £472,000.

6.2.5 The PCT have provided a summary of the 2009/10 budget for dentists. In total, the dentistry contracts budget is £5.1m. In comparison, expenditure in 2008/09 was £4.9m.

Adult Social Care

6.2.6 Overall capital costs are expected to be low in relation to future provision of adult social care. The Elizabeth House model for developing extra care homes is considered the example of how to develop future sites. Based upon this model, the TBC intends to assist development by identifying and providing sites, acting as a freeholder, and will encourage capital investment from developers through funding packages or private investment.

6.2.7 Over 2007/08, Thurrock had the lowest total spend per head (18+ years) in the Thames Gateway South Essex area, at £278.59. The total 2008/09 budget for adult social services in Thurrock is £26m. This figure accounts for 24% of the Councils net expenditure.

Table 6.1: Summary of Social Infrastructure Provision and Costs

Service	Type of Provision	Details of Provision	Source	Cost (£m)
Health				
	Primary Healthcare	- 42 whole time equivalent (WTE) GPs (35 by 2014 plus an additional 7 to 2021) + associated staff - New Generation Community Hospital at Grays - Health Centres at Purfleet, Grays Town Centre and Tilbury: £26m – £40m (£33m)	PCT	 £60.00 £33.00
	Secondary Healthcare	N/A	TBC	
	Dentists	8 dentists by 2026	PCT	£0.50
	Adult Social Care	N/A	TBC	
		Sub Total		**£93.50**
Education				
	Early Years	39 new early years facilities	TBC	£19.50
	Primary Schools	4 new build and 10 refurbish + extend - Averley & Purfleet: Purfleet (new build and refurbish + extend), Averley and Kennington (refurbish + extend) - Chafford Hundred and Grays: Chafford and Stifford (new build), West Thurrock, (new build), Chafford Hundred, Warren, Deneholm, Little Thurrock, Quarry Hill, Woodside (extend) or Little Thurrock/East Grays/ Woodside (new build) - Chadwell & Tilbury: Woodside (extend)	TBC	£52.50
	Secondary Schools	6 secondary school to undergo new build, rebuild/refurbish and expand - Averley & Purfleet: Ormiston Park Academy (rebuild + expand) South Ockendon: The Ockendon (refurbish + extend) - Chafford Hundred and Grays: Chafford Hundred (extend), Grays and William Edwards (rebuild + expand) - Chadwell & Tilbury: The Gateway Academy (extend)	TBC / BSF	£80.00
	Post-16	- Grays: Thurrock Learning Campus (new build), Thurrock and Basildon College, Palmers Sixth Form College (extend): £90m – £104m (£97m) - Stanford and Corringham: Sixth Form College, The Logistics Academy at London Gateway - Purfleet: Royal Opera House, with National Skills Academy for Creative Arts	TBC	£97.00 TBA TBA
		Sub Total		**£249.00**
Community Facilities				
	Community Centres	6 new community halls = approximately 11,300 sqm	TBC / Ratios	£3.90
	Libraries	Approximately 1,360 sqm of additional library floor	TBC / Ratios	£4.40
		Sub Total		**£8.30**
Emergency Services				
	Ambulance	1 new ambulance station, with fully equipped ambulance and a rapid response vehicle	EEAST	£3.45
	Fire and Rescue	Grays Fire Station to be relocated to be closer to Junction 30/31	Essex Fire	£3.00
	Police	1 new police station at Purfleet	Essex Police	£5.35
		Sub Total		**£11.80**
Green Infrastructure				
	Greengrid	8 new Greengrid Improvement	TBC	£71.30
	Multifunctional Spaces	3 new Multifunctional Spaces at: East Thurrock Marshes / Mucking Thameside Nature Park Project, Davy Down and Mardyke Valley Project, and Coalhouse Fort Restoration Project.	TBC	£45.00
	Parks and Gardens	50.4 hectares of new parks and gardens	TBC	£3.50
	Amenity Greenspace	36 hectares of new amenity greenspace	TBC	£2.50
	Children's Play Space	16,200 sqm new children's play space	TBC	£2.70
		Sub Total		**£125.00**
Sport and Leisure				
	Sports Hubs	2 Strategic Sports and Well-Being Hubs at: Belhus Park and Blackshots Recreation Ground.	TBC	£55.00
	New Provision	New sports hall (Purfleet) and pitches (Borough wide)	TBC	£7.00
	Refurbish / upgrades	- Corringham Leisure Centre, Orsett Sports Centre - Sports pitches, Pavilions, Bowls facilities (Borough wide)	TBC	£2.00 £0.50
		Sub Total		**£64.50**
Waste				
	Waste Management	1 or 2 new sites for Waste Management Activities, as well as increase existing capacity	TBC	TBA
	Other	Waste recycling, Refuse Collection, Waste disposal, Civic amenities (recycling) and waste management / supervision	TBC	£9.40
		Sub Total		**£9.40**
Flooding				
	Flood Defence	2 upgrades at: Purfleet, Grays and Tilbury area, and East Tilbury and Mucking Marshes area: TBA	TE21000	TBA
		South Essex CFMP - Update to Mardyke and Stanford Brook catchment management plans	SECFMP	TBA
		Sub Total		**£0.00**
TOTAL				**£561.50**

6.3 Education

Pre-schools

6.3.1 The Council has indicated that a 50-place day nursery is estimated to cost a minimum of £500,000. Given that 2,000 additional nursery age children will be generated, which equates need for 39 pre-school facilities, total costs are expected to be approximately £19.5m. This calculation is based on the assumption that every pre-school aged child attends a Council provided pre-school facility.

Primary Schools

6.3.2 Based upon the Schools Strategy (January 2010) it is estimated that total primary schools costs are approximately £22.5m. This is based upon 4 new builds and 10 extensions. It has been assumed that a new school is estimated to cost £5.6m and each extension £3m.

Secondary Schools

6.3.3 Based on the Building Schools for the Future capital programme, total costs for new secondary school development are estimated at from £80m.

Post-16

6.3.4 Thurrock Learning Campus is estimated to cost between £90m to £104m. No costs have been able to be attributed to development at Palmers College and Thurrock and Basildon College, or the Royal Opera House and Logistics Academy developments.

6.4 Community

Community Centres

6.4.1 Previous Colin Buchanan studies have applied a standard of one community hall (1,750 sqm) per 7,000 population. Using this ratio, a minimum of 6 new community halls (11,300 sqm) will be required to meet population growth in Thurrock. Assuming that new community halls will meet Sport England standards for indoor sports, the cost per hall will be approximately £600,000 (at 2004 costs supplied by Aylesbury Vale DC). In 2007, this figure was indexed at £651,600. Therefore, total cost of 6 new community centres is estimated at £3.9m.

Libraries

6.4.2 Previous Colin Buchanan studies have applied standards published by the Museum, Libraries and Archives Councils (MLA) whereby 30.2sqm of library floor space is required per 1,000 population and that floor space costs £3,210 per sqm. Therefore, approximately 1,360sqm of additional library floor space is required at an estimated cost of £4.4m.

Accommodation for Faith Groups

6.4.3 The process of finding accommodation for faith groups has identified that there are a few large groups with significant congregation requirements (Anglican, Roman Catholic, Muslim etc) while there are many more with small to very small capacity needs. An

endeavour to cater for all congregations inevitably leads to some degree of premises sharing. The funding for such facilities is usually provided by donations from congregations which have no set pattern of regular income or predictability. Thus this report is unable to provide any cost estimate for appropriate provision, though there will be a spatial implication in any neighbourhood, particularly for larger premises including any multi faith community centres.

6.5 Emergency Services

6.5.1 For emergency services, capital costs relate to frontline services, including stations and appliances (rapid response vehicles). Funding remains the major issues in relation to providing new services, and expanding existing or developing new stations.

Police

6.5.2 Capital costs are expected to remain low in the short to medium-term, as no new development is required. In the longer term there is expected to demand for a new station or for the expansion of existing facilities. There will also be need for new neighbourhood police offices.

6.5.3 Essex Police have recently reinvigorated their expression to TTGDC of the need for a new Police Station at Purfleet through advice provided by consultants ERM to inform the Developer Contributions Strategy. The value of which is expressed in the region of £5.35m.

Fire and Rescue

6.5.4 In general, there are no plans for new fire services in Thurrock. Therefore Essex Fire has not provided any projected costs. However expansions to existing stations and purchase of new appliances might be required, to respond to new demand and to replace existing appliances (which should take place every ten years). The cost for a new fire station is estimated at £3m (excluding land values) and the cost of a new appliance is estimated as between £200,000 to £250,000.

6.5.5 Due to the fact that there is no commitment to any planned development, it is estimated that development of the equivalent of one new station and three new appliances will need to be required. At present there are no details in relation to required levels of expansion and additional and/or replacement appliances. Therefore this is estimated to cost £3.8m.

Ambulance

6.5.6 An annual Service Level Agreement (SLA) is agreed between the PCT and the Ambulance Services Organisation, which comprises a spending budget and targets. Within the SLA there is no budgetary provision for spikes in demand. The EEAST has indicated that no specific funding has been historically allocated to the Ambulance Service Organisation as a result of increased housing and business development. It considers this position is no longer acceptable.

6.5.7 EEAST have advised that population growth will create demand for a new ambulance station, fully equipped ambulance and a rapid response vehicle. Based on the costs in the Roger Tym study (2005) a new station costs approximately £3m, and an ambulance car costs £200,000 (with running costs at £500,000 per year). Therefore, total costs are estimated at £3.4m.

6.6 Green Infrastructure, Sport and Leisure

Green infrastructure

6.6.1 Green Infrastructure is expected to be delivered via Section 106 contributions / tariff arrangements. Thurrock Green Infrastructure Framework Plan identifies that through proper investment, funding and management the barriers to a fully-functioning green infrastructure network can be overcome. These are anticipated to be shared between the local authority and its development partners.

6.6.2 Few local authorities have a fully developed policy or evidence base position in the area of green infrastructure, one which identifies infrastructure costs or applies an up-to-date cost multiplier. In relation to children's play areas, including NEAPs, LEAPs and other facilities for people, the average cost per head of population is estimated at £60.93 (based on costs provided by Aylesbury Vale DC, 2008). Therefore, total costs in Thurrock are estimated at £2.7m for this infrastructure component.

6.6.3 Thurrock also estimate that multifunctional spaces will cost approximately £45m. In addition, proxy cost estimates for green infrastructure schemes can be drawn from the Thames Gateway Parklands – North Kent Business Plan 2008. This document is a fully costed sub-regional strategy. Relevant projects and their cost per ha are shown in the table below.

Table 6.2: Proxy cost estimates for Green Infrastructure Schemes

Scheme	Description	Costs
Bridges, marshes and connections – Dartford Bexley	Enhancement of 30 hectares of key open space, habitat restoration and creation works. Scheme includes 23km traffic free paths.	Total scheme cost – £3,278.000 Cost per ha - £109.000
Dartford Greenheart - Dartford	13.2 ha open space, 3.5km of new footpaths, a new visitor centre, restoration of habitats and woodland	Total scheme cost - £8,131,520 £625.00k investment in open space element – Cost per ha £47.300
Thames and Medway Canal - Gravesham	Conservation and enhancement of 6.56 ha of green space, and canal restoration	Total scheme cost - £2,040.100 Cost per ha - £310.000
A2 Activity Park – Gravesham	37.5 ha multi-use facility for cycling, mountain bikes and BMX events.	Total scheme cost - £3,964.000 Cost per ha - £105.000
Great Lines City Park - Medway	75 ha green space	Total scheme cost - £3,511.152 Cost per ha - £46.800
City to Sea on Sheppey - Swale	42 ha green space, new footpaths and cycle routes	Total scheme cost - £3,066.000 Cost per ha - £73.000
Milton Creek - Swale	50 ha green space	Total scheme cost - £2,349.500 Cost per ha - £47.000
Average cost of green infrastructure projects per ha		£105.000

6.6.4 It is very difficult to apply a fixed cost to green infrastructure schemes as a broad brush approach, due to the significant variance in individual scheme costs. Individual scheme costs need to be developed through design and feasibility studies. Urban schemes which include restoration and hard landscaping works tend to be significantly more expensive per hectare.

Sport and Leisure

6.6.5 The Council's Sports and Leisure department have estimated capital costs to cover the next ten years provision. Sports Hubs at Belhus and Blackshots are estimated to cost and at total of £55m.

6.6.6 A range of upgrades to existing facilities including the leisure centre at Corringham and outdoor sports centre at Orsett are also required. These refurbishment works are estimated to cost £1m each. New pitches are estimated to cost £2m in total and an additional £200,000 will be required to upgrade existing pitches. Also, existing tennis facilities require refurbishment at a cost of £500,000 and existing pavilions and bowls facilities require upgrades at costs of £100,000 and £200,000 respectively. Provision of a new sports hall is also likely to be required in the Purfleet area. A site has not yet been identified but the cost of development is estimated at £5m. In total, this development costs equate to £65m.

6.7 Waste Management

6.7.1 The Municipal Waste Strategy (2008) for 2008-2020 states that waste management practices are undergoing a period of rapid change, both in regulatory terms, and in the development of alternative technologies for managing municipal waste, as opposed to conventional disposal to landfill.

6.7.2 At present it is expected that capital costs will be relatively low, particularly for the short to medium term. The interim arrangement to 2017 will take the form of a gate-fee contract whereby additional capacity will be purchased. From 2017 onwards, a new bespoke solution for Thurrrock is most likely to be developed. This might require capital investment, and if so this will be identified during the procurement process. Similarly, the need for a new site will also be identified if required.

6.7.3 All households generate waste which needs collection and disposal. The Council is encouraging increased levels of recycling. There are costs associated with this initiative. The collection of refuse, materials for recycling and composting and the disposal of municipal waste cost a total of £6.3 million in 2005/06. This is equivalent to a rate of £102 per household in 2005/06. It is estimated that this cost will rise to £7.1 million in 2006/07, which is equivalent to a rate of around £114 per household. These costs will have to rise substantially over the coming years in order to meet the Council's obligations under the Landfill Allowance Trading Scheme (LATS) and Landfill Tax. In total future costs for 2007/08 totalled £9.4m.

7 Infrastructure Revenue Ratios

7.1 Overview

7.1.1 The methods adopted in determining the robust revenue ratios vary between different services. Some are based on funding levels set by Government and others are based on current costs to the Council at current service levels. The cost attribution is based on 2007/08 revenue budgets. If the Council wishes to increase the level of service, it may be able to achieve this by keeping current budgets the same whilst improving efficiency, or it can allocate increased funding either by changing funding distributions between budgets or by increasing the scale of the overall budget.

7.1.2 Where the Council has greater needs, it is likely that these will receive support in additional ways including:

- Accessing specific competitive funding sources such as European Social Fund (ESF)
- Making specific bids to Government and regional agencies

7.2 Thurrock's Budget and Approach to Cost Attribution

7.2.1 The Chief Financial Officer of the Council produces the annual estimates for portfolio holders and this data, which has been used in this report, relates to 2007/08. Financial allocations, including efficiencies, are made up of two components which are shown as the composite budget for each Portfolio Holder. In practice, the Portfolio Holder will only be responsible for accountable costs and this represents the disposable budgets from which services are funded or budgets reallocated. The Council defines all costs as being accountable or unaccountable as follows:

Accountable Costs:

7.2.2 Accountable costs relate to the direct cost of the services and are under the direct control of the service manager.

Unaccountable Costs:

7.2.3 Generally unaccountable costs cover recharges from central support services and from the Council's strategic partner Vertex, which provides a large number of services to the Council.

7.2.4 In generating the figures in this report, both accountable and unaccountable figures have been used for the services as most appropriate and a judgement has been made as to which costs are included.

7.2.5 As discussed in the methodology section of this report, the costs for some services will be either attributed to facilities or on a capitation basis. Where development increases the use of land or services, these might be represented through additional health or day centre or school, but to these capital costs must also be added the underlying cost of the public service for that individual dependent on their age or capacity.

7.3 Principles to Consider

7.3.1 In assessing the levels of funding required for revenue support for Thurrock's infrastructure, a number of principles will need to be considered as they will have a structuring effect on the negotiation of many of the ratios. These are identified as follows:

- **Length of time -** some facilities will need funding for their lifetime e.g. public realm and highways whilst others will need gap funding until they can be incorporated into centrally funded budgets e.g. health facilities and schools.
- **Place shaping issues -** some contributions may be required as part of an overall place shaping package e.g. to improve the quality of a school to enhance the attractiveness of an area/housing site or to improve maintenance regimes on adjacent sites – these again are likely to be short term and time limited.
- **Long term delivery mode -** some facilities such as schools, open spaces and other community facilities can be supported through commuted payments to the local authority or the use of other financial models such as PPP or the establishment of specific or general trusts e.g. for all open spaces or one open space. Other approaches here could include placing the funding with local delivery vehicles.
- **Transformation -** some delivery costs can be reduced through the remodelling of services and the provision of common front and back office delivery systems. The revenue contributions here are more likely to be gap funding to establish new arrangements with longer term benefits going to the service providers.
- **Whole life costing -** the standards applied by the authority in its design of roads, public realm and open spaces will be a key determinant in revenue costs for the maintenance of these facilities. Some authorities are now designing for 40 year life in roads and seeking contributions for the maintenance to this point. Whole life costing also applies to buildings and their use of energy, which is a particular issue for leisure buildings and swimming pools.
- **Pre or post funding -** some local authorities are now pre funding infrastructure and establishing funds for its care and maintenance e.g. LB Barnet. In this model, the infrastructure costs are recouped through s106 arrangements at the point of consent.
- **Risk and reward -** some local authorities are establishing arrangements with private sector partners which will allow for the sharing of costs with the potential to generate returns in the longer term.
- **Developer provision of infrastructure -** in some cases, local authorities accept built facilities as part of s106 contributions which are constructed by the developer as part of their overall conditional consent agreements, although delivered to a specific timetable, and then handed over to the local authority for management. In these cases maintenance needs to be taken into account by the local authority in any planning consent and s106 for the facility to ensure that it meets the local authority's standards.
- **Local contracts -** CLG has recently suggested that local authorities develop local contracts with their communities which include maintenance standards as well as the local list of deliverables. These could enable the negotiation of differential rates of revenue payment to support capital investment.

7.4 Transport

Highways

7.4.1 The provision of maintenance for highways come through the Council's own programme, the Local Transport Plan and through the development process which will be funded through a commuted payment, deployed as capitalised planned repairs and maintenance in practice.

7.4.2 The costs of Highways Services are made up of the following components:

- Drainage maintenance
- Traffic light maintenance
- Street furniture maintenance
- Road marking maintenance
- Environmental maintenance safety
- Winter maintenance
- Footway maintenance
- Carriageway maintenance
- Bridge maintenance
- Street lighting
- Patching
- Street cleaning

7.4.3 Some highway repairs will also be capitalised.

7.4.4 The Council has a number of transport functions which relate to the level of the day time and resident population in the local authority area. These functions include:

- Parking (on and off street)
- Pubic transport subsidies
- Concessionary fares
- School crossing patrols
- Road safety
- Traffic management

7.4.5 The costs of parking are covered by the income generated by fees, charges and fines and so do not need to be included here.

Current Costs

7.4.6 The Council funds highways and transport works from both capital and revenue budgets. Repairs can be capitalised and in 2007/08, the total budget available for these is £3.163m. Some of these are funded directly by the Council and some will be funded through the Local Transport Plan allocations from Government which runs to 2011.

Highway Costs

Table 7.1: Highway costs in Thurrock 2007/08

Activity cost centres	Accountable costs budget (£)	Unaccountable costs budget (£)	Total budget 2007/08 (£)
Drainage maintenance	311,887	0	311,887
Traffic light maintenance	186,919	21,545	208,464
Street furniture maintenance	364,873	0	364,873
Env maintenance safety	159,214	0	159,214
Winter maintenance	203,486	0	203,486
Footway maintenance	46,852		46,852
Carriageway maintenance	291,179	0	291,179
Bridge maintenance	102,309	0	102,309
Street lighting	1,229,256	0	1,229,256
Patching	1,056587	0	1,056587
Street cleansing	199,583	0	199,583
Totals	**4,152,145**	**21,545**	**4,173,690**

Source: Thurrock Council Annual Estimates for Portfolio Holders 2007/08

Transport costs

Table 7.2: Transport costs in Thurrock (excluding parking) 2007/08

Service Cost Centre	Accountable (£)	Unaccountable (£)	Total (£)
Public transport	1,019,861	679,776	1,699,637
Concessionary fares	807,208	0	807,208
School crossing patrols	6,038	137,473	143,511
Road safety	64,526	67,418	131,944
Traffic management	101,588	8,618	110,206
Total	**1,999,221**	**893,285**	**2,892,506**

Source: Thurrock Council Annual Estimates for Portfolio Holders 2007/08

Implications

Table 7.3: Highways and transport revenue costs

	Service	Unit	Amount (£)
HT1	Transport	Per capita	20
HT2	Highways - revenue	Per capita	28
HT3	Highways capitalised repairs	Per capita	21

7.5 Education

Principles of Funding

7.5.1 School places in England are funded by the DCSF. The funding is provided on the basis of each local authority area which is responsible for education (Counties, Unitaries, London Boroughs and Metropolitan Boroughs) on a capitation principle that funding follows pupils. The funding allocation is announced by DCSF, and in June 2007 a three year settlement for rates per eligible local authority was published for England. This funding is classified as revenue and payment is made directly to schools. The allocation to each school is made up of a per capita rate multiplied by the number of pupils.

7.5.2 In order to identify the number of pupils in each educational establishment, a pupil 'census' is undertaken annually in January and these numbers are translated into funding in the following year's settlement i.e. the school numbers taken in January 2008 will be translated into the funding settlement in November 2009 and received in April 2010.

7.5.3 Until Autumn 2008, there were no opportunities to seek additional funding for sudden changes in child numbers which may have occurred in the period since the annual pupil census. However, from Autumn 2008, additional funding will be available where pupil numbers have grown due to in-migration or the completion of new development. The methods for accessing this funding have not been published as yet but this will be a significant contribution in growth areas within the authority.

7.5.4 In the main, this annual funding supports teaching, support staff and school buildings maintenance. Where there are too few pupils for the number of places provided, then the local authority has to subsidise these. Where there are too few places for children, these have to be funded by the local authority until the funding comes through using the system described above. Where local authorities have significant numbers of vacant school places, this will impact on the availability of capital available for school building and enhancement within the area.

7.5.5 If a local authority wishes to access increases in capital, it will need to deal with vacant school places through creating additional demand through development, seeking to change catchment areas, improving school performance or closing school places. In some local authorities with significant growth, there has been a proactive approach to managing capacity to enable new school investment to be provided in locations that better suit new development.

Funding for Other Educational Activities 3-18

7.5.6 In addition to the funding provided for all school aged children for basic education, DCSF also provides additional funding for other activities and initiatives which may encourage sport, support teacher development and more recently have been focussed on extending the school day. These funding streams are now primarily rolled up in the Local Area Agreements (LAAs) which are signed by each local authority. Their contracts with government and the forthcoming round of agreements (submitted by each local authority since June 2008) will prioritise a series of activities within each locality including school aged children funding initiatives. Some initiatives stretch across different Government Departments such as Department of Health (DoH) and DCSF, particularly for children in care. The current LAA between 2007-2010 has a clear focus on improving pupil attainment at the primary phase and reducing the number of NEET's (Children not in education, employment or training). These two priorities have not had significant capital funding allocated to them.

Building Schools for the Future (BSF)

7.5.7 The Government has a school replacement programme primarily at secondary level, Building Schools for the Future which cannot be applied to new schools. However, some local authorities are merging schools to meet changing capacity needs (up or down) and finding ways of using BSF to meet all expected required provision. Thurrock is in Band D for BSF with an indicative inclusion in Waves 10-12, with the programme currently developing Band 6. Thurrock is identified as including its secondary schools in this programme and will include replacement or remodelling for at least three secondary schools by 2016.

Other Educational Services

7.5.8 In addition to funding education through school services, the Council also supplies educational services through supporting other means of delivery. From 2009-10, the Council will take on responsibility for services for 14-19 year olds to include vocational and college based provision. The Council also has a youth service which is generally delivered through the education service which is seen to have a role in personal and social development as well as contributing to diversion strategies. Finally, the Council contributes to Life Long Learning through the support of day and evening classes as part of leisure and community activities.

Children's Services

7.5.9 In addition to the costs of education, the Council also provides Children's services which support vulnerable children and their families. With a growth of population it could be assumed that there will be proportionate growth in the costs of children's services.

Overall Funding available from Central Government

7.5.10 Funding for schools comes through the direct Schools Grant of £88.4m. The Council also expects to review capital settlements of £34,442.4m between 2008-2011 which is a combination of grants and supported borrowing. The latter two years also include funding to support 14-19 year olds.[1]

Revenue Costs

7.5.11 The overall funding for education, children and schools from central government comes into the Council through Direct Schools Grant of £88.4m in 2007/08. In the same period, and funding envelope for other children, education and family services was £20.47m made up of the following:

Table 7.4: Thurrock education budgets 2007/08

	Service Cost Centre (£)
Education	7,349
Schools	0
Lifelong learning and skills	1,295
School care for children	11,595
Youth offending	231

Source: Thurrock Council Annual Estimates for Portfolio Holders 2007/08

[1] More information on funding streams is provided in Report 3.1.

7.5.12 In assessing the revenue cost per school place per pupil, two components need to be taken into account. The first is the cost of running the school including staff and non capitalised repairs and maintenance and the second is any cost attributed to running the school from the local authority.

7.5.13 In identifying the revenue costs it is important to consider a range of schools in Thurrock and their budgets to provide some indication of running costs per pupil. Each school's budget is made up through a series of components which include:

- Teachers and teaching support
- Administration
- Cleaning and caretaking
- Special initiatives
- Specific weightings for size, rurality, SEN pupils etc.

7.5.14 In 2008/09, Thurrock received £4,141 per pupil which going directly to schools to cover the costs identified above, rising to £4,291 in 2009/2010 and £4470 in £2010/11. In addition the Council will receive £1,475 per pupil for capital investment and capitalised repairs.

Home to School Transport

7.5.15 The Council is required to fund home to school transport if children have to travel to school beyond set distances and also where children have special needs. The size of these costs are difficult to determine as they rely on the scale of choice of school not within the immediate locality, which may relate to the quality of local schools, faith based school locations and migration in the area. In 2007/08, the cost of home to school transport in Thurrock was £1.77m.

Funding Issues to Consider

7.5.16 Additional issues to consider include the following:

- Additional children in the population will increase costs other than directly for school buildings and teaching costs.
- The responsibility for 14-19 training is being transferred back to local authorities and this may have implications for the provision of facilities for craft and vocational training.

Implications

7.5.17 The above issues imply that the following rate is applied on a per capita basis. The figures being used are based on 2008 financial estimates and a child population of 24,000. Local authority population is taken at 150,000 and 11-15s at 10,000.

Table 7.5: Education and Children

	Service	Amount P/A £ 2008	Unit
E1	Schools	4,141	Per child
E2	LLL	10	Per adult
E3	Children	483	Per child
E4	Youth offending	231	Per young person/averaged over TBC
E5	Education	306	Per child
E6	Home to school transport	74	Per child

7.6 Health

7.6.1 Funding for health facilities including primary and secondary are generated by the population in any area. A growth in housing numbers will generate an increase in health funding which can be utilised for primary and secondary care. Funding for health is channelled through the East of England Strategic Health Authority (SHA) and allocated to primary and secondary care. Part of the budget is allocated to the direct costs of running the services and the second part is allocated to the budgets for purchasing care through GP contracts.

7.6.2 There is an increasing expectation that local authorities will gap fund health provision between the time of new population arriving and the increase in local budgets which are associated with population data (SMRs – Standardised Mortality Rates) provided to the DoH by ONS on an annual basis.

Current Costs

7.6.3 The current costs of primary health care in Thurrock are set within the context of the SW Essex PCT which sits within the East of England SHA which has an overall revenue budget of approximately £7bn.

7.6.4 On 31st January 2008, the financial allocations to each PCT within the SHA area for commissioning were made by the board and these are shown as follows with an indication of the proportion of this which applies to Thurrock based on population size data i.e. with no specific weighting to child or older/disabled population figures. The SW Essex PCT served a population of 375,000 in 2006/07.

Table 7.6: Thurrock PCT Commissioning Budgets 2008-2011

	Total For SW Essex PCT (£)	Percentage Budget Allocation For Thurrock	PCT Budget For Thurrock (£ million)
2008/2009	583,480,000	40%	230.34
2009/2010	615,151,000	40%	240.6
2010/2011	647,763,000	40%	260

Source: Thurrock Council Annual Estimates for Portfolio Holders 2007/08

Implications

7.6.5 The revenue costs for primary health have been apportioned by a non weighted population figure and based on Thurrock's estimated 40% population element of the SW Essex PCT. This implies that the following rate is applied on a per capita basis:

Table 7.7: Healthcare provision

	Service	Basis	Amount (£)
H1 2008/09	Health commissioning	Per capita	1,560
H2 2009/2010	Health commissioning	Per capita	1,640
H3 2010/2011	Health commissioning	Per capita	1,730

Source: Thurrock Council Annual Estimates for Portfolio Holders 2007/08

7.7 Adult Social Care

7.7.1 The Council's revenue budget for adults and social care takes into account that a number of the services generate income and therefore it is proposed to use the net revenue budget for 2007/08 as the baseline figure. This is £27.55m. All the cost centres contained with the Adult and Social Care Budget are service based and there is no need to identify which services should be included in this analysis. Adults and those in receipt of social care will use a range of services over time and many services such as Occupational Therapy and Aids and Adaptations apply across the range albeit with a skew towards older people.

Current Costs

7.7.2 The net revenue costs of the service in Thurrock for 2007/08 are £27.6m and using the adult population figure of 125,000, these services cost £221 per person. However, these services are incorporated into grant and funding assessments annually and therefore it is proposed that these be applied for a period of 3 years.

Implications

7.7.3 This implies that the following rate is applied on a per capita basis:

Table 7.8: Adult Social Care

	Service	Basis	Amount (£)
ASC 1	Adults and social care	Per capita adults	220

7.8 Open Space, Sport and Leisure, Libraries and Culture

7.8.1 Open spaces are frequently provided as part of development and commuted payments for their maintenance is also often secured as part of the s106 agreement. The maintenance can be provided by the developer, or the responsibility can be placed in an estate management company of the local authority. These agreements are almost always site specific.

Current Costs

Table 7.9: Open space, Leisure, Libraries, Sport and Culture Budget

Activity Cost Centres	Accountable Costs Budget (£)	Unaccountable Costs Budget (£)	Total Budget 2007/08 (£)
Open space	2,042,447	482,996	2,525,443
Leisure	805,971	6,051	812,022
Libraries	1,885,638	724,200	2,609,838
Culture	233,145	328,805	561,950
Sport	655,337	137,761	793,098

Implications

7.8.2 This implies that the following rate is applied on a per capita basis:

Table 7.10: Open space, Leisure, Libraries, Sport and Culture

	Service	Basis	Amount (£)
L1	Open space	Per capita	17
L2	Leisure	Per capita	5
L3	Libraries	Per capita	17
L4	Culture	Per capita	4
L5	Sport	Per capita	5

Public Realm

7.8.3 The costs of street cleaning, graffiti clearance and maintenance of street furniture are all born by the local authority. Cleansing activity is a mixture of:

- Litter picking
- Manual cleansing
- Mechanical cleansing
- Mobile cleansing team
- Rapid reaction team

Current Costs

7.8.4 In 2007/08, the budget for cleansing in Thurrock was as follows:

Table 7.11: 2007/08 the budget for cleansing

Activity Cost Centre	Accountable (£)	Unaccountable (£)	Total 2007/8 (£)
Litter picking	286,754	22,176	308,930
Manual cleansing	226,109	19,299	245,408
Mechanical cleansing	180,614	14,566	195,180
Mobile cleansing team	396,968	21,116	418,084
Rapid reaction team	123,875	10,965	134,840
Totals	**1,214,320**	**88,122**	**1,302,442**

Source: Thurrock Council Annual Estimates for Portfolio Holders 2007/08

Implications

7.8.5 This implies that the following rate is applied on a per capita basis:

Table 7.12: Public realm

	Service	Basis	Amount (£)
PR1	Public realm	Per capita adults	9

7.9 Waste and Recycling

7.9.1 All new households in Thurrock will generate waste which will need collection and disposal. The Council will be encouraging greater recycling, although there are costs associated with this and landfill tax is set to rise further in coming years.

Current Costs

7.9.2 Costs of waste collection, recycling and disposal in Thurrock 2007/08:

Table 7.13: Waste collection, recycling and disposal budget 2007/08

Activity Cost Centre	Accountable Costs (£)	Unaccountable Costs (£)	Total 2007/08 (£)
Waste recycling	1,389,230	84,738	1,473,968
Refuse collection	2,854,182	92,574	2,946,756
Waste disposal	2,736,220	93,769	2,829,989
Civic amenities (recycling)	272,384	10057	282,441
Waste management and supervision	79,089	0	79,089
Totals	**7,331,105**	**281,138**	**7,612,243**

Implications

7.9.3 This implies that the following rate is applied on a per capita basis:

Table 7.14: Waste collection, recycling and disposal

	Service	Basis	Amount (£)
WR1	recycling	Per capita	12
WR2	Refuse collection	Per capita	20
WR3	Waste disposal	Per capita	20

7.10 Future Revenue Costs

7.10.1 As for capital costs, we used population trigger points to identify revenue costs. Revenue expenditure has been projected to 2021broadly in line with population forecasts given by the Office of National Statistics commencing at 150,000 for mid 2009. This assumes that the same level of service provision is applied to forecast population. As for capital costs, the figures provided in the table below are at 2007 prices.

Table 7.15: Future revenue costs

	Service	Current Provision (2007/08 population at 150,000)	2014 (Population Growth 15,100)	2021 (Population Growth 8,500)	Total (£ million)
HT1	Transport	3	0.3	0.2	3.5
HT2	Highways - revenue	4.2	0.4	0.2	4.8
HT3	Highways capitalised repairs	3.2	0.3	0.2	3.7
HT4	Public Transport	1.8	0.2	0.1	2.1
E1	Schools	103.5	10.4	6.2	120.1
E2	Lifelong learning	1.3	0.1	0.1	1.5
E3	Children	11.6	1.2	0.7	13.5
E4	Youth offending	2.3	0.2	0.1	2.6
E5	Education	7.3	0.7	0.4	8.4
E6	Home to school transport	1.9	0.2	0.1	2.2
H4	Health commissioning (@ £1,643 per capita)	246.5	24.7	14.8	286
ASC1	Adult and social care	27.6	2.8	1.7	32.1
L1	Open space	2.6	0.3	0.2	3.1
L2	Leisure	0.8	0.1	0.1	1
L3	Libraries	2.6	0.3	0.2	3.1
L4	Culture	0.6	0.1	0.1	0.8
L5	Sport	0.8	0.1	0.1	1
PR1	Public realm	1.3	0.1	0.1	1.5
WR1	Recycling	1.8	0.2	0.1	2.1
WR2	Refuse collection	3	0.3	0.2	3.5
WR3	Waste disposal	3	0.3	0.2	3.5
Total		430.7	43.3	26.1	500.1

8 Funding

8.1 Introduction and Context

8.1.1 This report summarises findings of previous Report 3.1 submitted in March 2008.

8.1.2 A number of references from the previous report are no longer relevant in a political, financial and fiscal dimension which is subject to constant change. In particular there has been a huge change over the last 22 months to market perception of the housing and commercial property market. Thus a whole section of our report addressing Residual Valuation and the potential for generating funding from S 106 moneys as written by King Sturge has been left out of this summary.

8.1.3 We reproduce here parts of two remaining sections of the report relating to European funding and UK public sector sources for funding. In both cases we have summarised the findings and conclusions of each and a fuller understanding of the necessary mechanisms can only be made with reference to the former full report. Should TBC require us to refresh this work, a revised brief would be needed probably in the context of the outcome of the submission of the Core Strategy to Council at the end of January 2010.

8.2 Initial scoping of European funding sources

8.2.1 As a key location for growth and change within the region, Thurrock offers major opportunities to promote the region and the UK in meeting its economic, social and environmental objectives. One of the key tasks will be to demonstrate how Thurrock can contribute to meeting regional objectives with the support of EU funding. It will then be important to demonstrate this to those who have responsibilities for making decisions about which projects are supported at the regional level.

8.2.2 The Council has had some success with EU funded projects including:

- Crossing the Borders in 2006 with partners in Holland, Belgium and other parts of Essex;
- Partnership with Poland 2004;
- Participation in gender participation research project funded by EU;
- Partner in gender equality network funded by EU.

8.2.3 Although Thurrock BC has been successful in obtaining some funding from a small range of EU funded programmes, the participation level in scheme application and success does not appear to be high. This may be for a variety of reasons:

- Lack of knowledge of what Thurrock BC is eligible for;
- Low political interest or the need to concentrate on other issues;
- Costs of entry i.e. investment required as a ratio to likely success;
- Funding perceived as being available from other sources e.g. Thames Gateway
- No engagement with or by EEDA on EU funding;
- Thurrock is low on EEDA's radar – there are few mentions in any of their published reports and strategies.

8.2.4 If the Council wishes to access EU funding to support its area, then it may need to consider the critical success factors which will support any approach for funding. These include:

- Being engaged in the EU funding process within the region;
- Targeting programmes and funds with the best match to Thurrock's ambitions and priorities;
- Identifying how Thurrock can help the region move up the EU's regional competitiveness table;
- Engaging with EEDA and GOE through participation in working parties, evaluation groups etc to demonstrate intent and also to improve awareness of rules of engagement;
- Consider current European partnerships and how they may need to be strengthened as part of the working process;
- Accepting that success may only occur in the longer term.

8.3 Wider policy context for England

8.3.1 The effectiveness of any proposal for EU funding from Thurrock BC will need to be set in the context of policy 'rules' set out by the EU and their interpretation within England and the East of England region. The key policy documents, as identified by EEDA are as follows:

National:

- The Science and Innovation Investment Framework 2004-2014 (2004)
- Skills White Paper (Leitch) (2005)
- The Sustainable Communities Plan (2003)
- The UK strategy for Sustainable Development (2005)
- Sub National review of Economic Development and Regeneration (2007)

Regional:

- Regional Economic Strategy, EEDA
- Regional Integrated Strategy, EERA
- Regional Spatial Strategy, EERA
- Regional Health Strategy, EERA
- Regional Social Strategy, EERA
- Regional Cultural Strategy, Living East
- Regional Environment Strategy, EERA

8.4 Making the case

8.4.1 In order to make the case for funding, Thurrock BC will need to consider a number of issues. The first is how to identify who can assist with the application process and support any bid. The East of England's European Office is a primary source of assistance here in addition to the European funding officers in GO East and EEDA. These individuals need to be included in a long terms engagement strategy which will support success.

8.4.2 The second issue is how the project can contribute to the achievement of enhancing the region's role within any chosen European league tables. The current position of the East of England is as follows:

- The East of England ranks 33rd out of 89 Euro zone regions in terms of the proportion of the adult population with tertiary (higher) level skills;
- the region is ranked 33rd out of 91 European regions in terms of GDP per worker
- the East of England is ranked 6th out of 91 regions in terms of business; expenditure on R&D;
- the region has the 12th lowest rate of unemployment across 91 European regions.

8.4.3 Within the region, Thurrock's GVA per head is lower than the national average (100) at 85 but is the highest in Essex. In addition to this, Thurrock BC will need to:

- Develop proposals within the terms of reference/criteria set out by each funding programme;
- Identify the matching funding of up to 60% although some may be provided by EEDA;
- Demonstrate how the project supports the attainment of the region's objectives;
- Ensure that chosen candidates projects are known and understood by those making the decisions on funding.

8.5 Funds

8.5.1 There are a number of key funds from which Thurrock BC can apply for EU financial support. This is a good time to be scoping the potential access to EU funds for Thurrock as the programmes are currently all starting new rounds of funding. The programmes for the preceding period up to 2006 are being replaced by a new series of funding schemes, as shown below:

Table 8.1: EU Funding Programmes pre and post 2006

2000-2006 Programme Period	2007-2013 Programme Period
Objective 2 European Regional Development Fund Programme	Competitiveness and Employment European Regional Development Fund Programme
Objective 3 European Social Fund Programme	Competitiveness and Employment European Social Fund Programme
EQUAL and URBAN Community Initiatives	Incorporated into the new Competitiveness and Employment Programme
Leader+ Community Initiative	Incorporated into the new Rural Development Programme for England (RDPE)
Interreg Community Initiative	Territorial Cooperation Objective (ERDF)
England Rural Development Programme (ERDP)	Rural Development Programme for England (RDPE)

8.5.2 A summary of EU funds available to Thurrock in the short term is provided below:

Table 8.2: Summary of main EU funds available 2007-2013

Fund	Total Available	Area Applied	Eligible?	Indicative Per Capita	Indicative LA Funding Target (40%)	Total Project Funding
ERDF	£80m	EEDA Region	yes	£16	£2.4m	£6m
ESF	£155m	EEDA Region	yes	£31	£4.7m	£11.75m
Cross maritime project 1	£114m	EEDA Region	yes	Share of project with partners	Not yet available	
Cross maritime project 2	£114m	EEDA Region	yes	Share of project with partners	No yet available	
Interreg 1 NEW	£238m	UK	yes	Share of project with partners	£1.4-£.4m per project	£2.8m-£8m
Interreg 2 North Sea	£102m	EEDA Region	yes	Share of project with partners	tba	Tba
RDPE	£65m	EEDA Region	yes	£12	£1.8m	£3.6m**2**

Summary of main EU Funds available 2007-2013

Erdf

8.5.3 The European Regional Development Fund (ERDF) is available throughout the UK. The East of England Programme has been given to EEDA to manage for the first part of the 2007-2013 period, after which it will be passed over to sub-regional partnerships to manage through Multi Area Agreements (MAAs).

8.5.4 The East of England has identified its key objective as being to create a region which is:

"[…] a leading economy founded on our world class knowledge base and the creativity and enterprise of our people in order to improve the quality of life of all who live and work here" (EEDA: RES, 2004).

8.5.5 The key elements of the programme are as follows:

- Managed by EEDA directly initially and then indirectly through MAAs;
- Objectives closely aligned to RES;
- Programme approved January 2008;
- Available for all 5.5m people in region. (Thurrock BC represents 3% of the population of the Region).

8.5.6 Two underlying principles:

- Supporting the process of delivering growth
- Delivering the growth agenda in a manner that recognises the region's carbon footprint

8.5.7 The overall theme is 'Supporting low carbon economic growth'. This is aimed at:

- Improving the knowledge economy to create more, higher quality jobs in the context of the unprecedented levels of planned growth;
- Encouraging innovation, entrepreneurship and growth of the knowledge economy by research and innovation, including new information and communication technologies;
- Creating more and better jobs by attracting more people into employment and by improving adaptability of workers and enterprises and increasing investment in human capital;
- Delivering the growth agenda in a manner that recognises the region's carbon footprint and the need to stabilise and reduce it.

8.5.8 A summary of the priority areas is provided below:

- Axis 1 to promote innovation and knowledge transfer with the intention of improving productivity - £25m (31%)
- Axis 2 to stimulate enterprise and support successful business by overcoming barriers to business creation and expansion - £18m (22%)
- Axis 3 to ensure sustainable development, production and consumption - £29m (36%)

Table 8.3: Summary of first bidding round

Bidding Invitations	Fund	Owner	Type Of Project	%Matched Funding Required	Other Funding?	End Date
2008-2009 (6 more rounds expected)	ERDF	EEDA	Equality of opportunity and environmental sustainability; should be in LSP submission	Up to 60%	EEDA will also expect to obtain matched funding for successful projects; s106 can be counted	2015

European Social Fund (ESF)

8.5.9 The Regional ESF programme was approved by the region's European Programmes Strategy Group in December 2007. The next step will be for EEDA to publish the co-financing programme for ESF in February 2008. The value of ESF during the period 2007-2013 for the Eastern Region is £155m.

8.5.10 The Regional priorities for ESF are:

Priority 1: extending employment opportunities including some priority groups:

- Aged over 50
- Family structure especially lone parents
- Low qualifications and skills
- Membership of certain ethnic minority groups
- Living in an area of high unemployment
- Women
- People with disabilities and health conditions
- Black and minority ethnic groups
- Ex-offenders and offenders
- NEETs (young people not in education, employment or training)

Priority 2: developing a skilled and adaptable workforce including some priority sectors:

- Construction/built environment
- Retail
- Logistics
- Health and social care
- Hospitality
- Manufacturing and engineering
- Land based industries

8.5.11 The Cross cutting themes for the programme are:

- Equal opportunity and diversity
- Sustainable development

8.5.12 Once the final version of the priorities and programme streams are published by EEDA there will be an opportunity to consider funding applications this year and onwards. It would be useful to undertake some immediate demographic analysis and skill shortage analysis to determine which groups need most support in Thurrock so that proposals can be discussed with EEDA and developed into project submissions.

INTERREG

8.5.13 Interreg programmes have been growing in importance with each successive phase of EU funding programmes. Initially Interreg was much smaller than the Structural Funds such as ERDF which were primarily aimed at supporting economically lagging regions. Now, Interreg supports all areas in the EU and is now likely to grow in scale as part of the EU's Territorial Cohesion policy which was adopted in 2004. Although project funding available from Interreg may still be relatively small in comparison with ERDF and ESF, it may be worth some investment as Interreg is likely to take on a greater role in the future.

8.5.14 The Interreg IV programme for North West Europe Region was approved in 2007 and has as its priorities:

- Knowledge based economy and innovation
- Natural resources and risk management
- Sustainable transport solutions and ICT
- Strong and prosperous communities
- Technical assistance

8.5.15 The total funding available is €350m and any project requires 50% matched funding, apart form technical assistance which requires 75%.

8.5.16 The North West Europe Region (NWE) is inviting proposals for projects and has a current call out which will run between April 7th and 9th May 2008. The priorities for the Programme are:

Table 8.4: INTERREG West Europe Region Priorities

Five Priorities	
1.	A more attractive and coherent system of cities, towns and regions
2.	Accessibility to transport, communication infrastructure and knowledge
3.	Water resources and the prevention of flood damage
4.	Stronger ecological infrastructure and protection of cultural heritage
5.	Enhancing maritime functions and promoting territorial integration across seas

8.5.17 There are currently five projects which are lead by organisations in the East of England in this programme and 14 projects in which there is an East of England partner. There are 98 projects listed in total. The five projects with an East of England lead are as follows with the total value of the EU funding support ranging from €2-5m (£1.4m-£3.4m).

Table 8.5: Summary of INTERREG approved projects with UK partner

‘BRANCH’ - Biodiversity Requires Adaptations in Northwest Europe under a Changing climate	
Lead Partner:	English Nature
Measures	4.1
‘CROSSCUT’	
Since the Industrial Revolution, while some canals and navigable rivers were enlarged to meet the needs of freight transport, many lost their transport function and were closed to navigation. CROSSCUT builds on the findings of the INTERREG II [...]	
Lead Partner:	British Waterways
Measures:	4.2
‘MESH’ - Development of a framework for Mapping European Seabed Habitats	
The MESH project, led by the UK’s Joint Nature Conservation Committee, will focus on seabed areas within the NWE. Their diverse habitats and biodiversity are important food and energy resources as well as essential components of the ecosystem [...]	
Lead Partner:	Joint Nature Conservation Committee
Measures:	5.2

‘SAIL-II’ (Schéma d’Aménagement Intégré du Littoral)	
With an ambitious partnership between fifteen regions from the UK, France, Belgium and the Netherlands SAIL II (Schéma d’Aménagement Intégré du Littoral) is a transnational endeavour seeking to foster greater cooperation between maritime regions over three years.	
Lead Partner:	Essex County Council
Measures:	5.2
‘SPATIAL METRO’ - A Network for Discovering the City on Foot	
Visitors are often put off spending time in cities they find difficult to navigate their way around. The objective of the SPATIAL METRO project is to provide a way of making cities and their component elements legible and navigable for visitors and local people. The 11.2M Euro project will adopt the ‘metro’ style maps as the model for guiding pedestrian movement around cities.	
Lead Partner:	Norwich City Council
Measures:	1.1

Source: Interreg website

North Sea Region

8.5.18 The North Sea Region Programme has an overall endeavour and four key objectives as follows. This endeavour translates into Four Programme Objectives, which are to promote transnational co-operation that:

- Increases the overall level of innovation taking place across the North Sea Region,
- Enhances the quality of the environment in the North Sea Region,
- Improves the accessibility of places in the North Sea Region,
- Delivers sustainable and competitive communities.

8.5.19 Applications for funding from the North Sea Region are open from 18th February 2008.

Rural Funds

8.5.20 Part of Thurrock is a rural area and could be eligible for EU rural funding. The Rural Development Plan for England was approved in December 2007 by the EU. Within the East of England region, Thurrock has 1.4% of VAT registered businesses in agriculture, forestry and fishing.

8.5.21 The Rural Development programme for England (RDPE) was approved in 2007 and has three key priorities or axes which will result in funding streams administered by a number of agencies including EEDA for those which are likely to be operational within Thurrock. The total funding available in England will be £3.9bn and the East of England will be allocated £65.82m to manage. Of the three key priorities, Axis 2 will remain as a national fund with Axis 1 and Axis 3 being delivered through Regional Implementation programmes.

Axis 1: improving the competitiveness of the farming and forestry sectors

Axis 2: improving the environment and the countryside

Axis 3: improving the rural quality of life and diversification of the rural economy

8.5.22 The draft East of England Regional Implementation Programme for RDPE was submitted to Defra in September 2007. It has identified seven priority themes for the East of England Region as follows:

- Business efficiency
- New markets and products
- New businesses and enterprises in the rural economy
- Resource protection
- Conservation of the Natural and Built Environment
- Access and Recreation
- Rural community capacity

8.5.23 At present no detail on the timescale for applications is available.

7th framework Programme for Research and Development (FP7)

8.5.24 FP 7 is open to public and private entities and has three main aims:

- Strengthening the EU's science and technology use
- Improving the EU's competitiveness
- Supporting policy development in the EU

Territorial Cooperation Objective in ERDF

8.5.25 This fund is available to part of the East of England including Thurrock as formerly part of Essex. The total fund for the UK is approx €460m. The ERDF Operational Programme indicates that Thurrock will be eligible to bid for schemes for two cross maritime programmes. The funding will be divided between three objectives:

- Cross border cooperation 78%
- Transnational cooperation 19%
- Interregional cooperation 3%

8.5.26 Co financing may be up to 75%. The East of England ERDF Operational Programme identities that there are specific funds which will be available through these programmes although little detail is yet available.

- 2 maritime cross border programmes – each at €168m
- Pan European programme – worth €375m

'Jeremie, Jessica and Jasper'

8.5.27 Three schemes for incorporating urban and economic development into the EU's cohesion policy were launched in 2005 and 2006. They utilise the expertise and funding of European financial organisations such as the European Investment Bank, European Investment Fund and Council of Europe Development Bank to provide seed funding for new initiatives.

8.5.28 At present there is no published application of their use in the UK although this is expected in due course.

'Jessica'

8.5.29 Jessica (Joint European Support for Sustainable Investment in City Areas) is an initiative of the Commission in cooperation with the European Investment Bank (EIB) and the

Council of Europe Development Bank (CEB), in order to promote sustainable investment, and growth and jobs, in Europe's urban areas.

8.5.30 The need to do more in this field has been requested in the context of the consultation on the draft Community Strategic Guidelines adopted by the Commission in July 2005. In addition, the report by European Parliament (Jean Marie Beaupuy) of September 2005, "The urban dimension in the context of enlargement" called on 'the Commission to reinforce actions for urban agglomerations and areas'. At the high-level conference involving the Presidency, the regions and financial institutions in Brussels on 24 November 2005 on the theme of Financing growth and cohesion in the enlarged EU the outline of a JESSICA-type cooperation agreement between the Commission and the international financial institutions was presented and received widespread support. The Informal Meeting of Ministers in Bristol on 6-7 December 2005 on sustainable communities called for a reflection on 'how to enhance the impact of EIB loans'.

'Jeremie'

8.5.31 JEREMIE, Joint European Resources for Micro to medium Enterprises, is an initiative of the Commission together with the European Investment Bank (EIB) and the European Investment Fund (EIF) which promotes increased access to finance for the development of micro, small and medium-sized enterprises in the regions of the EU. JEREMIE was launched by the Commission and the EIB/EIF at a ministerial meeting in Brussels on 11 October 2005 and received large support. It was subsequently presented at the high-level conference involving the Presidency, the regions and financial institutions in Brussels on 24 November 2005 on the theme of "Financing growth and cohesion in the enlarged EU" where again it received wide support.

8.5.32 Improving access to finance is a priority area of the renewed Lisbon agenda for growth and jobs in an effort to increase the availability of capital in Europe for new business formation and development. Past experience has shown that this is an area where the programme authorities would like to do more, but they lack both expertise and access to risk capital. JEREMIE, by creating a framework for cooperation with the specialised financial institutions, the EIF and EIB, as well as other international financial institutions, is designed to help to overcome these difficulties.

'Jaspers'

8.5.33 JASPERS, 'Joint Assistance in Supporting Projects in European Regions', seeks to develop this cooperation in order to pool expertise and resources and to organise them in a more systematic way to assist Member States in the implementation of cohesion policy. The aim of JASPERS is to offer a service to the Member States, targeting regions covered by the new Convergence Objective for the period 2007-2013. The service will help the authorities in the preparation of major projects for submission to the Commission. In this way, the service will help to improve the quantity, quality and rapidity of projects coming forward for approval, for the benefit not only of the Member States and regions directly concerned but also for growth and convergence in the Union as a whole.

8.5.34 In the longer term, out of the three funding mechanisms mentioned above, the use of JESSICA is expected to be the most significant.

8.6 Initial scoping of public sector funding mechanisms

8.6.1 This section summarises the current known sources of public funding for those categories of infrastructure included in Report 2.1. It also assesses the scope for securing additional funding from alternative sources to supplement mainstream allocations and grants.

8.6.2 Key costs from Table 6.1 and chapter 4 on Transport are reproduced below in Table 8.6 to show the most critical items of capital cost that need to be funded in Thurrock. Costs of land are not included as these will vary widely depending upon site selection.

Table 8.6: Summary of future capital costs

Service Area	Cost Per Unit	Total Cost
Highways and Junctions	n/a	£100m
Public transport	n/a	£3m
SERT	n/a	£60m
West Thurrock Station	n/a	N/A
Secondary health care	n/a	N/A
Primary health	£6.5m to £10m per health centre	£93m
Dentists	£59,000 per single practitioner surgery	£0.5m
Pre-school facility	£750,000 per facility	£19.5m
Primary schools	£4.8m	£52.5m
Secondary schools	£25m	£80m
Post-16 education	£11,660 per student	£97m
Community centres	£651,600	£3.9m
Libraries	£3,210 per sqm	£4.4m
Green grid		£71.3m
Multifunctional Spaces		£45m
Parks and Gardens		£3.5m
Amenity Greenspace		£2.5m
Children's Play Space		£2.5m
Equipped play areas	£60.93 per person	£2.7m
Sports Hubs		£55m
New sports provision		£7m
Sports refurbishment upgrades		£2.5m
Informal open space	£32,000 per ha	£0.35m
Police	n/a	£5.35m
Fire and Rescue services	n/a	£3m
Ambulance	n/a	£3.45m
Waste Collection and Recycling		£9.4m
Total Capital Costs		**c. £727.35m**

8.6.3 Table 8.7 overleaf summarises future revenue costs so far as they have been able to be estimated by service providers. In contrast to Table 7.15 in the previous chapter these costs are based on the current Core Strategy growth projections rather than Office of National Statistics (ONS) forecasts which are lower. The infrastructure implications for housing and population growth resulting from the Core Strategy are examined in more details in Chapter 9 to follow. However they constitute substantial growth beyond ONS forecasts, e.g. 29,500 by 2021 (cf. 23,600 via ONS forecast) and a further 15,500 to 2026 for which no ONS forecast is available. The difference between Tables 7.15 and 8.7 is some £60m of revenue cost. This represents at 2007 prices, the consequence of Thurrock's significant increase of population over ONS forecasts (c.45,000 compared with 23,600) over the next 15 years, assuming current revenue based income is allowed to increase pro rata with population.

Table 8.7: Summary of future revenue costs

	Service	Current Provision 2007/08 (Population At 150,000)	2014 (Population Growth 10,000)	2021 (Population Growth 19,500)	2026 (Population Growth 15,500)	Total (£ Million)
HT1	Transport	3	0.2	0.4	0.3	3.9
HT2	Highways - revenue	4.2	0.2	0.4	0.3	5.1
HT3	Highways capitalised repairs	3.2	0.2	0.4	0.3	4.1
HT4	Public transport	1.8	0.1	0.2	0.2	2.3
E1	Schools	103.5	7.2	13.5	10.2	134.4
E2	Lifelong learning	1.3	0.1	0.2	0.1	1.7
E3	Children	11.6	0.8	1.5	1.2	15.1
E4	Youth offending	2.3	0.2	0.3	0.2	3
E5	Education	7.3	0.5	0.9	0.8	9.5
E6	Home to school transport	1.9	0.1	0.2	0.2	2.4
H4	Health commissioning (@ £1,643 per capita)	246.5	17.3	32.0	25.4	321.2
ASC1	Adult and social care	27.6	1.9	3.6	2.8	35.9
L1	Open space	2.6	0.2	0.3	0.3	3.4
L2	Leisure	0.8	0.1	0.1	0.1	1.1
L3	Libraries	2.6	0.2	0.3	0.3	3.4
L4	Culture	0.6	0.1	0.1	0.1	0.9
L5	Sport	0.8	0.1	0.1	0.1	1.1
PR1	Public realm	1.3	0.1	0.2	0.1	1.7
WR1	Recycling	1.8	0.1	0.2	0.2	2.3
WR2	Refuse collection	3	0.2	0.4	0.3	3.9
WR3	Waste disposal	3	0.2	0.4	0.3	3.9
Total		430.7	30.1	55.7	43.8	560.3

8.7 Local government finance

8.7.1 Mainstream local government funding is particularly relevant to community facilities, waste disposal and emergency services. It is also relevant to flood defence but we have dealt with this separately because of its importance to Thurrock.

8.7.2 The Lyons Inquiry had been contemplating major reforms of local government finance but at its conclusion Government indicated that no major changes would occur for the foreseeable future. The two graphics below illustrate the distribution of local authority spending and sources of capital funding.

Figure 8.1: Distribution of spending by LAs 2006/07

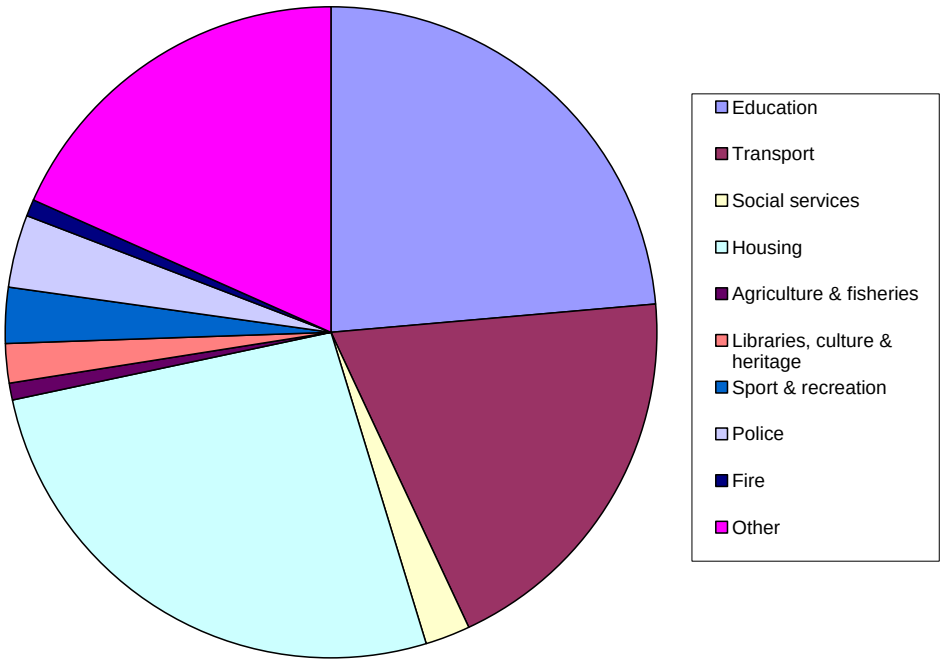
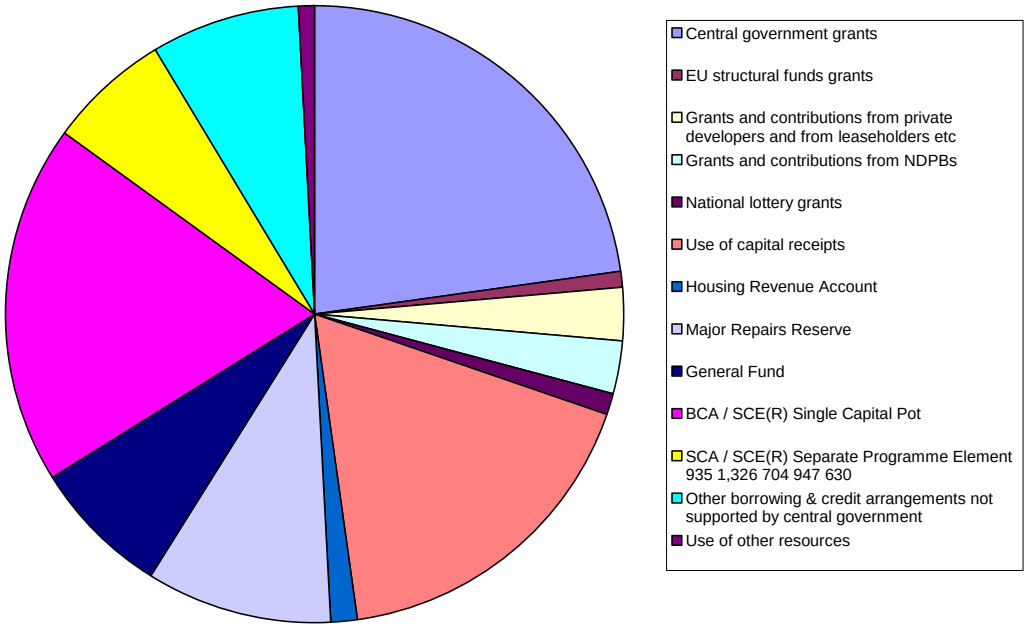


Figure 8.2: Financing of local authority capital expenditure: England 2002-3 to 2006-7 (£ millions)



8.7.3 Government distributes funding to local authorities in three main blocks, covering capital expenditure, housing revenue expenditure and general revenue expenditure.

8.7.4 We will look first at the main formula grant. Housing, education and transport are dealt with separately.

8.7.5 The main Revenue Support Grant for local authorities changed from the old FSS formula to the new 4 Block formula for the 2006-8 spending round. Detailed announcements of local authority awards for 2008-11 have now been made and the overall settlement is tough, with many authorities receiving well below the national average increase because they are "on the floor".

8.7.6 Formula Grant is now calculated on a 4 Block Formula system. The most important thing to understand is that the Chancellor determines the total size of the cake available for funding at the Comprehensive Spending Review. The cake is funded from business rates (£17.5bn 2006-7) and a top up from central taxation (£3.4bn). The formula determines how that cake is cut up between authorities.

8.8 Growth funding

8.8.1 Since 2003, Government has also, of course, provided funding targeted at growth areas including Thurrock. Much growth oriented funding for Thurrock is channelled through the Development Corporation, which received an allocation of £90m over three years. This is significantly more than most other areas in Essex received.

8.8.2 Government's current intention, as we understand it, is that responsibility for Growth Area funding will transfer to the Homes and Communities Agency after 2009 and this will include funding for TTGDC.

8.8.3 In 2005 Planning Delivery Grant (HPDG) was introduced. It has been criticised for providing relatively small amounts of money that were not always spent on improving planning delivery. It also produced some perverse behaviour from authorities under pressure to hit targets. For 2008-11 it has been turned into the HPDG and allocated £500m in funding.

8.8.4 Government said the HPDG will be targeted at the areas across the country where housing growth is a priority, including the four major growth areas and 49 towns and cities who have proposed extensive housing growth in their areas. Further details will be set out in a consultation shortly, including precise eligibility and allocation criteria. The first payments are expected in 2008.

8.8.5 It has been trailed in the press that payments could amount to £1,000 per house, rising to £5,000 in the next spending round – this remains to be seen.

Other Funding Sources

8.8.6 In his speech to the LGA cited above, John Healy listed other ways he thought local authorities could raise money particularly to help secure investment for economic development and for new homes, new growth and new services, which were:

- business rate supplements
- the proposed community infrastructure levy
- transport charging
- prudential borrowing
- trading charges

8.8.7 We discuss CIL as part of our work on funding options (see section 7.4). Prudential borrowing is obviously only possible if there is an income stream to finance interest and repayment. Transport charging is a medium to long term option. The scope for increased

use of trading charges was the subject of "Positively Charged" a report from the Audit Commission published in January 2008 and we can benchmark Thurrock's performance.

8.8.8 There are obvious political implications locally for increasing trading charges, business rate supplements and transport charges, as there are for council tax increases.

8.8.9 There is also a wider point. Thurrock has ambitious growth targets by comparison with the rest of Thames Gateway Essex but also a weaker competitive position in terms of economic base and socio economic profile. It needs to be careful not to make its competitive position weaker by making itself more expensive. This is a particularly sensitive issue in relation to London Gateway which is at the eastern end of the authority. There is little point in a strategy that encourages new workers to go and live in, say Laindon because it is cheaper!

8.9 Economic development

8.9.1 Thurrock, as part of Thames Gateway South Essex, sits slightly oddly within the East of England. Its high profile with government ensures it receives its share of funding and attention from EEDA, but it does not fit with a number of EEDA initiatives such as Regional Cities East and the IDP programme. Southend has been quite successful in making itself part of the Gateway but is also a regional player. Thurrock might review its positioning to make sure it is not missing out to a significant degree.

8.9.2 Economic development, in the shape of local employment, is one of the priorities for Thurrock. There have been some significant structural shifts in the funding regime since 2005. The first is far reaching reform of the European policy framework (see section 4). From Thurrock's perspective this means a change from vertical support, targeted at sectors and regions, towards horizontal aid targeted at innovation, entrepreneurship and SMEs. This makes it easier to deliver public sector support to businesses, but does not, of itself, deliver any more funding.

8.9.3 The other significant change in this context is the publication of the Sub-National Review of Economic Development and Regeneration. This transferred full responsibility for regional development agencies from CLG to the new Department of Business Enterprise and Regulatory Reform (DBERR), itself the successor to the Department of Trade and Industry (DTI).

8.9.4 DBERR has not yet settled down but the expectation must be that RDAs will align their activities more closely with traditional DTI concerns. This would mean much less emphasis on physical interventions and more on large scale training and employment initiatives. Meanwhile, the Regional Development Agencies have received a reduced funding allocation in SR07 and they are under pressure to make cuts.

8.10 Funding Options Overview

8.10.1 This section provides an overview of the funding options for addressing the inadequacies in existing provision both in terms of its overall scale and timing of delivery.

8.10.2 The issue of infrastructure provision in the UK is a priority within government at present with growing recognition, most recently expressed in Budget 2008, that years of underinvestment is impacting on the prospects for UK plc in addition to wider social and environmental performance. In the Budget the Chancellor proposes a more systematic approach to infrastructure planning as part of the LDF process alongside the emerging proposals for a Community Infrastructure Levy. It will be important that any locally developed proposals for Thurrock fit within the emerging national framework.

8.11 Scale and Sources of Infrastructure Funding

8.11.1 A summary of current sources of capital funding for the full range of infrastructure addressed by this study is provided in the table below.

Table 8.8: Sources of Infrastructure Funding

Infrastructure Type	Public Funding	Private Funding
Social Rented Housing		Registered Social Landlords, Developer contributions
Affordable Housing	Housing Corporation	Developer Contributions, PFI
Transport	Local Transport Plans, Community Infrastructure Fund, Transport Innovation Fund, Regional Funding Allocation, Highways Agency	Developer Contributions, PFI
Utilities		Utility companies (via user charges – but subject to regulator enforced price constraints).
Waste Disposal	Waste Performance Efficiency Grant (formula based) Challenge Fund (biddable) Council Tax	PFI
Flood Defence	DEFRA (Grant in Aid) – strategic flood defence	Developer Contributions – development site related provision
Further Education	Learning and Skills Councils	
Primary and Secondary Education	Education Formula Spending (DoE), Basic Needs (for growth areas top up funding)	PFI (Building Schools for the Future), developer contributions
Primary and Secondary Healthcare	SHA Strategic Capital Budgets and Prudential Borrowing. Population driven but often experiences time lag, especially in growth areas.	PFI (e.g. LIFT), Developer Contributions.
Libraries	No dedicated funding stream	
Open Space, Parks and Playspace, sports and leisure provision.	No dedicated local authority funding stream – but biddable sources include Lottery, Sport England, DCLG.	Developer contributions (or direct provision)
Communities Hall	Local authorities but often no dedicated funding streams	Developer contributions (or direct provision)
Emergency Services	DCLG, Home Office and DoH -population driven but can experience time lag, especially in growth areas.	PFI available not widely used.

Timing of Investment and the need for forward funding

8.11.2 This study is predicated on a presumption that current forms of infrastructure funding (public and private) will remain inadequate to meet the infrastructure needs associated with the planned levels of growth in Thurrock. However, this does not apply solely to the quantum of investment but also the timing of delivery. Developer contributions through s106 or a tariff will not in themselves overcome this constraint on delivery as developers'

(particularly house builders') cashflow constraints will usually preclude payment of contributions in advance of development. Whilst this may be an inconvenience in relation to community facilities it can prove an absolute constraint on critical strategic infrastructure such as utilities, transport and flood defences.

8.11.3 For major transport schemes we understand that Government are actively investigating a national forward funding scheme to partially address this issue. Regional proposals have also come forward in the South West and South East and it will be important that this study takes account of ongoing work by GO-East and the forthcoming East of England RSS Implementation and Investment Plan. At the local level Milton Keynes Partnership's tariff scheme for example is predicated upon a forward funding mechanism facilitated by English Partnerships, as a ringmaster and banker, in recognition of the fact that infrastructure needs to be in place in advance to attract investment.

8.11.4 Management and co-ordination of a wide range of potential funding streams will be critical regardless of the options pursued. In summary the following will be key criteria to be taken into account in determining the most appropriate funding options and associated delivery arrangement to develop in Thurrock:

- The scale of funding required for different types of infrastructure
- Understanding of public sector funding commitments
- The phasing of infrastructure delivery vis a vis the availability of public funding i.e. the extent to which some element of forward funding for infrastructure will be required to unlock development opportunities;
- Identification of critical funding gaps / shortfalls
- The projected level of developer contributions that can realistically be captured
- The ability to leverage additional (private sector) resources to maximise investment.
- The allocation of project risk and how its funding is managed amongst the delivery bodies

9 Housing and Infrastructure Needs Trajectories

9.1.1 The work below takes the site specific housing growth data and applies various standards for provision to both existing and future population by zone to arrive at estimates of future surpluses and deficits. This chapter also forms Appendix 4 of the TBC Core Strategy (CS).

9.2 Housing growth commitments

9.2.1 The existing populations of the planning zones are set out in Table 9.1 and Table 9.2 presents the housing growth data made available to Colin Buchanan during January 2010, from the draft Core Strategy. These are presented in 5 year tranches – 0 to 5; 6 to 10; 11 to 15; and beyond 15 years. Year 0 is deemed to be the current year April 2009 to March 2010 (hence the first phase amounts to 6 years) with the CS planning horizon running to 2021, thence 2026.

9.2.2 For purposes of grouping local infrastructure needs, CB has placed this growth in zones as follows:-

A. Purfleet
B. Aveley and South Ockenden;
C. Lakeside and West Thurrock;
D. Grays;
E. Tilbury and Chadwell St Mary;
F. Stanford le Hope and Corringham;
G. Rest of Thurrock Borough.

9.2.3 These zones (see Figure 9.1) largely mirror the regeneration areas identified in the Core Strategy (CS) document though Zones B, F and G are not categorised as regeneration areas in the CS.

Table 9.1: Mid 2008 population estimates for planning zones

Planning Zone	Population estimates based on ONS mid 2008 MSOA[1]
A. Purfleet	5 552
B. Aveley and S Ockenden	23 737
C Lakeside and West Thurrock	4 860
D Grays and NE Grays	53 905
E Tilbury and Chadwell St Mary	21 520
F S. le Hope, East Tilbury and Corringham	34 901
G Rest of Borough, Villages/ Green Belt	7 108
Totals	151 580

[1] middle layer super output area (msoa)

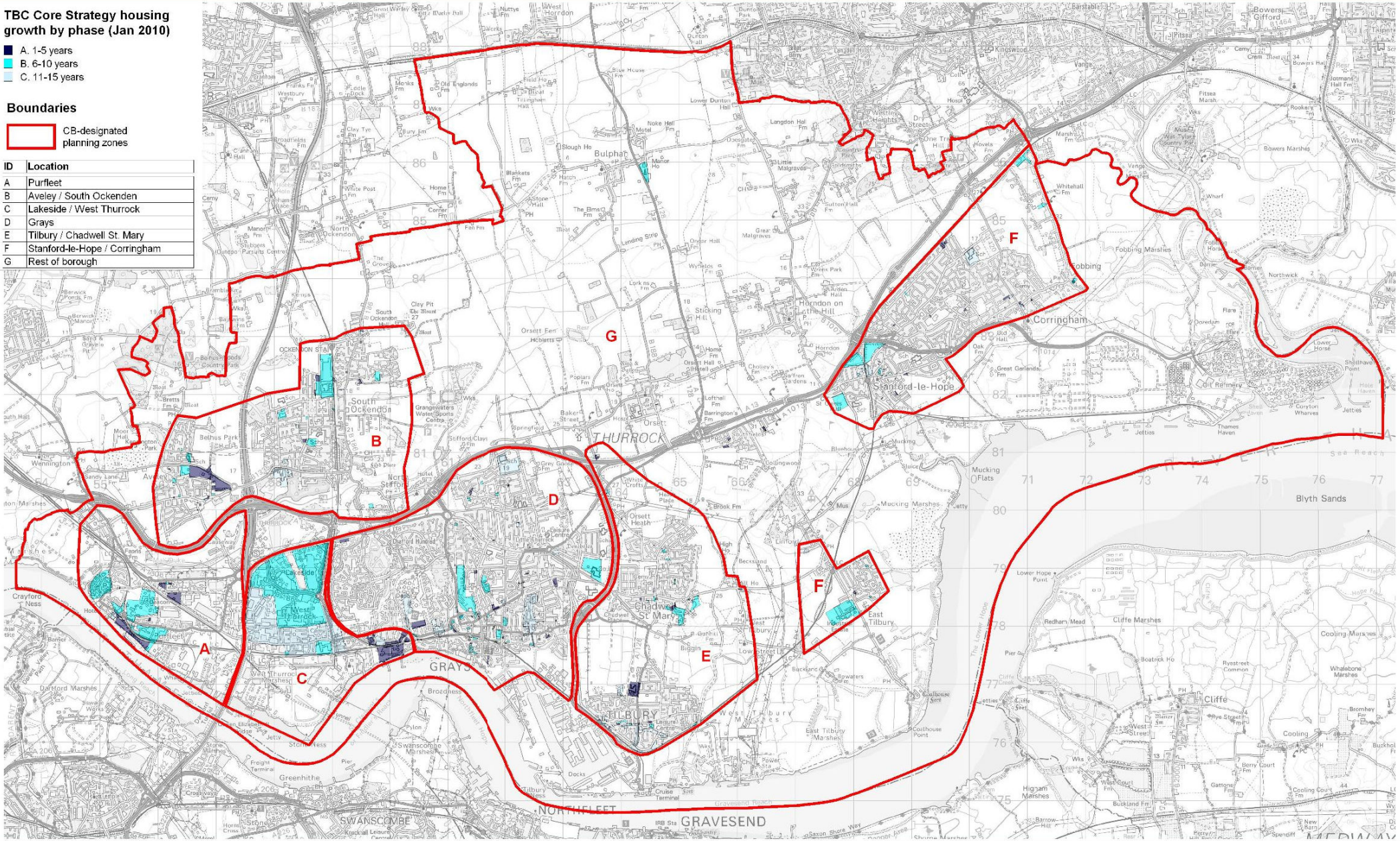
TBC Core Strategy housing growth by phase (Jan 2010)

- A. 1-5 years
- B. 6-10 years
- C. 11-15 years

Boundaries

CB-designated planning zones

ID	Location
A	Purfleet
B	Aveley / South Ockenden
C	Lakeside / West Thurrock
D	Grays
E	Tilbury / Chadwell St. Mary
F	Stanford-le-Hope / Corringham
G	Rest of borough



Drawing Title	**TBC CORE STRATEGY HOUSING GROWTH BY PHASE (JANUARY 2010)**
Client	Thurrock Council
Job Title	Infrastructure Prioritisation and Implementation Programme

Newcombe House
45 Notting Hill Gate
London
W11 3PB

T 020 7309 7000
F 020 7309 0906
www.cbuchanan.co.uk

COLIN BUCHANAN

Scale:	N/A
Designed by:	JH
Drawn by:	JH
Ckd/Appd:	HR
1st Issued:	January 2010
Job No:	17162-01-1

Drg No: FIG 9.1

Table 9.2: Housing Commitments by Zone

Planning Zone	0 To 5 Yrs	6 To 10 Yrs	11 To 15 Yrs	Totals
A. Purfleet	1,176	1898	105	3179
B. Aveley and S Ockenden	522	1,404	227	2,153
C Lakeside and West Thurrock	1,373	1758	3112	6243
D Grays and NE Grays	704	2,124	2,171	4,999
E Tilbury and Chadwell St Mary	275	440	700	1,415
F S. le Hope, East Tilbury and Corringham	187	590	404	1,181
G Rest of Borough, Villages/ Green Belt	55	56	0	111
Totals	**4,292**	**8,270**	**6,719**	**19,281**

9.2.4 Chapter 2 of the CS sets out the policy context for these allocations which exceed by some 4% the Regional Spatial Strategy (RSS) revised allocations for the Borough (a minimum of 18,500 by 2021)

9.2.5 The main driver for new infrastructure requirements is population rather than numbers of dwellings so we have applied a multiplier to the housing data to calculate the new population which each zone will be likely to accommodate. The starting point for this is average household size as defined by the Office of National Statistics. The average household size in Thurrock for the last 3 decennial census years was as follows in Table 9.3.

Table 9.3: Average Household size in Thurrock 1981-2001

Year	Total Pop	Total Households	Av. Household Size
1981	124,855	43,741	2.85
1991	126,734	49,111	2.58
2001	143,129	58,478	2.45

9.2.6 Projecting this forward to the beginning of the CS planning cycle, and assuming continued, though diminishing reductions, over 15 years, the following average household sizes have been assumed for each of the 5 year intervals. These have been adopted as the multipliers to new dwelling numbers to derive new population numbers:-

- 0 to 5 years: 2.4
- 6 to 10 years: 2.35
- 11 to 15 yrs: 2.3
- beyond 15 yrs: not applicable as no new dwelling numbers factored into planning horizon for this exercise.

9.2.7 Applying these multipliers to Table 9.2, the build up of new population in each zone would be as follows in Table 9.4. In order to refine the likely future infrastructure requirements for the different zones it will be necessary to factor in the types of dwellings provided (that is, flats or houses) and the size of dwellings (1 bed 2 bed and so on) and use this information to calculate an average household size in different zones. At this stage it has not been possible to apply this level of sensitivity to the analysis because of the lack of data, but it is hoped that in future it will be possible to refine the analysis.

Table 9.4: Population growth by zone derived from housing trajectory

Planning Zone	0 To 5 Yrs	6 To 10 Yrs	11 To 15 Yrs	Totals
A. Purfleet	2822	4460	242	7524
B. Aveley and S Ockenden	1253	3299	522	5074
C Lakeside and West Thurrock	3295	4131	7158	14584
D Grays and NE Grays	1690	4991	4993	11674
E Tilbury and Chadwell St Mary	660	1034	1610	3304
F S. le Hope, East Tilbury and Corringham	449	1387	929	2765
G Rest of Thurrock Borough	132	132	0	264
Totals	**10301**	**19434**	**15454**	**45189**

9.2.8 The population growth by zone derived from the housing trajectory shown above in Table 9.4 is based on the number of net dwellings that are projected to be built in the 15 years from 2009. The population growth associated with this policy-based assessment is projected to be higher than that estimated in the trend-based 2006-based population projections published by the ONS in 2008.

9.2.9 It is expected that the projections based on net dwelling increase will vary from the trend based projections to some degree because of the different methodology and because of likely future changes in the type and size of dwellings provided, relative to those built in the past. A significant difference arises from the fact that the ONS trend based population and household projections show a projected reduction in the average household size across the Borough. This likely reduction in average household size relates to the existing stock of dwellings as well as the future dwellings with the result that the future population in the existing dwelling stock is likely to fall.

9.2.10 A further assessment of the differential between the two sets of projections is being produced. However, owing to the difference in methodology, this cannot be expected to provide a complete match between the two sets of data.

9.3 Infrastructure needs trajectories

9.3.1 Of the infrastructure categories assessed in this infrastructure study, about a quarter have some need for close proximity to neighbourhood level communities, corresponding to the zones as defined above, and three quarters are either planned and budgeted on a Borough wide basis or regionally/ sub regionally. Those identified as of local or zonal significance, thus requiring locations in close proximity to the communities they serve, are as follows:-

- Early Years' learning;
- Primary Schools;
- Open Space;
- Community halls;
- Libraries;

9.3.2 The following categories of infrastructure are deemed to be Borough wide or beyond, in terms of the selection criteria for their location:-

- Secondary schools;
- Further education establishments;
- Healthcare polyclinics;
- Elderly persons' care facilities;
- Sports pitches and built leisure facilities;

- Waste disposal facilities;
- Police stations;
- Ambulance stations;
- Fire stations;
- Transport – please note that transport and other strategic infrastructure is dealt with in chapter two of this study.

9.3.3 Regionally based infrastructure is not addressed in the infrastructure study:

- Strategic open space provision;
- Potable water infrastructure
- Sewerage
- Power generation and distribution mains;
- Telecommunications networks;

9.3.4 The approach to each zone has been to identify the population threshold which triggers the need for new local and Borough wide provision, to identify a need based inventory of provision. Table 9.5 to Table 9.11 now provide the detail of infrastructure required at neighbourhood scale within all zones of Thurrock Borough:

9.3.5 The following assumptions have been applied to these calculations, partly based on the population thresholds:-

9.3.6 Where relevant, provision has been rounded down to whole facilities, any arithmetical additions (e.g. 0.4 of a facility where the formula requires 2.4 facilities) being moved to the subsequent 5 year period to build a cumulative need.

- 2000 additional children of early years age Borough wide, disaggregated to each zone proportionately with housing numbers. Each facility accommodating up to 52 children;
- 4323 additional children of primary school age Borough wide, disaggregated to each zone proportionately with housing numbers. 1 primary school can accommodate 420 pupils
- 1 GP per 2000 population; Current deficit of GP's in Thurrock is 18, but this estimate is not included in these figures.
- No allowance has been made in these assumptions for faith group accommodation

Table 9.5: Purfleet (Zone A) Local Infrastructure Needs Trajectory 0 to 15 years

A. Purfleet	0 to 5 yrs	6 to 10 yrs	11 to 15 yrs	Total
Population	**2822**	**4460**	**242**	**7524**
Early Years (pre-school facilities)	2	4	1	7
Primary Schools	1	1	0	2
GPs (if individual)	1	3	0	4
Community hall space (sqm)	689	1112	62	1,863
Libraries (sqm)	83	134	7	224
Parks and Gardens (ha)	1.7	2.9	0.1	4.7
Amenity Greenspace (ha)	2.2	3.5	0.2	5.9
Children's Play Space (sqm)	988	1,595	88	2,671

Table 9.6: Aveley and South Ockenden (Zone B) Local Infrastructure Needs Trajectory 0 to 15 years

B. Aveley S Ockenden	0 to 5 yrs	6 to 10 yrs	11 to 15 yrs	Total
Population	**1253**	**3299**	**522**	**5074**
Early Years (pre-school facilities)	1	3	0	4
Primary Schools	0	1	0	1
GPs	1	1	1	3
Community halls (sqm)	306	823	133	1,262
Libraries (sqm)	37	99	16	152
Parks and Gardens (ha)	0.7	2.1	0.3	3.1
Amenity Greenspace (ha)	1.0	2.6	0.4	4
Children's Play Space (sqm)	439	1,180	191	1,809

Table 9.7: Lakeside and West Thurrock (Zone C) Local Infrastructure Needs Trajectory 0 to 15 years

C: Lakeside And West Thurrock	0 to 5 yrs	6 to 10 yrs	11 to 15 yrs	Total
Population	**3295**	**4131**	**7158**	**14584**
Early Years (pre-school facilities)	3	4	6	13
Primary Schools	1	1	1	3
GPs	2	2	3	7
Community halls (sqm)	805	1,030	1,824	3,659
Libraries (sqm)	97	124	220	440
Parks and Gardens (ha)	2	2.6	4.8	9.4
Amenity Greenspace (ha)	2.6	3.3	5.8	11.66
Children's Play Space (sqm)	1,154	1,477	2,615	5,245

Table 9.8: Grays and NE Grays (Zone D) Local Infrastructure Needs Trajectory 0 to 15 years

D: Grays And NE Grays	0 to 5 yrs	6 to 10 yrs	11 to 15 yrs	Total
Population	**1690**	**4991**	**4993**	**11674**
Early Years (pre-school facilities)	1	5	4	10
Primary Schools	1	1	1	3
GPs	1	2	3	6
Community halls (sqm)	413	1,245	1,272	2,930
Libraries (sqm)	50	150	153	353
Parks and Gardens (ha)	1	3.2	3.3	7.5
Amenity Greenspace (ha)	1.3	4.0	4.1	9.3
Children's Play Space (sqm)	592	1,785	1,824	4,200

Table 9.9: Tilbury and Chadwell St Mary (Zone E) Local Infrastructure Needs Trajectory 0 to 15 years

E: Tilbury And Chadwell St Mary	0 to 5 yrs	6 to 10 yrs	11 to 15 yrs	Total
Population	**660**	**1034**	**1610**	**3304**
Early Years (pre-school facilities)	1	1	1	3
Primary Schools	0	0	1	1
GPs	0	1	1	2
Community halls (sqm)	161	258	410	829
Libraries (sqm)	19	31	49	100
Parks and Gardens (ha)	0.3	0.6	1	1.9
Amenity Greenspace (ha)	0.5	0.8	1.3	2.6
Children's Play Space (sqm)	231	370	588	1,189

Table 9.10: Stanford le Hope, Corringham and East Tilbury (Zone F) Local Infrastructure Needs Trajectory 0 to 15 years

F: Stanford Le Hope, Corringham And East Tilbury	0 to 5 yrs	6 to 10 yrs	11 to 15 yrs	Total
Population	**449**	**1387**	**929**	**2765**
Early Years (pre-school facilities)	0	1	1	2
Primary Schools	0	0	1	1
GPs	0	0	1	1
Community halls (sqm)	110	346	237	692
Libraries (sqm)	13	42	28	83
Parks and Gardens (ha)	0.2	0.8	0.5	1.5
Amenity Greenspace (ha)	0.3	1.1	0.8	2.2
Children's Play Space (sqm)	157	496	339	992

Table 9.11: Rest of Borough, Green belt/ Villages (Zone G) Local Infrastructure Needs Trajectory 0 to 15 years

G: Rest Of Borough, Green Belt/ Villages	0 to 5 yrs	6 to 10 yrs	11 to 15 yrs	Total
Population	**55**	**56**	**0**	**111**
Early Years (pre-school facilities)	0	0	0	0
Primary Schools	0	0	0	0
GPs	0	0	0	0
Community halls (sqm)	56	57	0	113
Libraries (sqm)	7	7	0	14
Parks and Gardens (ha)	2.5	0.1	0	2.6
Amenity Greenspace (ha)	0.2	0.2	0.0	0.3
Children's Play Space (sqm)	80	82	0	162

9.3.7 In Table 9.12 below all the above infrastructure needs at neighbourhood (zone) level are summarised.

Table 9.12: Whole Borough (Zones A to G) Local Infrastructure Needs Trajectory 0 to 15 years

A to G Whole Borough	0 to 5 yrs	6 to 10 yrs	11 to 15 yrs	Total
Population	**10301**	**19434**	**15454**	**45189**
Early Years (pre-school facilities)	8	18	13	39
Primary Schools	3	4	4	11
GPs	5	9	9	23
Community halls (sqm)	2540	4871	3938	11349
Libraries (sqm)	306	587	473	1366
Parks and Gardens (ha)	8.4	12.3	10	30.7
Amenity Greenspace (ha)	8.1	15.5	12.6	36.2
Children's Play Space (sqm)	3641	6985	5645	16271

9.3.8 Tables 9.5 to 9.11 detail the local infrastructure requirements generated by the additional population in the District, but in planning for future provision account has to be taken of any existing surplus or deficit capacity. In Table 9.13 below we set out the anticipated level of provision for local needs infrastructure, based on the existing population, and the current actual provision. The table then sets out the surplus / deficit when the existing situation and future needs are combined, minus any committed provision. A health warning should be added here. This table is indicative only and, for example, the overall number of primary schools is not as important as the capacity of individual schools and their location relative to demand. Similarly with community halls, these need to be located close to the communities they are to serve and therefore the indicated over supply does not mean that future development schemes will not have to provide a local community hall.

9.3.9 From Table 9.13 it can be seen that there is relatively limited spare capacity within the existing infrastructure.

Table 9.13: Local infrastructure needs of the existing and future population

A to G Whole Borough	ONS 2008 population based existing needs	Existing provision	Existing surplus / deficit (-)	Committed expenditure	Future needs	Overall surplus / deficit (-)
Population	151 580					
Early Years (pre-school facilities)	131	95	-36	Equivalent of 1.5 facilities planned	39	-73
Primary Schools	37	43	6	Refurbishment of existing schools and matching capacity to demand.	11	-5
GPs	76	58	-18		23	41
Community halls (sqm)	37 896 (22 halls)	32	10	Refurbishment of existing halls	11 349 (6.5 halls)	4
Libraries (sqm)	4 548	10 Libraries	0		1 366	-1 366 (3 Libraries)
Parks and Gardens (ha)	100	62.12	-37.88		31	-69
Amenity Greenspace (ha)	121	--	--		36	-36
Children's Play Space (sqm)	54 570	--	--		16 271	-16 271

NB -- indicates information not available

9.3.10 The above table illustrates that the most pressing needs for new social infrastructure at neighbourhood level in Thurrock both current; and over the plan period, is early years pre-school facilities and children's play space; together with adequate amenity green space and parks and gardens. This amply demonstrates the challenge which will be set by the intention to focus future growth in the already densely developed south west of the Borough. The current surplus of places at primary school level is broadly evened out over the plan period with a deficit of one unit recorded by 2021. The current shortage of GPs is largely corrected with plans for increases already identified. There is a current surplus of Community Halls which will reduce over the plan period though as for open space and primary schools, the main challenge will be locating these in suitable proximity to the communities they will serve.

9.3.11 The infrastructure assessment is an ongoing process and to be updated throughout the plan period. Equally, each development application will be assessed against the capacity of infrastructure likely to be impacted by the development. More detailed assessments of provision against need can only be effective at a local planning level.

9.3.12 Table 9.14 identifies those elements of infrastructure which will need provision at Borough wide level to service overall increases in population resulting from the housing trajectories above. The following assumptions have been applied to these calculations:

9.3.13 Where relevant, provision has been rounded down to whole facilities, any arithmetical additions (e.g. 0.4 of a facility where the formula requires 2.4 facilities) being moved to the subsequent 5 year period to build a cumulative need.

- 2608 additional children of secondary school age Borough wide, disaggregated to each zone proportionately with housing numbers. 1 secondary school can accommodate 1000 pupils;
- 1 FE college generated at 25,000 population threshold, so 2 assumed for new population of c.45,000;
- A polyclinic is assumed to accommodate 8 general practitioners;

- Dentists reflect PCT estimate of need;
- Sports hubs generated at 15,000 population threshold but existing hubs can be upgraded to cater for future population growth;
- All emergency services based on needs assessments from relevant service providers.

Table 9.14: Infrastructure Needs Trajectory Borough wide for years 0 to 15

Thurrock Borough	0 to 5 yrs	6 to 10 yrs	11 to 15 yrs	Total
Population	**10301**	**19434**	**15454**	**45189**
New or Extended Secondary Schools	1	1	1	3
Further Education Establishments (new or extensions)	0	1	1	2
Health Centres/ Polyclinics	1	1	1	3
Dentists	2	3	3	8
Sports Hubs	1	1	0	2
Police Stations	1	0	0	1
Ambulance Stations	1	0	0	1
Fire Stations	0	0	0	0
Waste Disposal	0	0	1	1

9.3.14 As with local infrastructure, surplus and deficits of borough wide infrastructure have been identified and are set out in Table 9.15 below.

9.3.15 The same caveats apply to Borough wide infrastructure as to local infrastructure. Capacity and location of individual facilities is more important than whether there is an arithmetic over or undersupply.

Table 9.15: Borough wide infrastructure needs of the existing and future population

Thurrock Borough	ONS 2008 population based existing needs	Existing provision	Existing surplus / deficit (-)	Committed expenditure	Future needs	Overall surplus / deficit (-)
Population	151 580					
New or Extended Secondary Schools	10	11	1	1 new school planned to serve Purfleet & West Thurrock	3	-1
Further Education Establishments (new or extensions)	6	4	-2	1 new campus for Palmer's College; National Academy for Creative Arts (with the Royal Opera House); Logistics Academy; Thurrock Learning Campus	2	-2
Health Centres/ Polyclinics	9	15	6		3	3
Dentists	27	57	30		8	22
Sports Hubs	N/A	2	0	Hubs to be upgraded	upgrade	0*
Police Stations	N/A	5	0		1	-1
Ambulance Stations	N/A	2	0		1	-1
Fire Stations	N/A	3	0		0	0

* Additional playing pitch provision subject to further assessment

9.3.16 Table 9.15 shows that for Borough level infrastructure there is almost no surplus capacity to utilise in the future. Apparent over supply of one Secondary School switches to a one facility deficit by 2021, while a current Further Education facility deficit remains to the end of the period. However the position regarding education provision is more complex than the table indicates because capacity in individual schools varies across the Borough, and it is possible that a proportion of future needs can be met through utilising capacity at individual schools. When an application is submitted a detailed assessment of the impact of a proposed development can be undertaken.

9.3.17 An apparent surplus of health facilities currently reduces to a deficit to 2021, reflecting the changing needs of health care close to the population served. A current shortage of sports facilities in the Borough is forecast to increase overall, as will the deficit in dental treatment.

10 Conclusions

10.1.1 This report is the culmination of a wide range of tasks related to the integration of infrastructure requirements with population growth. The breadth of its original terms of reference set nearly 3 years ago in early 2007, is testament to the vision of Thurrock Borough Council at the time. Faced with an ambitious RSS growth target of 18,500 new dwellings, TBC appreciated the need for joined up planning for the infrastructure needed to support this future housing growth. This pre-dated 'Total Place' as a recent local government initiative, but the subsequent three years has been 'total place in action' as Service Providers with little previous experience of spatial planning to 15 and 20 year time horizons, got to grips with planning for their futures alongside the Borough's land use planners charged with developing a coherent spatial plan for delivery of properly serviced communities.

10.1.2 Thurrock is a relatively small area already with a high density of population focussed in the south west of the Borough. Green Belt and other policies have prevailed over the last 36 months of Issues and Options evolution to ensure that this concentration will only increase through the next 15 years. In certain areas such as Grays and Purfleet, much work has been done, often in conjunction with the Development Corporation who generated 5 Master Plans for regeneration growth, to identify areas for new employment and housing. The challenge now, having identified associated social infrastructure needs in Chapter 9 above, is to identify sites for these in close proximity to the growing communities to be served. The findings of chapters 6 and 9 demonstrate an acceptable degree of compatibility of commitment to new infrastructure and its population activated need for most service categories.

10.1.3 One zone of major growth in housing projected in the Core Strategy, is Lakeside and West Thurrock. To some extent the task in finding social infrastructure sites for West Thurrock mirrors that of Purfleet and Grays; all areas of recent and older housing for existing communities where site finding for further housing and infrastructure will be a combination of intensification of existing uses and identifying gaps in the current urban fabric where they become available.

10.1.4 Such a concept of 'infill regeneration' cannot be applied in the Lakeside Regional Centre itself, destined under the Core Strategy to take thousands of new homes by 2021. The Lakeside centre currently comprises a vibrant out of town shopping facility of regional and sub regional significance with most of the plots to the south of the main shopping centre, occupied by commercial land uses which will have to undergo major re-development as a new mixed use residential, retail and commercial town centre. Delivering a significant shift of parts of Lakeside to residential uses and their associated social infrastructure, will be a major task not only of master planning but partnership dialogue between the current owners and occupiers of the site, and the Council charged with accommodating this growth in the area. This will start with the need to update the transport assessment in this area, to be sure that the combination of residential, commercial and retail trip generation is feasible on the highway network. This is just one factor posing unique challenges for an Area Action Plan or other designated planning vehicle for the future redevelopment of Lakeside, which with the completion of this Infrastructure Implementation Plan, now becomes a priority in delivering a significant portion of growth in the Borough.

10.1.5 The recent government announcement transferring the powers and responsibilities of TTGDC to the Homes and Communities Agency from April 2010, will also have a significant impact on TBC. Implementation of the major changes and planned development envisaged in the Core Strategy and this Infrastructure Prioritisation and Implementation Plan, will move centre stage for TBC, as the Council re-assumes primary

responsibility for delivering the integrated planning of the Borough's major growth targets for the next 15 years.