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Rotherham Metropolitan Borough Council

Infrastructure Delivery Study

Final Report May 2012

CONTENTS

APPENDICES

SUMMARY

1. Roger Tym & Partners (part of Peter Brett Associates LLP) were commissioned to prepare this infrastructure delivery study to inform the delivery of the growth planned for the Core Strategy. The broad directions of growth, quantum and trajectory for the Core Strategy formed the basis for this study.

Our brief

2. Our brief in short was to:

- Inform Rotherham Metropolitan Borough Council (RMBC) of the key infrastructure requirements, cost and funding arising from the growth proposed in the Core Strategy;
- Pull together the infrastructure requirements evidence and identify any growth barriers, show stoppers or phasing issues;
- Advice on the future delivery of the infrastructure needed to support the planned growth.

The study approach

3. Our starting point was to map the broad directions and quantum of growth (see figures 2.1 and 2.2). For the level of growth proposed we sought to answer the following questions:

- What are the infrastructure requirements arising from growth? When is infrastructure needed? What are the costs? Are there any issues or barriers?
- How can new infrastructure be funded? We look at mainstream funding, anticipated S106 payments and possible levels of future CIL funding.
- What are the key challenges that will need to be addressed in order to facilitate housing and jobs growth?

4. Infrastructure is not static, information on capacity, requirements and cost is constantly changing. The study is thus accompanied with a number of caveats and should be seen as a snap shot in time.

We worked closely with the service providers

5. Our approach is based on close working with individual service providers to understand their particular requirements. Most service providers have expressed a desire to remain involved as part of an infrastructure delivery forum.

We classified infrastructure in two ways

6. Our assessment considered infrastructure that is needed to unlock development and also wider transport, social community infrastructure needed for sustainable development[1]. The items assessed are summarised in the table below.

[1]Note it is possible for some infrastructure e.g. transport can be classified as both primary and secondary.

Primary infrastructure	
Ambulance	Fire
Police	Health
Education	Transport
Recreation and Arts	Community centres
	Libraries
Secondary (utilities) infrastructure	
Waste	Gas
Electricity	Waste water
Potable water	Flood defence and drainage
Telecommunications	

Changes to study

7. Two main changes were introduced part way through the study:

- Firstly, there was an adjustment in the scale and direction of growth. We responded to this with a review of the changes and their impact on delivery (see section 24).
- Secondly, at the time of commission, we were working to the requirements stemming from Planning Policy Statement 12 (PPS12). Since then, the National Planning Policy Framework (NPPF) has come into force (March 2012) which now replaces the PPS12. We respond to this by assessing the keys policy requirements stemming from the NPPF (see section 1); and have sought to ensure the requirements are picked up in the assessment and recommendations.

The study findings in brief

8. The National Planning Policy Framework places considerable emphasis on local authorities to consider infrastructure planning, joint working and understanding of viability and delivery as part of the plan preparation process. Similarly, it requires the Local Plan to include a strategic policy about infrastructure planning. We have worked with the client team to script a policy relating to infrastructure for the draft Core Strategy.

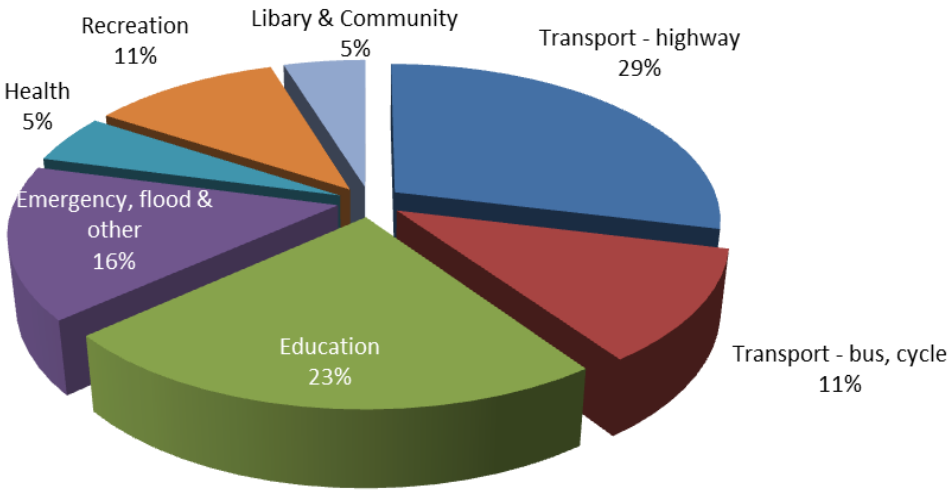
9. No 'showstoppers' were identified at this stage, based on the information presented, that would prevent the delivery of the proposed growth. However, there is a need for careful management to ensure the timely delivery of growth without causing undue 'stress or pain' on existing infrastructure.

10. This is particularly true for transport, education, flood and waste water infrastructure in some areas (particularly for the 'Rest of Rotherham' area and some of the other settlements). We have used a traffic light assessment to identify potential 'pinch points' in capacity.

11. All service providers were very mindful of the need to minimise infrastructure costs and on going revenue cost implications arising from new growth. It could be said that this infrastructure study has been prepared against a backdrop of the current economic climate. Innovative methods have been sought to reduce costs and create additional capacity to meet the needs of growth.

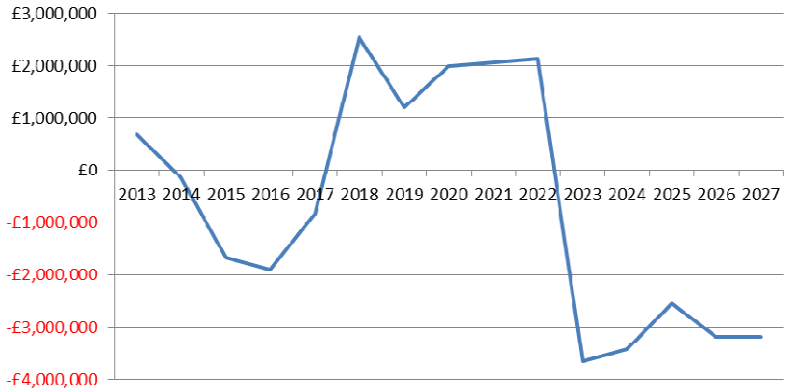
12. Having said this, taking account of the infrastructure requirements stemming from the proposed growth, there is currently an estimated infrastructure funding gap of over £50m. Once estimates for securing developer contributions are factored in, this funding gap could be reduced depending on the level of growth actually taking place. A summary of the growth related requirements, cost and funding is set out in section 23.
13. Over 50% of the cost is attributable to transport and education. Much of the transport infrastructure is intended to deal with the cumulative impact of growth in the centre of Rotherham and key routes into Rotherham. There is also a need to put in place infrastructure to address existing congestion and deficits, and some schemes are planned to address this at present.
14. The percentage cost attributable to the various categories is shown in the chart.

Infrastructure costs (%) attributable to growth in the Rotherham Core Strategy



15. The successful delivery of the infrastructure to meet the needs of the growth proposed in the Core Strategy will depend on careful infrastructure project management and showing that the infrastructure required for the first five years can be delivered. It is not possible to know all sources of funding so far ahead, and most providers have not identified any mainstream funding sources at present.
16. One of the fundamental requirements is therefore to ensure that the necessary funding is in place to fund the critical infrastructure required in the short term. The cash flow chart shows the short term assessment based on likely infrastructure requirements, funding and cost for RMBC. This will change considerably depending on infrastructure schemes, trajectory, funding and costs - it provides an indication to help strategic planning and management of delivery.

Cash flow projections over the core strategy period



17. The Council will need to take key decisions on the infrastructure priorities, the level of 'stress' and congestion that is considered 'acceptable' to help support the delivery of growth. At the same time, important decisions will be required on the how finite developer contributions are to be used, (for instance to fund infrastructure or other priorities such as affordable housing and other policy requirements).

18. It should be stressed that the identification of infrastructure items in this study does not guarantee that the item will necessarily be 'funded' by developer contributions or external sources.

19. Mainstream funding will be an essential part of the mix to pay for infrastructure, particularly for those services that are funded on the basis of growth in population (capitation basis – albeit retrospectively). Having said this, securing developer contributions to pay for the some of the infrastructure requirements will also be important, particularly in the short term whilst public sector funding is being cut.

20. Given the type of development proposed, there will be a need for both site specific and wider strategic infrastructure requirements. Due to changes introduced in the 2008 Planning Act related to the use of S106 developer contributions and the introduction of the Community Infrastructure Levy (CIL) to pay for 'strategic infrastructure', it will be important for the Council to seriously consider implementing a CIL to secure contributions towards some of the strategic infrastructure that will be required to meet the needs of the proposed growth in the Borough.

21. This is particularly relevant for transport, education and a range of other social and community infrastructure; and especially for the area defined as the 'rest of Rotherham (see figure 3.1)'. By it's nature, the growth in the 'rest of Rotherham will be dispersed throughout the area[2]. As a result there is not one major strategic transport infrastructure required to 'unlock the growth site'; but there will be 'additional pain' from the cumulative impact of growth on the existing transport networks, especially on the inner ring road and other junctions in the town centre and in existing schools.

[2] This area does not include Bassingthorpe Farm which is treated separately in this assessment.

22. Although Bassingthorpe Farm is scheduled for the later part of the plan period, given its scale and importance to the overall plan, there is a need for on-going discussions involving the key site owners and the transportation team, health, education and Yorkshire Water to ensure careful planning and funding of key infrastructure to support timely delivery.

23. For the purpose of this study, it has been assumed that the infrastructure requirements to meet the needs of the Waverley urban extension will be met via the consented S106 developer contributions package.

Need for an infrastructure delivery mechanism to be established

24. The drive for efficiency savings, innovation, clawing back capacity and cost reductions measures such as shared service delivery will continue to remain important. As will the need to seek new ways to generate income for instance energy from waste projects for council properties, green burials and car parking charges. Using other sources of income such as New Homes Bonus may also be important to support short term funding gaps, as may the scope to use prudential borrowing and forward funding of possible Community Infrastructure Levy income.

25. Given the need for careful planning and management of infrastructure funding and delivery, we would recommend that a formal infrastructure delivery mechanism be established. If this route is taken, the Infrastructure Delivery Mechanism would need to be practically orientated and could focus on the following:

- Establishing an infrastructure service provider's forum that meets for specific themed surgeries to discuss growth priorities, and infrastructure requirements / issues. This concept was market tested with the service providers and there was overwhelming support for this.
- The infrastructure project manager should identify tasks on the critical path, set dates for those issues to be resolved, and clarify delivery roles and responsibilities for different organisations and individuals.
- Focus on how problems are to be resolved, priorities determined, risk identified and plan ahead to support growth.
- Define issues in time sequence. This would allow the focusing of resources on short term issues and a process of active planning for medium term issues. Longer-term problems (where it is clear that fundamental changes in funding regimes or market conditions are required) could be left for future work;
- Help the political process by clarifying decisions that need to be taken, when they need to be taken, and what the ramifications of choices are.
- Engage with cross border partners to ensure strategic infrastructure is carefully planned and delivered and any clawback of capacity is carefully managed.

1 INTRODUCTION

1.1 This report sets out the infrastructure delivery assessment for the whole of the Rotherham Metropolitan Borough Council area. Roger Tym & Partners (part of Peter Brett Associates LLP) were commissioned by Rotherham Metropolitan Borough Council (RMBC) to prepare this infrastructure delivery study for the Core Strategy planned growth period from 2013 to 2028.

Policy requirement for infrastructure planning

1.2 We initially sought to ensure the requirements of the former PPS12 explicitly, we aimed to ensure:

> *"Infrastructure planning [which] considers infrastructure to support development, costs, sources of funding, timescales for delivery and gaps in funding. This allows for identified infrastructure to be prioritised" former PPS12.*

1.3 Since the commission of this study, the National Planning Policy Framework (NPPF)[3] came into force in March 2012 and now replaces the Planning Policy Statement 12 requirements.

The National Planning Policy Framework and infrastructure planning

1.4 The NPPF places considerable importance on infrastructure planning but there are some distinct differences from what was in PPS12. We have considered the key messages relating to infrastructure planning in the NPPF and considered how this affects infrastructure planning for this study.

Key message one: Infrastructure is part of the soundness test for Local Plan Examination

1.5 Infrastructure now features explicitly in the tests of soundness that the Inspector will be looking for in examining local plans:

- 'Positively prepared test….objectively assessed development and infrastructure requirements …' (paragraph 182)

1.6 The Inspector will also be looking for evidence of deliverability and effective joint working on cross boundary strategic priorities:

- 'Effective test…the plan should be deliverable over its period and based on effective joint working on cross-boundary strategic priorities' (paragraph 182)

Key message two: Infrastructure planning needs to be part of the 'strategic priorities' for the Local Plan preparation

1.7 Paragraph 156 outlines the strategic priorities for preparing the Local Plan. Of the five bullets relating to strategic priorities, two are dedicated to infrastructure:

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

[3] DCLG National Planning Policy Framework March 2012

- *The provision of health, security, community and cultural infrastructure and other local facilities;*

1.8 This moves the grouping of infrastructure away from the former definition of 'essential and desirable' to grouping utilities and transport infrastructure needed to 'unlock' development and infrastructure supporting 'wider social and community facilities'.

1.9 The NPPF goes on to say (paragraph 157) that Local Plans should plan positively for the development and infrastructure required in the area to meet the objectives, principles and policies of the NPPF. To plan positively, one would need to understand the requirements, cost and funding to meet the objectives of the plan.

New instructions on how to assess infrastructure are included in the NPPF

1.10 There are some important changes from the former PPS12 in the instructions for assessing the evidence for infrastructure. Here we look at what we consider are some of these key changes contained at paragraphs 173, 162, 177 and 179 in turn.

Paragraph 173 creates a direct link between infrastructure, viability and deliverability of the whole plan

1.11 Previously, under PPS12 there was a need to assess requirements, cost and funding, however, the link with this requirement and viability testing was implicit. The NPPF, (paragraph 173) makes a direct link between infrastructure, viability and deliverability. It is worth quoting the whole paragraph here due to the potential impact this will have on the assessment of infrastructure and other policy requirements:

'Pursuing sustainable development requires careful attention to viability and costs in plan-making and decision-taking. Plans should be deliverable. Therefore, the sites and the scale of development identified in the plan should not be subject to such a scale of obligations and policy burdens that their ability to be developed viably is threatened. To ensure viability, the costs of any requirements likely to be applied to development, such as requirements for affordable housing standards, infrastructure contributions or other requirements should, when taking account of the normal cost of development and mitigation, provide competitive returns to a willing land owner and willing developer to enable the development to be deliverable' (paragraph 173)

1.12 Paragraph 173 makes it clear that infrastructure and the range of other policy requirements that a plan may include (e.g. affordable housing, code for sustainable development, flood mitigations, SUDs measures, design standards, renewable energy standards etc..) should, taken together be deliverable based on a viability assessment that provides a competitive return to a willing land owner and willing developer[4].

Paragraph 162 focuses on quality and capacity of infrastructure and the need to take account of nationally significant infrastructure

1.13 Local planning authorities should work with other authorities and providers to:

[4] The willing land owner and willing developer circumstances will vary considerably, and there is no guidance as yet on what the land values for assessing viability for this should be based on. Also circumstances will vary considerably at a site specific level (for a planning application) and at a strategic policy level (for a core strategy).

- Assess the quality and capacity of infrastructure for transport, water supply, wastewater and its treatment, energy (including heat), telecommunications, management, and its ability to meet forecast demands; and
- Take account of the need for strategic infrastructure including nationally significant infrastructure within their area.

1.14 There are a number of important points highlighted here, including considering quality, capacity, forecasting demand and strategic infrastructure.

Paragraph 177 highlights the need to ensure there is a reasonable prospect that planned infrastructure is deliverable in a timely fashion

1.15 Paragraph 177 clearly specifies that local planning authorities should seek to understand district – wide development costs at the time Local Plans are drawn up and ensure that there is a reasonable prospect that planned infrastructure is deliverable.

Paragraph 179 places a duty to cooperate and develop joint informal infrastructure and investment plans

1.16 Paragraph 179 states:

'Local planning authorities should work collaboratively with other bodies to ensure that strategic priorities across local boundaries are properly coordinated and clearly reflected in individual Local Plans……as part of this process, they should consider producing joint planning policies on strategic matters and informal strategies such as joint infrastructure and investment plans'. (Paragraph 179)

The approach to this study has taken account of the policy requirements in the NPPF

1.17 The approach taken to assess the infrastructure needs has taken account of the policy requirements relating to infrastructure, inparticular we have:

- Worked closely with infrastructure providers to assess the requirements stemming from growth, quality, and existing capacity.
- Considered cross boundary implications and highlighted joint working where appropriate and identified strategic and nationally significant infrastructure where appropriate.
- Taken account of the effect of viability evidence prepared for the affordable housing study and community infrastructure levy to consider the level of financial requirements that might realistically be expected from a generic development.[5]

Study brief and report structure

1.18 In short, our brief is to:

- inform RMBC of the key infrastructure requirements, cost and funding arising from growth; and

[5]Note that any developer contributions actually sought will be based on site specific assessment of viability and requirements.

- pull together the evidence and identify any growth barriers, cross boundary working, show stoppers or phasing issues;
- Advise on future coordination of the infrastructure to support the delivery of the Core Strategy.

1.19 We respond to this brief by answering the following questions:

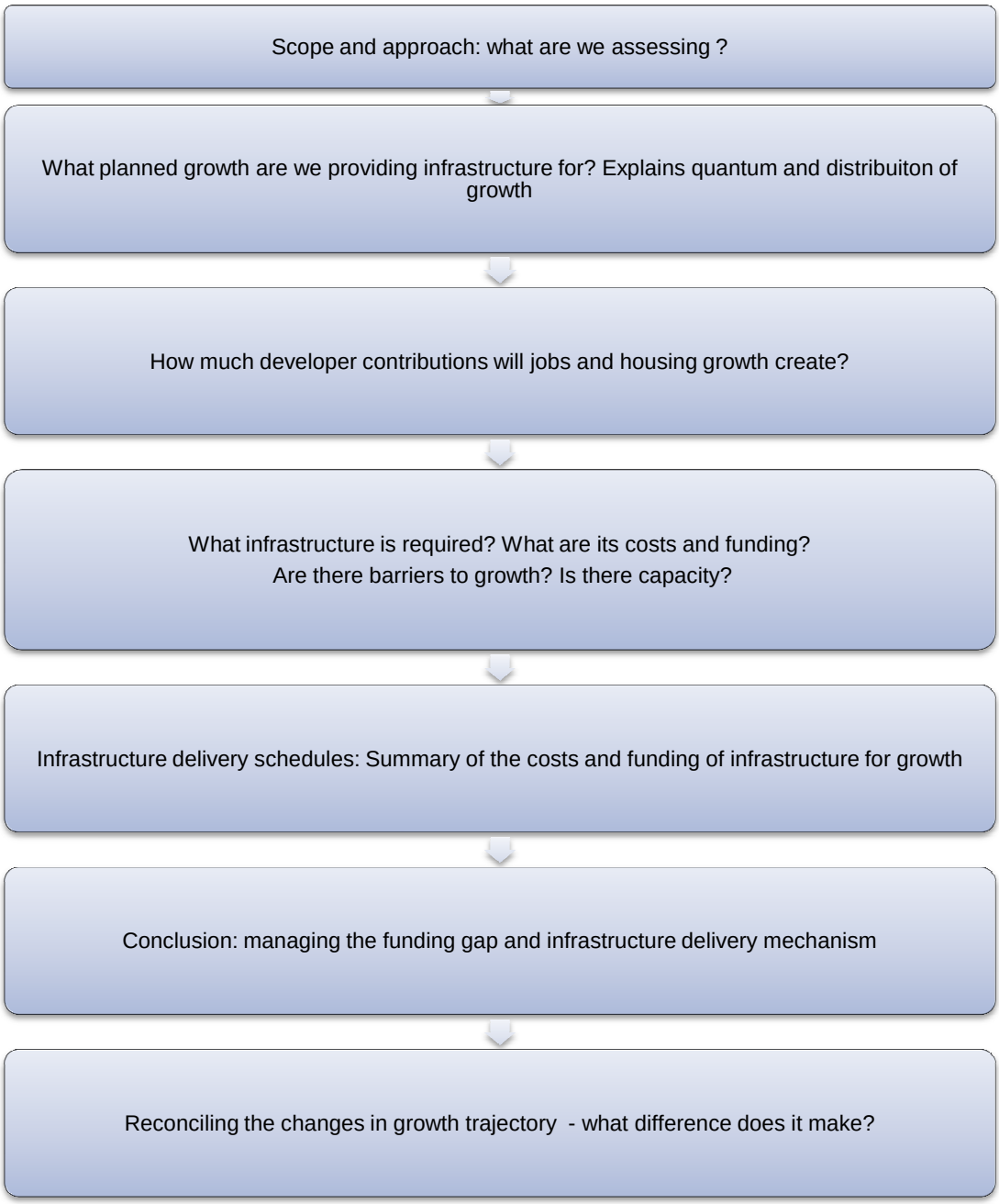
- What are the infrastructure requirements arising from growth? When is infrastructure needed? What are the costs? Are there any issues or barriers?
- How can new infrastructure be funded? We look at mainstream funding, anticipated S106 payments and possible levels of future CIL funding.
- We tease out any key issues that need addressing in order to facilitate housing and jobs growth.

1.20 We review the plan period in general, but focus particularly on the first five years.

Quick reading of this report

1.21 By its nature, this is a lengthy and detailed report. A quick understanding of the report can be reached by simply reading the "headline" sub-titles, whilst more detail is contained in the supporting text. Figure 1.1 provides a quick guide to the report structure.

Figure1.1 Report structure



Study scope and approach

1.22 This section defines the scope of our assessment and the approach we have taken.

Defining the infrastructure categories we assess

1.23 We distinguish between Secondary (utilities) infrastructure and wider sustainable communities' (primary) infrastructure. The breakdown of the infrastructure we assess is summarised in the table 1.1.

Table 1.1 Infrastructure categories assessed

Primary infrastructure	
Ambulance	Fire
Police	Health
Education	Transport
Recreation and Arts	Community centres
	Libraries
Secondary (utilities) infrastructure	
Waste	Gas
Electricity	Waste water
Potable water	Flood defence and drainage
Telecommunications	

Primary infrastructure is that needed to function as part of a wider community

1.24 Primary infrastructure is infrastructure required to accompany development in order to allow new households and jobs to function within a wider community. This infrastructure will be largely used by the community living and working in the development but others would not be excluded from using these facilities.

1.25 Funding for this type of infrastructure varies between the developer / land owner and other service providers. It is assumed that some developer contribution in the form of S106 or Community Infrastructure Levy (CIL) will be required to support the provision of primary infrastructure. In many instances, other mainstream central or local funding will also be used to support the delivery of primary infrastructure.

Secondary infrastructure meets the direct needs of residents living/ working in a property

1.26 Utilities infrastructure is required directly to meet the needs of residents living / working in the property and is generally funded entirely by the developer / land owner or utility service provider and is regulated with set standards. In general, utility providers plan ahead as far as possible to provide connection to this type of infrastructure and will typically include internal access roads within development sites and connections to the mains for drainage, sewage, gas, electricity, telecoms and broadband.

How this study deals with utilities

1.27 Utilities issues have been incorporated in two ways.

- We have investigated the extent to which utilities infrastructure may represent an obstacle to jobs and housing growth. It may be, for example, that utility provision is at capacity, and that further growth is impossible until further investment takes place. Our method has explicitly picked up these issues with service providers and presented the information using traffic lights tables to show any phasing issues.
- Also, our viability assessment uses Building Cost Information Services (BCIS)[6] cost data and this includes a generic allowance for individual utility connections, substations, and gas governors etc as it is usual for developers to pay for this. However, if there are any abnormal costs associated in utility connections (for

[6] The BCIS is the leading provider of cost information to the construction industry.from the Royal Institute of Chartered Surveyors.

instance there is a need to bring a gas pipe from two miles away, then this cost would be reflected in the price paid for the land.,

How this study deals with flood remediation issues

1.28 In a similar way to utilities, flood issues could either halt certain developments which are deemed to be too vulnerable to flooding, or require specific flood defence infrastructure to protect against the risk of flooding. In this study, we have worked with the Environment Agency and RMBC to understand the flood issues and have attributed a proportion of flood defence costs linked to the Rotherham Renaissance Strategic Flood Defence scheme to planned growth.

Categories of infrastructure which are outside our scope

Private and national "infrastructure" is beyond our scope

1.29 The brief focuses on the costs of providing the public infrastructure required to meet the growth proposals for the Borough.

1.30 We note that the private market provides a number of facilities than can be interpreted as being "infrastructure" - including things such as petrol stations, places of worship, shopping facilities, dentists, pharmacists and opticians. The provision of these private-sector services can be an important component in perceptions of the quality of life in an area. However, because these will be privately provided we do include these items as "infrastructure".

1.31 Nationally provided infrastructure such as defence infrastructure, prisons and law courts are also excluded from this assessment.

We deal with affordable housing costs through their effects on potential developer contributions

1.32 Affordable housing requirements must be understood as part of an infrastructure study, because the levels of affordable housing required will have a profound impact on the viability of development, and on amounts of developer contribution available from each housing site to fund infrastructure. The viability assessments prepared for the affordable housing study and our community infrastructure levy appraisals take account of affordable housing requirements and implications on developer viability.

Approach to requirements

1.33 Here we explain our overall approach to infrastructure requirements.

This work focuses on the infrastructure requirements of future unconsented growth

1.34 This infrastructure assessment will focus on the infrastructure requirements of housing and jobs growth from 2013-27. Because it focuses on *growth,* this study does not deal with general infrastructure demand and public spending requirements as a whole from existing housing and jobs development that is already in place.

1.35 We focus our assessment of infrastructure requirement on unconsented growth, as those sites with planning permission are done so on the basis of negotiated developer contributions or an assessment of existing capacity in infrastructure. It is important to note

that where planning permission has already been granted and a S106 signed, then that development cannot be charged development contributions towards infrastructure again, either through a subsequent S106 or CIL. It is approved on the basis of having agreed the appropriate infrastructure requirements.

Consented site excluded from this assessment

1.36 However, there is also the category of sites which have planning permission (outline and full), and some which have both a planning permission and a signed S106 agreement. We assume that service providers (many of whom are statutory consultees to the planning process) have already taken account of this approved growth in their estimations for infrastructure requirements. We are assuming that infrastructure requirements of this category of growth will be taken account of through a) existing surplus infrastructure capacity and b) signed or forthcoming Section 106 agreements. We have therefore not investigated infrastructure requirements for this category. Having said this we do factor in consented sites in determining the remaining infrastructure capacity to service future growth.

Transport is treated in a special category due to the cumulative effect of impacts

1.37 We take a slightly different approach to calculating transport requirements. Transport is something of a special category. Individual, incremental S106 agreements on unbuilt sites with planning permission can often mitigate very local transport impacts of growth but can fail to capture the cumulative impacts of growth on strategic transport infrastructure[7]. To deal with transport requirements properly, we have therefore looked at the transport requirements of *all* growth expected from 2013-27 (from sites both with and without planning permission) and on site and off site requirements.

1.38 The requisite information on infrastructure requirements, costs, funding and phasing was provided by the stakeholders and collated. Clarification of any issues was provided through follow-up questioning.

Demographic changes have been taken into account through our work with service providers

1.39 There are two demographic issues which need to be borne in mind with this assessment. The first is the changing demographic profile of the population; the second is the relationship between the provision of new housing stock and the population growth.

1.40 We have relied on service providers who are aware of these issues e.g. in some services such as education and health an understanding of these matters is core to their work.

The population projections and household size used for Rotherham

1.41 Where we need household size figures for our assessment, we have used a generic household size of 2.3 people per dwelling. This was based on the information contained in table 1.2 which has been used to inform the wider preparation of the Core Strategy.

[7] This is less of a problem with infrastructure such as schools or primary care, because growth impacts are generally confined within catchment areas.

Table 1.2 Average household size projections

	2011	2016	2021
Rotherham population	**255,700**	**261,500**	**268,200**
Rotherham household Size average	**2.37** **108,000**	**2.31** **113,000**	**2.27** **118,000**

Source: ONS 2008 Based Population Projections / CLG 2008 Based Household Projections

We have avoided the "wish list" approach to infrastructure requirements

1.42 It is not desirable to load an infrastructure assessment with a gold-plated "wish list" of perceived needs. The NPPF is clear about ensuring a balance is struck between infrastructure requirements and the need to ensure deliverable plans:

'*The ....plan should not be subject to such a scale of obligations and policy burdens that their ability to be developed viably is threatened....*' NPPF paragraph 173.

1.43 The key concepts here are those of a) enabling development, and b) deliverability. Clearly, infrastructure provision should not be so elaborate and costly that it forms a barrier to development. In this assessment, we have adopted a pragmatic approach that balances deliverability with providing sufficient infrastructure to ensure the growth is properly catered for. It is not our role to barter with service providers in order to strip infrastructure requirements or costs out of their plans. But we have tried to calibrate our method to help us gauge a realistic level of infrastructure provision in the following ways:

- Wherever possible, our approach has been to work from first principles. We have provided service providers with a map showing the broad locations and quantum of jobs and housing growth. We have invited them to explain what requirements they have, given this planned growth, and invited them to explain why this infrastructure is required. This process has built a realism and transparency into the approach. A list of service providers consulted is included in appendix 1.
- Our rough rule of thumb is that the infrastructure requirements for growth in this assessment should be broadly in line with the levels of infrastructure enjoyed by the rest of society.
- We have attempted, wherever possible, to take account of service providers' existing spare capacity. We rely on service providers' expertise here. This has the effect of reducing infrastructure requirements, and so their costs and funding requirements.

1.44 We are grateful to all the stakeholders who have assisted us in preparing this study and note that most have expressed an interest to be involved as part of a forum to consider ongoing infrastructure planning needs for the Borough. This is picked up further in the final delivery section of this study.

Service delivery is continually changing and this affects levels of infrastructure required to support new growth

1.45 In this assessment, we are aiming at a moving target. Public services, and hence the infrastructure they demand for delivery, are in a constant state of flux.

1.46 For example, national reviews of service delivery, such as the imminent Health Act could have big implications for the type of infrastructure requirements and how these are funded in the future. Technology changes too are likely to affect infrastructure requirements over the next few years in ways which may be difficult to predict, for instance, with much greater delivery of services via the internet, thus reducing the space required for certain services, or for hospitals beds as operations are undertaken on a day visitor basis. Similarly, greater recycling measures means less infrastructure will be required for landfill, and delivery of onsite energy solutions could affect the infrastructure requirements of these facilities.

1.47 In other service areas, joint use community/education/ Primary Care Trust (PCT) buildings infrastructure are currently being rolled out in Rotherham all of which alter infrastructure demand. Funding levels vary with economic trends and political decision. We are in one of the strictest retrenchments experienced for a long time on local authority budgets.

1.48 Also, most service providers do not plan beyond three to five years ahead, and so cannot by definition be expected to know their precise requirements in (say) ten years time.

1.49 This means that infrastructure requirements as a result of growth are difficult to predict and are necessarily subject to a considerable margin of error. In addition, there are uncertainties over the mainstream funding that is likely to be available. The public finances should recover at some point after 2016, but we are currently unable to predict the extent to which this might take place, or when. We therefore cannot rely on public funding being significant in this study.

The precise nature and timing of growth is not fixed, meaning that being precise about the required infrastructure is not appropriate

1.50 It is important to point out that we are dealing with infrastructure requirements at a high level. As plans are developed on the next stages, then specific development based infrastructure assessments will be carried out that will map out more accurately the actual infrastructure needs and costs based on greater detail and understanding of capacity at that point in time. We are therefore certain that more detail will emerge as the planning process proceeds, and that this detail will supercede the requirements, costs and funding made at this stage. This study should be treated as a sketch plan towards delivery rather than a detailed route map.

Approach to costs

1.51 Here we explain our overall approach to infrastructure costs.

We have used service providers' cost estimates where possible and professional judgement where necessary

1.52 Where possible, we have used service providers' own estimates of the cost of their infrastructure requirements, backed up with examples of recent developments to support the cost levels.

1.53 Where these estimates did not exist, we have used various sources including case studies, published guides and interpretations of data from cost guides[8]. We have also used case studies and benchmarks from our national infrastructure studies when appropriate.

We are dealing with capital costs in this study

1.54 This study focuses on capital costs, though we also flag up particular infrastructure items where service providers have expressed concerns about the revenue implications of the new provision.

1.55 Significant capital requirements bring with them considerable revenue burdens on public bodies. In undertaking the consultations for this study, we have found that service providers are increasingly concerned about the revenue cost implications of providing any new capital infrastructure, and indeed many have or are looking at ways of reducing revenue costs implications of service delivery.

Distinguishing between costs attributable to growth and existing needs

1.56 In this study, as part of 'retrenchment' measures, many service providers are looking to improve, renovate and expand existing facilities rather than develop new stand alone capital infrastructure – for instance, libraries, doctor's surgeries, community centres, schools, play areas / playing pitches. We have attributed an informed percentage cost attributable to new growth. This has the effect of reducing the cost of new infrastructure costs and also helping to improve existing outdated / stretched facilities.

1.57 Similarly, where new infrastructure is required to improve the safety of existing communities and service new residents, such as the flood defence scheme, a percentage of the cost has been attributed to the growth based on the scale of growth as a percentage of the total development in the area. Similarly, where new transport infrastructure (e.g. key bus routes) is required to address existing congestion but is also affected by new development, a uniform percentage of the cost has been attributed to growth.

We quote costs at 2012 prices

1.58 The major costs quoted in this study are at 2012 real prices. Uncertainty in the scale of costs is likely to be far greater than the small differences in the precise base year used in cost calculation.

1.59 No inflation is included in our cost calculations. This is because we do not know what the inflation rate will be in future, or exactly when items will be built. However, it should be noted that the CIL Regulations state that charging authorities will be required to apply an annually updated index of inflation to keep the levy responsive to market conditions. This index will be the All-In Tender Price Index of Construction Costs of the Royal Institute of Chartered Surveyors (RICS). Service providers will have their own preferred index that more accurately reflects their build costs.

[8] *Spon's Architects' and Builders' Price a*nd the Building Cost Information Service (BCIS)

Approach to funding

1.60 Here we explain our approach to funding. It is important to note that, as we have pointed out above, these estimates are subject to a margin of error.

Mainstream public funding and avoiding double funding

1.61 We have sought to determine any mainstream funding that might be available to support growth related infrastructure. A problem currently facing some service providers is the uncertainty of future budgets, historically most would be able to forecast at least three to five years ahead, this has not been possible at present as most only have certainty over a year's budget plans due to national flux in government spending.

Listing in this study does not guarantee funding for mainstream requirements

1.62 Having said this, this study for a longer term plan, and service providers will be expected to contribute towards the cost of infrastructure requirements. 'Double funding' via developer contributions and capitation funding[9] must be avoided. Service providers are not to assume that because their infrastructure item is included in this study, it will necessarily be funded by developer contributions.

Approved grant funding has been included

1.63 There is some potential new funding in the form of Central Government grants for special transport or education projects to support existing infrastructure, or Private Finance Initiative (PFI) funding for energy to waste plant. A number of projects are still awaiting approval and it is uncertain whether they will secure the funds as many of the budgets appear to be oversubscribed.

1.64 Where approved, we have included the funding in the infrastructure delivery schedule, where awaiting consent, we have not included the funding but acknowledge this could come in. This funding relates to putting right existing issues e.g. existing school buildings.

Developer contribution funding

1.65 Developer contribution will be one of the main ways of funding / delivering infrastructure required to meet the needs of growth in Rotherham. We have taken account of recent viability assessment to inform the affordable housing requirements and undertaken some independent appraisals for a possible future CIL charge to inform our estimation of developer contributions. Section four details our approach to developer contributions in more detail.

New Homes Bonus funding will not be available to support infrastructure

1.66 Due to the major cuts that RMBC has had to make in it's budget, the £1.58m New Homes Bonus funding for 2012/13 has been used (£1.48m) to support the general Council budget, with £100,000 earmarked to pay for some housing posts. Thus for the time being this is not likely to be a funding source for infrastructure costs.

[9] Where central government funding for the service follows growth in population numbers e.g. numbers on roll at schools, patients for GPs, population increase for police, fire, etc..

We have reviewed more innovative funding sources

1.67 A number of innovative funding sources have been considered for funding infrastructure delivery. At present RMBC has used its ability to secure low cost loans and pass this on to other investors e.g. support for Rotherham College and another opportunity is currently being considered to support a business with potential to regenerate Rotherham town centre. This is a potential opportunity that could be explored further for uses that can then generate a revenue income e.g. doctors surgeries. However, at this point in time there are no such schemes included in the IDS.

1.68 We discuss how to manage the funding gap and possible alternative funding opportunities as part of the final section of this study.

Approach to prioritisation

1.69 For the purpose of the Core Strategy Examination, the Inspector will want to know if there are any absolutely critical infrastructure requirements to enable the first five years of growth to take place and if the funding / strategic infrastructure will be in place to meet these requirements. It will also be necessary to know if there are any 'show stoppers' or phasing issues that will affect this delivery.

1.70 For the purpose of this study we have prioritised infrastructure in a simplified way to help show how the overall funding gap could be minimised. Ultimately, it will be necessary to prioritise within theme areas (say, prioritising the most important transport projects) and also between theme (say, deciding to invest in open space, rather than transport) and between areas that are most likely to come forward.

1.71 The final decisions on priorities will rest with elected representatives and their officers, depending on available funding and level of acceptable 'pain' (for example, congestion, or waiting times for services) before it becomes absolutely critical for the infrastructure to be provided.

1.72 There was some debate within the client group about an objective to help transform the physical environment of Rotherham using green infrastructure, these are decisions that can be developed as part of the detailed infrastructure planning and delivery on a site specific basis.

The prioritisation categories

1.73 We have used two categories to help inform high level priorities for funding and phasing (in the expectation that subsequent work, outside our brief, will review the choices made).

- **Essential requirements**: This infrastructure is considered essential to the delivery. This will be affected by both funding and capacity. For example, for utilities, we have investigated the extent to which utilities infrastructure may represent an obstacle to jobs and housing growth. It may be, for example, that utility provision is at capacity, and that further growth is impossible until further investment takes place. Our method has explicitly picked up these issues with service providers. For primary infrastructure we have discussed whether infrastructure is considered essential and the likely phasing for when it will become critical.
- **Other requirements**: This category would apply to infrastructure which is necessary to support the new development, but the precise timing and phasing is

less critical and development can commence ahead of its provision. There are a range of other infrastructure investments that could be considered in this category and different areas are likely to have different needs depending on existing capacity, for example, libraries, community centres, schools, primary health care, some transport infrastructure. Some might be very important; others might be long term requirements. Much will depend on the amount of money available to purchase infrastructure.

Important caveats attached to this work

1.74 Our objective is to help provide an evidence base for the Core Strategy and provide a focus for long term strategic financial decisions. There will inevitably be a need to refine and realign infrastructure as the process and time unfolds. Infrastructure by its nature is 'fluid' at any point in time. As particular sites come forward, it is very likely that there could be localised issues and impacts, which are not within the remit of this assessment to cover. These will nevertheless need to be addressed to enable development to proceed. However, this process is valuable as it offers a framework highlighting the decisions and choices which will need to be made.

1.75 There are a number of important points which must be borne in mind when using this document.

- Infrastructure providers reserve the right to update the information provided. As might be expected, there are some gaps in knowledge and understanding of what is needed and how it might be paid for. This is a point appreciated in the former PPS12[10]. The estimates will need to be refined over time. This assessment can, therefore, only ever be a snapshot of current infrastructure needs, commitments, options and ideas.
- The estimates of infrastructure requirements, costs and funding provided here involve spatial and temporal generalisation. Quite simply, it is not realistic to match resources to needs to places with the degree of precision necessary to reach sound decisions on what infrastructure is required on any one given site or with any one service provider.
- This infrastructure assessment is not itself a policy document. Information included in the assessment does not override or amend the various agreed/adopted strategies, policies and commitments which local authorities and other infrastructure providers currently have in place. In many respects the assessment reflects existing strategies, policies and commitments, but it also includes information and evidence which will help shape future policy making, the LDF evidence base and investment decisions.
- As we note, further on going work after this study has been completed will be necessary to prioritise infrastructure requirements.
- Although this work can be used as a high level guide, developers and Local Planning Authorities will not be able to solely rely on this work to negotiate individual

[10] PPS12 states that that "the Government recognises that the budgeting processes of different agencies may mean that less information may be available when the core strategy is being prepared than would be ideal." DCLG PPS12 (9)

Section 106 agreements. Our analysis is not at the level of accuracy that allows this function to be performed.

- Any S106 charge will be determined on a site specific basis, and will vary from the figure included here. The final Community Infrastructure Levy charges (if implemented) are yet to be determined.
- Inclusion in this study does not guarantee developer contribution funding for identified infrastructure, service providers will have to identify mainstream sources over time to support delivery.
- Our analysis says nothing about whether a five-year supply of housing is available; our assessment is based on a housing trajectory provided by RMBC.

2 WHAT IS THE PLANNED GROWTH WE ARE ASSESSING?

2.1 In this section we explain what jobs and housing growth we are assessing infrastructure for. This is important, as this assessment must start from an agreed set of assumptions about housing and jobs growth.

Where is the housing growth located?

The Core Strategy will set out the scale and broad distribution of growth

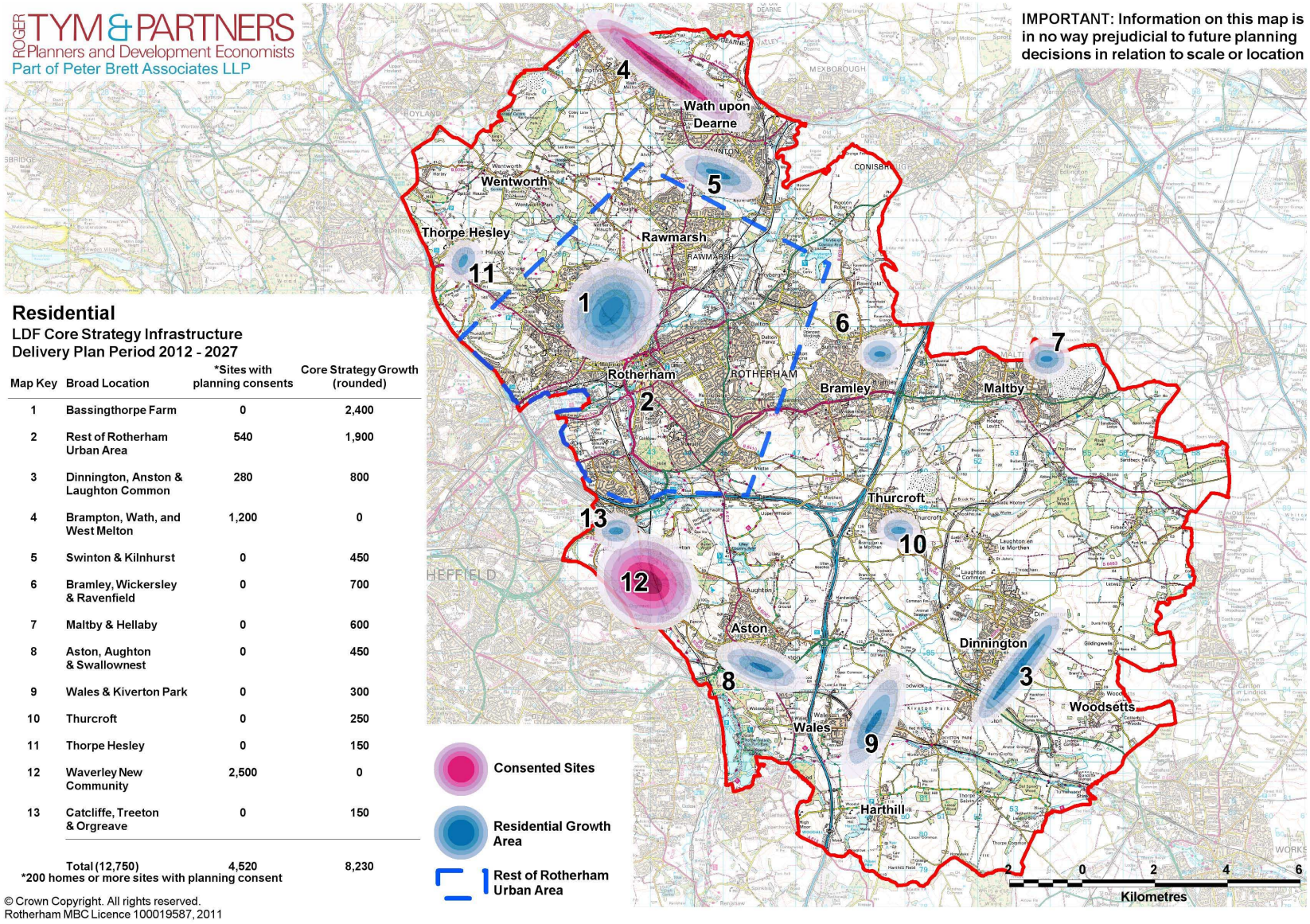
2.2 The recent changes nationally and the revocation of the Regional Spatial Strategy have resulted in the Borough Council re-assessing the levels of growth for the Borough. Rotherham MBC is in the process of preparing a Core Strategy. This will set out the final scale and broad location of growth across the Borough.

We have mapped the scale and distribution of growth

2.3 For the purpose of this study, we were provided with the scale and broad distribution of growth to be assessed that was known at the time. This formed the basis of our consultations and the main assessment included in this study.

2.4 The level and distribution of housing growth has been mapped, and is presented as Figure 2.1. This formed the basis of our consultation with various infrastructure service providers.

Figure 2.1 scale and distribution of proposed housing growth directions



Residential

LDF Core Strategy Infrastructure Delivery Plan Period 2012 - 2027

Map Key	Broad Location	*Sites with planning consents	Core Strategy Growth (rounded)
1	Bassingthorpe Farm	0	2,400
2	Rest of Rotherham Urban Area	540	1,900
3	Dinnington, Anston & Laughton Common	280	800
4	Brampton, Wath, and West Melton	1,200	0
5	Swinton & Kilnhurst	0	450
6	Bramley, Wickersley & Ravenfield	0	700
7	Maltby & Hellaby	0	600
8	Aston, Aughton & Swallownest	0	450
9	Wales & Kiverton Park	0	300
10	Thurcroft	0	250
11	Thorpe Hesley	0	150
12	Waverley New Community	2,500	0
13	Catcliffe, Treeton & Orgreave	0	150
	Total (12,750)	4,520	8,230

*200 homes or more sites with planning consent

Phasing and distribution of growth has subsequently been amended

2.5 The housing trajectory used to develop the infrastructure assessment has a bearing on the requirement and thus the planning and funding for infrastructure.

2.6 At the start of the study we were supplied with a housing and employment trajectory by RMBC. This can be found at appendix 2. Rotherham Metropolitan Borough Council updated the distribution of growth during the course of the study. However, we present the original numbers here in order to stay consistent with the numbers originally provided to infrastructure providers. The overall totals to be planned for have not changed. The key changes relate to:

- Re-profiling of growth that was not delivered during 2008 – 2011;
- Re-distributing growth, so Bassingthorpe Farm has been reduced and Rest of Rotherham has been increased (based on the findings of the Strategic Housing Land Availability Assessment).
- Some slight increases through out the other growth areas to absorb past requirement.

2.7 We have undertaken a high level assessment for possible showstoppers, phasing and delivery issues affecting the main changes in the revised distribution for Rest of Rotherham and included a separate chapter at the end of this study. For the main part of the study we are discussing the original distribution.

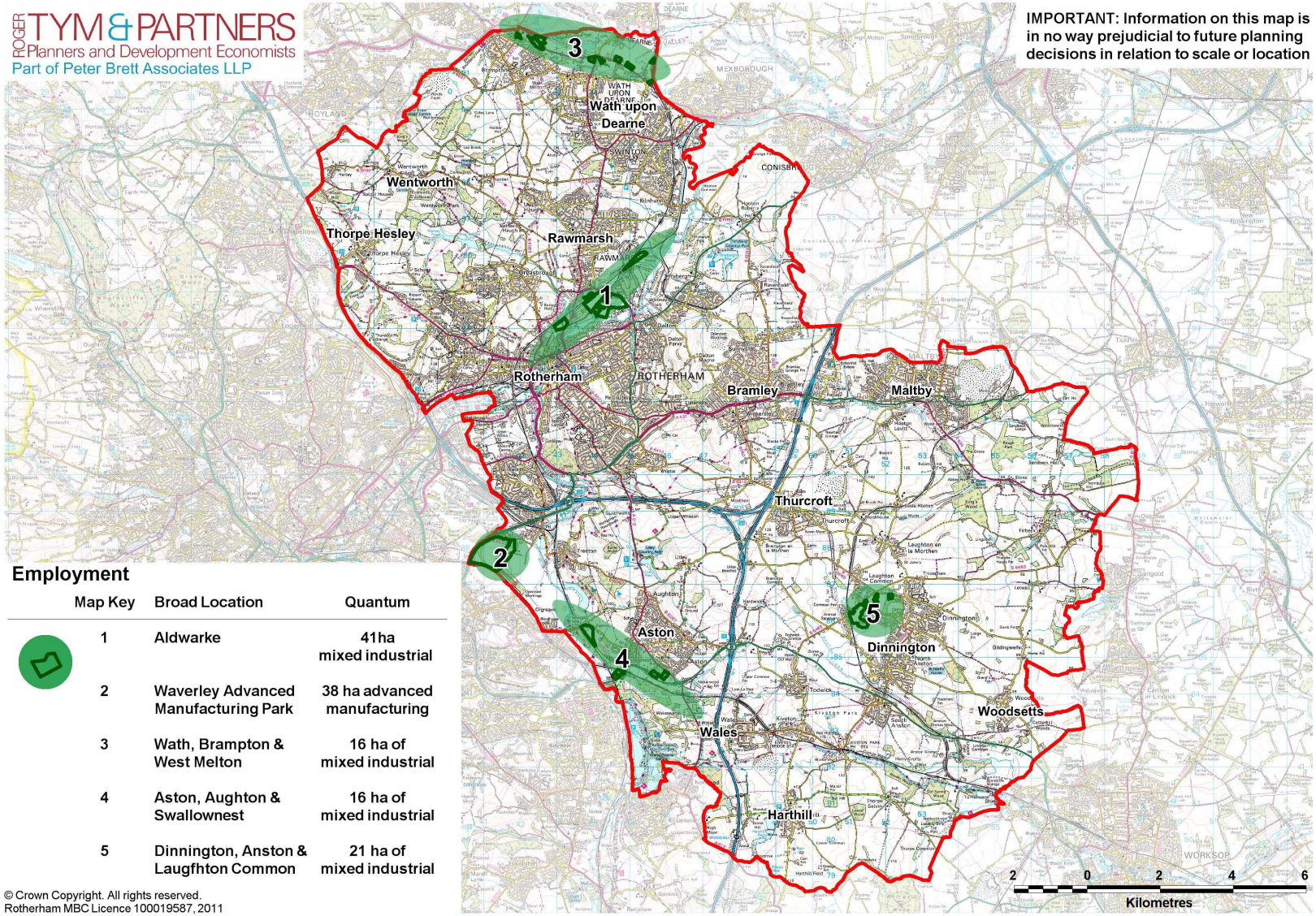
Where is the employment growth?

We have mapped jobs growth proposed

2.8 Rotherham Metropolitan Borough Council has provided us the with the likely area and location of strategic employment sites, though the precise nature and employment density is not included and final delivery will depend on various factors including the economic climate and demand for new employment land.

2.9 We have then mapped the proposed employment growth areas and sought any views relating to infrastructure requirements (particularly for transport and utilities). This can be seen in Figure 2.2.

Figure 2.2 Scale and distribution of proposed employment growth directions



Employment

Map Key	Broad Location	Quantum
1	Aldwarke	41ha mixed industrial
2	Waverley Advanced Manufacturing Park	38 ha advanced manufacturing
3	Wath, Brampton & West Melton	16 ha of mixed industrial
4	Aston, Aughton & Swallownest	16 ha of mixed industrial
5	Dinnington, Anston & Laugfhton Common	21 ha of mixed industrial

3 POTENTIAL DEVELOPER CONTRIBUTIONS

3.1 Developer contribution will form the main form of funding for infrastructure during this time of retrenchment, and these contributions will generally take the form of S106, Community Infrastructure Levy or affordable housing[11]. For this study, we have sought to make some sensible projections of how much might be raised from developer contributions. The assumptions we make here are entirely without prejudice to the final level of developer contributions that will be charged.

Developers need transparency and clarity about what to budget for

3.2 Developers will be looking for transparency and clarity as to what infrastructure they have to fund, as there is a finite residual land value available to pay for all the requirements. Advance understanding of requirements will enable developers to factor this into their cost calculations and reflect this in the price of land paid for a site. Developers will also be keen to understand when infrastructure contributions will be required as this will have a major effect on the finance costs. Sometimes it is not the level of contribution but the timing of the when it has to be paid which is more critical to the scheme.

Land owners expectation of the land values may not reflect changes in policy

3.3 The final decision on whether sites come to market will depend on many factors, including the land owner's willingness to sell (at new possibly lower prices compared to historic values) and the developer's ability to make a reasonable profit. However, an important feature in this equation will be the need to fund appropriate infrastructure to make the development suitable for market and not add to the cumulative burden on existing infrastructure.

Recent changes in legislation impact on the way developers will be charged using either S106 and or CIL

3.4 The 2008 Planning Act and subsequent Community Infrastructure Levy Regulations 2010 and 2011 have changed the way development can be charged to pay for infrastructure. S106 funding still applies to infrastructure requirements that are directly linked to the development, so some development specific requirements, such as education, transport, recreation and health requirements could fall into this category.

3.5 Any 'cumulative', non site specific infrastructure such as the central area transport improvements in Rotherham, the strategic green infrastructure provision, or other schemes which cannot be directly linked to a specific development (or pooled between five planning obligations), will from 2014 (or sooner) be charged using a community infrastructure levy (CIL)[12].

3.6 Double funding from these sources will be avoided by publishing a Regulation 123 List of Relevant Infrastructure to be funded using CIL funding.

[11] As explained earlier, we do not cover affordable housing as part of this study.

[12] It is not determined whether RMBC will be introducing a CIL though some initial work on testing the viability of development to support a CIL has commenced.

Viability appraisals have informed our estimates of developer contributions

3.7 We have estimated a level of developer contribution to inform a high level assessment for this study using three main sources of information:

- We have, considered past developer contributions,
- Reviewed the viability assessment undertaken for the affordable housing study;
- Undertaken some specific financial viability appraisals to inform a possible CIL charge (not part of this study).

Approach to estimating CIL funding

3.8 The Council has commenced work on CIL viability appraisals to consider whether to impose a CIL levy and to decide on the following:

- Any charge variation between different uses and locations in the Borough.
- How the Council wishes to strike the balance between raising money for infrastructure, and maintaining the financial viability of developments in the area.

3.9 Because these decisions have yet to be made, we do not know at this stage how much money could be raised by CIL. We anticipate that the great majority of CIL charge will be levied from residential development. Some other charges may be made of other types of development, but they will be relatively insignificant when set against the receipts from residential. We therefore have not speculated on non-residential CIL receipts at this point. We have also adopted a cautionary approach to the amount included in our estimation.

3.10 However, to make some sensible projections of how much might be raised from developer contributions. The assumptions we make here are entirely without prejudice to the final level of CIL Charge decided upon by the Council. The CIL assessment is set out in table 3.1 and suggests that just over £19m could be raised by implementing a CIL.

Table 3.1 Residential CIL charge (high level estimate; without prejudice to the final level set by the Borough Council)

Category	CIL
Possible estimate charge per sqm	**£35**
Average home size m2 (rounded)	**90**
per dwelling cost	**£3,150**
Number of homes without planning permission	**8230**
Assumed % of affordable housing	**25%**
Number of homes chargeable	**6173**
Total possible contribution	**£19,443,375**
Calculated on the basis of the number of homes without planning permission.	

Source: RTP

Approach to estimating S106 funding

3.11 From our assessment of the infrastructure requirements, it is evident that some of the larger sites are likely to require stand alone or site specific infrastructure in the form of schools, classroom extensions, roundabout improvements, and recreation space. In addition to any CIL contribution to support 'wider' generic / cumulative infrastructure requirements, some sites will also be required to fund site specific infrastructure requirements that have been assessed as part of this study. It is possible that in some instances, S106 contributions will be pooled with up to 5 contributions to fund a piece of infrastructure e.g. classroom or roundabout.

3.12 It is not possible to estimate the total S106 contributions until one assesses a specific development scheme. However, to help inform this assessment we have estimated the level of S106 contribution assuming a generic per dwelling contribution in line with past contributions and the viability assessments recently undertaken to inform the Core Strategy. Table 3.2 explains our approach:

Table 3.2 Residential S106 charge (high level estimate; without prejudice to the final level set by the Borough Council)

Funding stream	Unconsented dwellings	Developer contributions per dwelling	EstimateS106 funding
S106 @ £3,500 per dwelling average	**6173**	**£3,500**	**£21,603,750**

3.13 Based on an assumption of £3,500 per dwelling (excluding affordable housing), it is estimated that a total S106 contribution of just under £22m could be collected if all other dwellings are built.

3.14 The total CIL and S106 charge per dwelling of £6,650 is less than the £7000 included in the affordable housing viability assumption.

A 5% allowance has been included to administer developer contributions

3.15 In accordance with CIL Regulations and Circular 05/05, we have included a 5% allowance to be set aside to support the overall administration of the funding and infrastructure delivery.

We have not allocated developer funding to any specific scheme or area

3.16 One of the central principles of this report is that we are not making definitive statements about how developer contributions available through CIL/ S106 should be spent.

- We do not make suggestions about how any possible future CIL receipts should be distributed between competing infrastructure requirements (be they education, transport, open space). Again, this is a decision that will be made by the Borough Council as the Charging Authority.
- We do not make suggestions about where CIL receipts should be spent. The Localism Act gives the Government the power to require that some of the money raised from the CIL will go directly to the neighbourhoods where development takes place.

4 INFRASTRUCTURE NEEDS IN THE BOROUGH

4.1 This report now moves to look at the infrastructure needed in the borough over the plan period.

4.2 In each instance, we answer the following questions.

- What is the capacity or context shaping the infrastructure?
- What are the Infrastructure requirements generated by future growth?
- When is infrastructure needed and who will provide it?
- What are the costs?
- How can new infrastructure be funded?
- What are the priorities?
- Are there any issues, dependencies and barriers to growth?

4.3 Our response to these questions has been informed, in most cases, directly by those responsible for the provision of the infrastructure and any relevant strategies or investment plans prepared for that infrastructure.

5 TRANSPORT

5.1 In this section we examine the transport infrastructure required to support the planned jobs and housing growth. The assessment has been informed by Rotherham Borough Council's transport team, the Highway Agency and the South Yorkshire Passenger Transport Executive.

5.2 We first consider the current transport network and recent investments in Rotherham and then explore the capacity of each transport mode to deal with the increased demand associated with growth. This assessment is then used to inform the infrastructure that will be required to meet the planned growth.

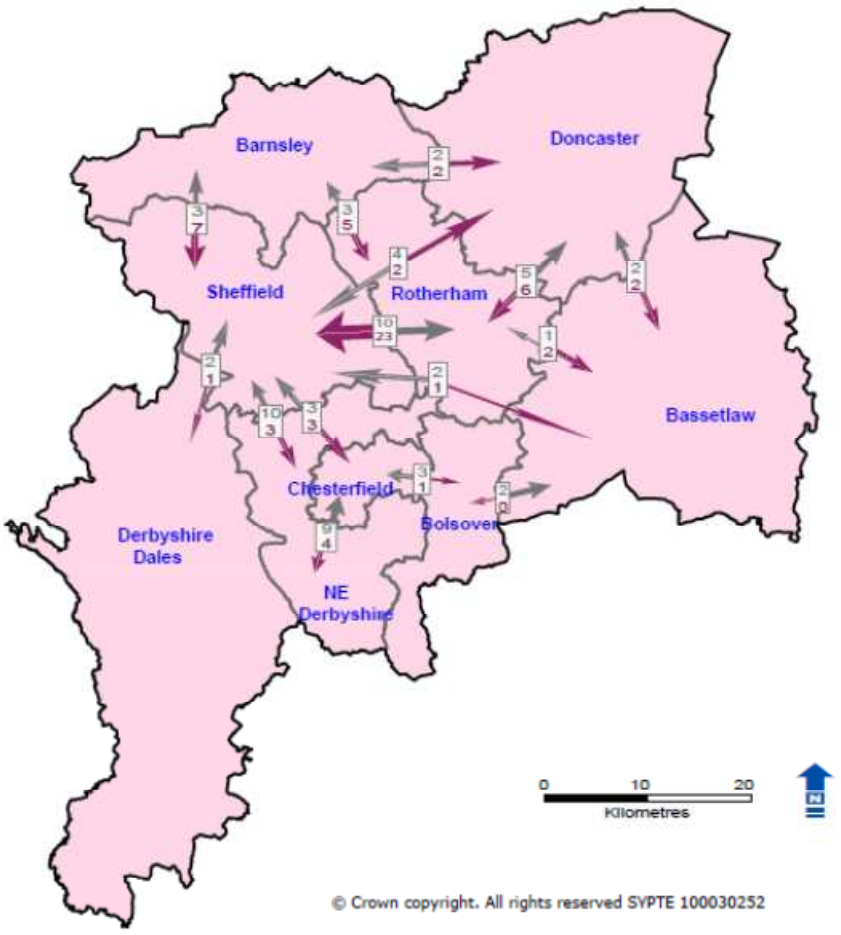
5.3 The key documents informing this assessment are:

- the Regional Network Report for Yorkshire and Humber produced by the Highways Agency (2008)
- the Route Utilisation Strategy for Yorkshire and Humber produced by Network Rail (2009)
- the Local Transport Plan, 2011-2026, for the Sheffield City Region produced by the South Yorkshire LTP partnership, which includes the four Local Authorities in South Yorkshire (Rotherham, Barnsley, Doncaster, and Sheffield) and the South Yorkshire Passenger Transport Executive
- South Yorkshire Bus Rapid Transit (North) Forecasting Report produced by MVA for Rotherham Metropolitan Borough Council, Sheffield City Council and South Yorkshire Passenger Transport Executive (2011)
- Large Project Bid to the Local Sustainable Transport Fund by South Yorkshire Integrated Transport Authority (2011).

What are current transport initiatives and issues?

5.4 Rotherham is at the geographical centre of the Sheffield City Region. It has strong cross border connections with adjoining areas, particularly Sheffield to the west and Doncaster to the east. Figure 6.1 shows the main movement of workers as given in the 2001 census for the Sheffield City Region, with the numbers showing daily trips in thousands. This shows the strength of the link with Sheffield with 23,000 people going to work in Sheffield each day and 10,000 people coming from Sheffield into Rotherham. The next highest daily outflow of workers is 5,000 people going to Doncaster. Barnsley lies to the north of the borough and Chesterfield, Bolsover and Bassetlaw to the south.

Figure 5.1 Travel to work movements within Sheffield City Region (daily, thousands)



Source: Sheffield City Region Transport Strategy, 2011 – 2026.

Highways

5.5 Much of the strategic road network that serves Rotherham is already congested but several major schemes are currently underway to increase the capacity of the motorway network. The local road network in the centre of Rotherham is severely constrained by the railway bridges, which pose real obstacles to increasing road capacity in the area.

Strategic highway network

5.6 The Highways Agency is responsible for 'managing, maintaining and improving 'the motorways and trunk roads in the area. Rotherham is ideally placed for excellent access to the strategic road network with access points to the strategic road network for Rotherham at junctions 31, 33, 34 and 35 of the M1 in the south and west and junction 1 of the M18 to the east.

5.7 Figure 5.2 shows the Highways Agency's assessment of the parts of its network that were experiencing significant delay in 2006. The M1 near Rotherham was one of the most severely congested stretch of road in the region. Rotherham's highway network also acts as a strategic diversion route at times of unforeseen events or maintenance on the motorway network, which brings with it its own challenges.

Figure 5.2: Oberved delay, total vehicle hours delay, 2006

Source: Highways Agency, Regional Network Report for Yorkshire and Humberside, 2008

Management of motorway between junctions 32a and 35a planned for 2015

5.8 Following the 2010 Spending Review, the Highways Agency has announced plans for a managed motorway scheme for the M1 between junctions 32 and 35a, plans are under preparation. Construction is scheduled to start in 2015, subject to the outcome of statutory processes. The area of motorway included in the scheme is shown in Figure 5.3.

5.9 With managed motorways the hard shoulder is used for general traffic in the peak periods. Emergency Refuge Areas are provided at regular intervals and overhead signs used to indicate the speed limit which is reduced to 60 mph or lower when the hard shoulder is being used as an additional lane. The combination of use of the hard shoulder and the reduced speed limit will reduce the level of congestion on the motorway and lead to more reliable journey times.

Figure 5.3 M1 Junction 32 – 35a Managed motorways improvement scheme

Source: Highways Agency (2012)

Other strategic highway improvements underway

5.10 The Highways Agency is also currently improving the operation of several motorway junctions in the Rotherham area. In late 2011 £0.5m was spent renewing the traffic signals at Junction 33 in order to increase their reliability. In early 2012 a £1.3m scheme was started to renew the traffic signals at junction 34 which links the M1 with Sheffield and Rotherham via the A631, A6178 and Tinsley Viaduct. The new signals will be more responsive to changes in traffic levels, which will increase the effective capacity of the junction and reduce delays.

5.11 The Highways Agency is also currently (January 2012) installing traffic lights at all entry points at junction 1 of the M18, shown in figure 3 above. This scheme is costing £1.1m and also includes widening sections of the roundabout. Together this should reduce queuing at this junction and on the A631 approach, which is the road which links Rotherham to the M18.

5.12 There was an announcement in December 2011 that the Department of Transport is to provide grant funding towards the Tinsley link and a new bus rapid transit route between Rotherham and Sheffield. The Tinsley link is a new road of approximately 800m long that will go under and by-pass junction 34 providing a direct link between Rotherham and Sheffield. This will further improve the performance of junction 34 as it will remove some local vehicles from having to use the junction. It will also reduce the barrier that the M1 currently forms between Rotherham and Sheffield.

5.13 The M1 between junctions 31 and 32 was also widened to four lanes in 2008.

5.14 Taken together these strategic highway improvement measures will improve the performance of the strategic motorway network and reduce some of the pressures on the local highway network.

Local highway network

5.15 The local road network is centred on Rotherham. The town has an inner ring road around the centre of Rotherham with radial routes leading to:

- Sheffield in the west via the A6178
- Doncaster and the A1(M) in the east via the A630
- Sheffield, Waverley and M1(S)in the south west via the A630
- Dearne Valley in the north via the A633
- Huddersfield, Leeds and M1 (N) in the north west via the A629.

5.16 There are local areas of delay and congestion on these routes, particularly in Rotherham town centre. The many railway bridges in the centre of Rotherham act as a constraint to capacity where they cross the highway network and make it very expensive to widen the existing roads. The implications of these bridges are discussed later in the section on specific infrastructure requirements required to support growth in the area.

5.17 As part of the South Yorkshire Intelligent Transport System (syITS) project £1.2m of Objective 1 funding was secured to signalise two key junctions on the A630 Centenary Way (part of inner ring road). This saw the signalisation of College Road Roundabout (junction of A630 Centenary Way, A629 New Wortley Road and A6123 Greasbrough Street) and St Anns Roundabout (junction of A630 Centenary Way, A633 St Ann's Road and A630 Fitzwilliam Road). In addition this project funded the installation of 4 Variable Message Signs on key radial routes to inform drivers of potential delays on the network.

5.18 Another junction that was historically subject to significant delay was Mushroom Roundabout at the junction of A630 Fitzwilliam Road, A630 Doncaster Road, A6123 Aldwarke Lane and A6123 Herringthorpe Valley Road. To reduce delay and improve journey time reliability the signalisation of Mushroom Roundabout was completed in September 2011 with the scheme including improved pedestrian and cycle crossing facilities, and an extended bus lane with bus pre-signal priority on the A630 Fitzwilliam Road approach.

Rail

5.19 There are four railway stations within the borough of Rotherham. There are two railway lines running through Rotherham .The first runs from Doncaster to Sheffield and serves Swinton and Rotherham Central. There are three trains an hour off-peak in each direction, which provide direct access to Sheffield and Doncaster as well as connections to main line services. The stations at Kiveton Bridge and Kiveton Park are served by an hourly service off peak to Sheffield and Retford.

5.20 Rotherham Central Station is being rebuilt with improved facilities for passengers.

5.21 The key constraints on increasing the frequency of rail services for Rotherham are the section of single track at Holmes Chord and the many flat junctions around Swinton.

5.22 Network Rail are considering ways to deliver capacity and performance improvements in the Rotherham area in their next control period (2014 – 2019). The line serving Rotherham Central has a single track pinch point, known as the Holmes Chord, between Holmes Junction and Rotherham Central. The cost of providing double track at the Holmes Chord was given as £15m in 2009. There are also a large number of flat junctions (i.e. not grade separated) in the area which restricts the number of trains that can be run. This is a particular problem around Swinton.

5.23 Network Rail acknowledges that increasing the number of rail services from Rotherham to Sheffield to 5 trains an hour would provide high value for money but it does not currently have funding for the £15m+ cost of double tracking the Holmes Chord.

5.24 There is a possibility in the longer term of introducing tram trains between Rotherham and Sheffield. The vehicles would run on the heavy rail lines out of Rotherham and transfer onto the tram network in Sheffield. This would provide a 20 minute frequency from Rotherham in each direction.

Buses

5.25 The bus network is able to accommodate future predicted growth in Rotherham but key routes are often adversely affected by congestion on the highway network.

5.26 The critical issue for the area is the need to maintain attractive bus journey times even as the levels of congestion on the highway network rise. When considering the location of potential development, if housing or employment is sited next to existing bus routes then the demand generated from these developments will serve to improve the viability of these existing services. Additional demand can be accommodated if necessary by providing additional vehicles. This is likely to lead to improvements in the frequency of these services which will benefit existing as well as new users. If development is sited away from an existing bus corridor then, unless and until it reaches a significant scale of development it will not be financially sustainable to provide a bus service to the development.

5.27 Many of the major bus corridors in the area are already affected by congestion which impacts journey times and reliability. The worse affected bus corridors are:

- A633 Rotherham town centre to Parkgate;
- A630 Rotherham town centre to Thrybergh;
- A630/A631 Rotherham town centre to Maltby; and
- A6021 Rotherham town centre to The Brecks.

5.28 An announcement has just been made by the DfT on 23rd March 2012 to approve a funding package as part of the Departments 'Better Bus Areas Fund - 2012'. The South Yorkshire proposal, ('Quicker, Faster, and Smoother in South Yorkshire') includes a number of measures designed both to ameliorate existing congestion and to facilitate planned future growth in the South Yorkshire metropolitan areas (Sheffield, Rotherham, Doncaster and Barnsley). For Rotherham this includes a £1.3m scheme to improve bus movement known as the Thrybergh interventions - a series of bus movement measures along the A630 Doncaster Road to the north-east of Rotherham town centre.

Cross boundary coordination

5.29 The NPPF places a duty to cooperate and develop joint informal infrastructure and investment plans – the following is an extract from paragraph 179

'Local planning authorities should work collaboratively with other bodies to ensure that strategic priorities across local boundaries are properly coordinated and clearly reflected in individual Local Plans……as part of this process, they should consider producing joint planning policies on strategic matters and informal strategies such as joint infrastructure and investment plans'.

5.30 The South Yorkshire Local Transport Plan Partnership (SYLTP) ensures collaboration and joint planning of strategic transport infrastructure for the sub region. This partnership includes Sheffield, Rotherham, Barnsley and Doncaster local authorities. The LTP Partnership includes a Major Schemes and Policy Board, which considers current and future work programme at a sub - regional level and the Partnership also includes a central team which programme manages the LTP funding. There are currently two major cross boarder projects in the pipeline:

5.31 The main scheme is the Bus Rapid Transit (BRT) North project, which has secured £36m of central government funding for a high quality and frequent limited stop bus service between Rotherham town Centre and Sheffield City Centre via the Lower Don Valley. A key element of the scheme is a new link road that bypasses Junction 34 (N&S) under the Tinsley viaduct, which will provide bus priority BRT North is programmed to open in 2015.

5.32 The other scheme is the Tram -Train, which will see the Supertram extended from Meadowhall South tram stop to Parkgate via Rotherham Central train station on the heavy rail network. This will provide a seamless tram journey to and from Sheffield City Centre at a 20min frequency. An announcement on Government support of Tram-Train is expected shortly.

Assessing future requirements

Dealing with historic deficit

5.33 Our central objective is to understand the infrastructure requirements resulting from *growth* in housing and jobs. In theory, this means that we have to "tune out" changes in infrastructure requirements due to other factors – such as trend growth in transport demand, or historic deficits in infrastructure provision.

5.34 While our general approach has been to concentrate on the transport implications associated with growth only, historic deficits in transport cannot be entirely "tuned out", as they do have a bearing on scheme requirements, deliverability, timing and priorities. Where such 'historic deficit' exists then additional growth may mean that infrastructure upgrades may have to happen sooner than they otherwise might (for example, an improvement in road infrastructure might have to happen at the start of housing development, rather than at the end).

5.35 It is clear from our assessment that there are some existing constraints in the highways transport network at certain times even before planned growth takes place.

Professional judgement and transport modelling has informed the transport infrastructure requirements created by the growth

5.36 The Transport Team at Rotherham Borough Council and South Yorkshire Passenger Transport Executive were asked to consider the impact of the growth on the existing infrastructure and the costs of any mitigation measures required.

5.37 The deliberations were informed by the detailed transport modelling work carried out using the Sheffield and Rotherham Transport model version 3 (SRTM3). This model was used to support the successful application to the Department for Transport (DfT) for funding towards a bus rapid transit system between Rotherham and Sheffield via the Lower Don Valley.

5.38 The base year for SRTM3 is 2008 and forecasts of conditions on the transport system in the area were produced for 2015 and 2030. The model covers the highway, bus and rail network in the area and separate forecasts are available by time of day. The growth factors for person travel were taken from the DfT forecasts contained in Tempro version 6.1. These growth factors allow for an increase in the number of households and jobs in the area. The growth factors for goods vehicles were taken from the DfT's National Transport Model Road Traffic Forecasts for England revision 1.1 March 2010.

Understanding the cumulative effect of growth on central Rotherham

5.39 The most significant transport congestion is experienced in central Rotherham. If each individual site is looked at in isolation, then additional congestion could be tolerated on these sites. However, this view of *individual* site impacts can fail to capture the *cumulative* impacts of growth on strategic transport infrastructure. The delivery of the growth aspirations for the Borough is likely to require the junction improvements and other infrastructure improvements to address the cumulative impact of the growth, and these have been taken into consideration when articulating future requirements stemming from growth set out below.

Transport capacity, requirements and costs to meet future growth

5.40 In the next section we outline the outcome of discussions with RMBC transport team of the likely highway requirements for each of the growth area, and the Rotherham wide bus and cycle requirements and estimated costs.

Site 1 Bassingthorpe Farm

5.41 A small amount of housing could be provided from local access onto frontage along Barbot Hill Road, Munsbrough lane and Fenton Road. However further housing numbers will require an access road to serve the site. It is recognised that this road will be critical to the delivery of the overall scheme and further work will be undertaken as planning for Bassingthorpe Farm is refined to assess actual road infrastructure design and costs. We expect this will be expensive, and will need to be provided by the developer. Discussion on this involving the Borough Council's Highway Team and the developer have commenced and will continue to identify a solution towards the mid part of the plan period when the scheme is expected to come forward. Details will be incorporated into the infrastructure delivery schedule as they come forward.

5.42 The new development at Bassingthorpe Farm will also increase the congestion currently experienced on routes into Rotherham town centre from the north and within the town centre. The existing problems in the town centre, which are particularly significant in the north are expensive to solve using traditional means because of constraints caused by the railway lines so the preferred approach would be to manage traffic using around ten variable message signs which cost in the region of £50,000 each.

5.43 In the medium term it will be necessary to signalise Taylor's Lane roundabout which will cost around £1.2m. A bid to the Local Sustainable Transport Fund (LSTF) includes an allocation towards the costs associated with the signalisation of Taylor's Lane Roundabout. An announcement on the outcome of the bid will be made in summer 2012.

5.44 The A629 Fenton Road Roundabout will also need improvement. This is likely to be a scheme to signalise the roundabout at a cost of £1.2m. A cross-district service that serves Sheffield – Rotherham – Doncaster operates along the A629 which is classified as a key bus route and improvements may be needed along the route to provide for measures to maintain bus journey times.

5.45 It needs to be acknowledged that Bassingthorpe Farm is also likely to have an impact on the junctions identified in site 2 below.

Site 2 Rest of Rotherham urban area

5.46 The results of the model runs from SRTM3 have been reviewed. These show the junctions in town centre which will be congested in the future. The worse affected junctions are in the north and west of Rotherham town centre.

5.47 Additional housing in Rotherham urban area would add to the current congestion predominantly on the inner ring road and at other junctions in the town centre particularly the St Anns, College Road, Pool Green, Ickles Roundabouts on A630 Centenary Way as well as some impact on the junctions on the southern section of the inner ring road. The College Road, Poole Green and Ickles roundabouts would be used by traffic going to the M1. Measures to manage the growth in traffic at the 4 roundabouts on Centenary Way will need to be introduced at an estimated cost of £8-9m, which would include the Poole Green roundabout which could be improved with signalisation, costing around £5m.

5.48 It is expected that if there is to be increased employment in the site adjacent to the Parkgate retail area, and then another access will be required, which would most likely have to be provided over the railway line. This would cost at least £5m and would be 100% due to the development.

5.49 With new developments off A631 East Bawtry Road, then there would be a need to increase the capacity of the Worrygoose Roundabout but no appropriate scheme has been drawn or costed. A provisional estimate of £1m is included in this analysis.

Site 3 Dinnington, Anston & Laughton Common

5.50 This site is to the south east of Rotherham and much of the traffic from new developments would use the A57. Funding has been secured for a £14.7m scheme to improve the link between the A57 and the M1. The A57 improvement widens the existing single carriageway to a dual two lane carriageway between the termination of the existing dual carriageway of Worksop Road-Sheffield Road 400m east of the M1 Junction 31 to the

junction of the A57 and the B6463 Todwick Road. The junction of the A57 and the B6463, currently a signalised crossroads, will be replaced by a five arm roundabout. A public inquiry for the compulsory purchase orders (CPO) is now completed and as CPOs have been granted the work should begin late summer 2012.

5.51 In addition, growth in this area could require local improvements to the junctions at Anston (A57/B6060) and the Dinnington roundabout. The changes to the Anston crossroads are estimated to cost about £1.2m. The Dinnington Roundabout at the junction of the B6060/B6463 may require signalisation costing £750k.

Site 4 Wath, Brampton, & West Melton

5.52 There would be no significant traffic issues associated with new development here as a new highway has recently been provided. There would be a need for very localised junction improvements on A633 to provide access to the development sites but the carriageway is 10m wide so there is scope to enlarge junctions and increase link capacity if required.

5.53 There may be a need to signalise the A6195/A633 roundabout improvement if there was to be any additional growth. This junction is in a neighbouring authority which raises cross-border issues. The changes are estimated to cost about £750,000. New development in this area would increase traffic flows on routes into Rotherham via the A633 and B6089 and this may require minor improvements to junctions though we note that the LDF does not propose any new growth here.

Site 5 Swinton & Klinhurst

5.54 Development here would require improvements to the A6023/A633 Woodman roundabout with estimated costs of £500k and at the A633/Kilnhurst Road junction costing £500k.

Site 6 Bramley, Wickersley & Ravenfield

5.55 New development here would require junction improvements at the Masons roundabout A631/B6060 including signalisation which would cost around £1m (see also site 10, the overall cost estimate is £1m and has been divided between sites 6 and 10 in the IDS).

Site 7 Maltby & Hellaby

5.56 Development in this area will benefit from the Highways Agency improvement to Junction 1 of the M18. There would be a need for an additional westbound lane from Addison Road towards M18, which could be a bus lane/HOV lane. This is estimated to cost £1.5m.

Site 8 Aston Aughton & Swallownest

5.57 Depending on the quantum of development it might be necessary to improve the A618 approach to the A631/A618 Whiston crossroads costing £0.5m. With a large amount of new development it may also become necessary to signalise M1 junction 31 to avoid queuing on the motorway.

Site 9 Wales & Kiveton Park

5.58 The A57 improvement scheme, removes the constraint to future development currently posed by this junction. The CPO/SRO inquiry was completed in late 2011, the necessary legal orders have been granted and construction is planned to start in late 2012.

5.59 Around 300 houses could be accommodated by the A57 improvement scheme with possible minor improvements needed to Kiveton Lane such as widening to a two lane approach. Improvements would be required at A57/B6463. This would cost £400,000.

Site 10 Thurcroft

5.60 A contribution would be required to an improvement at the Masons Roundabout (A631/B6060) improvement as there is currently congestion on Morthen Road and would cost around £1m. (See also site 6, the overall cost estimate is £1m and has been divided between sites 6 and 10 in the IDS).

Site 11 Thorpe Hesley

5.61 Two junction improvements on the A629 (Brook Hill/London Way) would be required; costing £850,000, but this is mainly due to the pressure from existing congestion. ..

Site 12 Waverley New Community

5.62 The junction improvements required as a result of the committed development are secured through S106 agreements attached to the Waverley AMP Waverley New Community and Helical Governetz Developments, with improvements to the junction of A630 Sheffield Parkway and B6533 Poplar Way and Europa Link (Catcliffe Dumbell Roundabout) already completed.

5.63 In addition the Waverley New Community and Helical Governetz planning consents secure a 10% contribution from the developer towards the proposed Waverley Link Road major scheme. However, it should be noted that the developments are not constrained should the WLR scheme not be implemented.

5.64 DfT funding is currently being sought for the Waverley Link Road scheme.

Site 13 Catcliffe, Treeton and Orgeave

5.65 There are no significant issues in this area.

Buses requirements and costs

5.66 The most sustainable locations for new housing and employment developments are areas that are already served by high frequency bus services. Many of the popular bus routes in the Borough run along roads that are also well used by cars and experience congestion. SYPTE in conjunction with RMBC have a program of key bus routes and are seeking to provide bus priority measures along these routes to protect and improve bus journey times. Some of the cost of these routes could be considered as attributable to new development as traffic from the developments will be exacerbating the highway congestion along these routes.

Key Route Bus - Rotherham Central Core including Thrybergh - £3.5m

5.67 This scheme provides bus priority measures, improved bus stop infrastructure and tackles congestions on the Rotherham Central core Key Route. This is the top priority scheme and is already partially funded. £1.2m has been spent on Mushroom Roundabout from local transport plan funding, a further £600k has been spent widening the Fitzwilliam Road approach to St Anns Roundabout, the proposal to upgrade existing crossings and install a new pedestrian crossing along the corridor is anticipated to cost £450k from local

transport plan funding. The proposed signalisation of the A630 Doncaster Road at its junction with Oldgate Lane will cost £600k from Local Transport Plan funding and a westbound bus lane from Whinney hill to Oldgate lane is estimated at £600k with funding awarded from the DfT's Better Bus Fund.

5.68 The Mushroom roundabout signalisation was completed in summer 2011. Other hotspots that need remedial measures include Oldgate Lane, Whinney Hill and Fitzwilliam Road.

Key Route Bus - Rotherham to Maltby - £1.5m

5.69 This scheme provides bus priority measures, improved bus stop infrastructure and tackles congestion on the Maltby corridor particularly on Addison Road.

Key Route Bus - Rotherham to Swallownest -£850,000

5.70 This route is the main link between Rotherham and the residential areas of Aughton, Swallownest and Aston. The scheme aims to reduce highway congestion along the route.

Key Route Bus - Rotherham to Chapeltown-£1.5m

5.71 The project aims to provide bus priority measures and infrastructure improvements on A629 Rotherham-Chapeltown route within the Rotherham borough boundary.

Key Bus Route – Rotherham to the Dearne £2.0m

5.72 The recent bid to the DfT local Sustainable Transport Fund includes a bid for £1.4m for works to signalise the Taylors Lane roundabout (A6123 / A633), which will improved bus priority at this key roundabout which is currently a pinch-point on the route An announcement on the success or otherwise of this bid is due in June 2012.

Bus Rapid Transit

5.73 The bus rapid transit route along the Lower Don Valley from the centre of Rotherham to the centre of Sheffield has been awarded grant funding from the DfT. The BRT (N) scheme will introduce a high frequency, limited stopping bus service between Rotherham and Sheffield Centres, via the Lower Don Valley. A key element of the scheme is the bus priority measures that will be provided to maintain journey time reliability, including a new highway link which joins Sheffield Road and Meadow Hall Way that goes under the Tinsley Viaduct and bypasses congestion at J34N and J34S.

Cycling infrastructure requirements and costs

5.74 A current bid to the Local Sustainable Transport Fund includes three walking and cycling schemes:

- Lower Don Valley Cycle Route £ 1.8m. This is a 13.25Km of cycle scheme between Sheffield and Rotherham mainly a segregated off road route along the current canal tow path.
- Rawmarsh to Rotherham Town Centre Cycle Route, £1.1m. This is a 3.1km route to improve linkages between Rawmarsh and Rotherham Town Centre and will be mainly unsegregated on-road route
- Dearne Valley to Swinton Cycle Route, £320k. This is a 1.2 km of cycle infrastructure will route, mainly off road which will improve linkages between Swinton and Dearne Valley College.

5.75 These schemes are designed to serve the needs of the existing communities but would help to promote the use of sustainable transport from new developments along these routes. There will also be the need for individual stand alone pedestrian crossing improvements and other route based walking and cycling improvements such as the recently completed accessibility improvements along Doncaster Road East Dene which cost £1.3m over 3 years. Such improvements are likely to be concentrated on the core pedestrian and cycle routes into Rotherham Town Centre.

When is the infrastructure likely to be needed?

5.76 It is difficult to provide firm guidance about when infrastructure is required. This is for the following reasons.

5.77 There are no local or national guidelines about what level of transport congestion is considered acceptable.

5.78 There is uncertainty about the rate of background traffic growth and actual delivery of planned growth.

5.79 Given the above uncertainties, professional judgement is used to judge when road infrastructure begins to represent a barrier to build-out of the individual growth sites.

5.80 The traffic light bar chart shown at figure 5.4 below introduces the concept of 'pain' on the transport network. The term has been used in relation to the potential burden that is likely to be imposed from development (in whole or part) on an already stressed network in the absence of enabling improvements. In these circumstances there is a high risk that the outcome would result in or compound an unmanageable situation.

5.81 The decision whether or not it is acceptable to allow such stress, and over what timescale, rests with the appropriate Highway governing bodies or other infrastructure provider. The Traffic Management Act 2008 imposed a duty on the Council as local traffic authority to secure the expeditious movement of traffic on our road networks. Key considerations would be political judgements and the implications for sustainable transport, the economy and the overall local environment. As a consequence the decision on what constitutes an acceptable level of network stress for individual developments lies outside the scope of this study.

5.82 It is important to note that when judging the 'traffic lights' for transport the rule of thumb used here is:

- Red: The red bar shows when (in our view and with the caveats offered above) there is congestion (at certain times) already and new development will make this situation worse. Of course, development of either jobs or housing is possible during this "red" period, but is likely to be associated with congestion which may or may not be considered acceptable. It is important to recognise that a designation of 'Red' should not be interpreted with the meaning that development cannot go ahead, but it will inform the timing of when additional infrastructure might be needed to support the growth.
- Amber: Denotes where transport infrastructure appears to be sufficient to cope with current development and planned growth could be accommodated with some

infrastructure improvements phased in later, and so does not represent a barrier to development.

- Green: Denotes where sufficient transport infrastructure capacity is already in place to cope with growth.

Timing assumptions

5.83 For the schemes related to infrastructure requirements in Rotherham town centre – (created by Rest of Rotherham and Bassingthorpe Farm), it is difficult to be precise as to when individual schemes will come forward and what their cumulative impact on the wider network. This depends on the levels of congestion caused by additional traffic using the town centre, which partially involves a judgement as to when such congestion is nearing unacceptable levels. Given the scale of development proposed in the Rest of Rotherham and Bassingthorpe Farm, we have indicated a red zone towards of the third phase of the plan period to highlight that if all the development proceeds as profiled, then Rotherham wide interventions are likely to be required in the middle zone to ease the burden of cumulative congestion in Rotherham town centre by the end of the plan period.

5.84 For the purpose of assessing when infrastructure costs will be incurred, such requirements are spread evenly across the whole plan period. In reality, none of the costs will individually be spread across such a long time period. However, in aggregate, this represents a reasonable assumption in terms of overall costs per annum.

Source: RTP 2012

Stripping out historic deficit costs to isolate a transport infrastructure cost generated by growth in Rotherham

We categorised schemes according to the extent they service existing problems

5.85 We need to estimate a cost for infrastructure to support growth (rather than a total cost of the transport infrastructure in Rotherham during the plan period). There is a difference between the two, because the need for transport infrastructure improvements cannot always be entirely ascribed to new growth.

5.86 We have identified the extent to which each transport improvement services historic transport deficit on the network through qualified judgements. We have recognised that historic deficit is significant and therefore we have discounted a proportion of the cost of each scheme according to the extent to which it services existing deficit and proposed growth. We have used discount values of:

- 100% - attributable to growth;
- 50% - where the scheme services part deficit and part growth;
- 25% - where the scheme is predominantly for historic deficit

5.87 After the cost of deficit is identified in this exercise above, the remaining costs are ascribed to housing and jobs growth. These costs are shown in the table 5.1.

5.88 No attempt has been made to weight scheme costs according to the extent to which they enable the different individual growth sites.

Table 5.1 Transport costs related to growth and wider historic requirements

Rotherham Infrastructure Schedule	Priority	Capital or revenue?	Known gross cost (not specifically tailored to impact of attributable growth)	Borough impact proportion: % gross costs attributable to growth	Known infrastructure costs attributable to growth ("growth cost")	Funding via mainstream / public agency	Known Gross costs after anticipated funding ("Gross cost funding gap")	Known Growth costs after anticipated funding ("Growth cost funding gap")
(A) TRANSPORT - HIGHWAY								
Bassingthorpe Farm Access Road			Not yet known	100%	Not yet known		Not yet known	Not yet known
Variable message signs linked to Bassingthorpe Farm	Essential	Capital	£500,000	50%	£250,000		-£500,000	-250,000
Taylors Lane Roundabout - DfT bid	Essential	Capital	£1,400,000	0%	£0		-£1,400,000	0
A629 Fenton Road Roundabout - Bassingthorpe Farm	Essential	Capital	£1,000,000	100%	£1,000,000		-£1,000,000	-1,000,000
Centenary Way Roundabouts (4) - Rest of Rotherham	Essential	Capital	£8,500,000	50%	£4,250,000		-£8,500,000	-4,250,000
Aldwarke Employment - Parkgate retail park access	Essential	Capital	£5,000,000	100%	£5,000,000		-£5,000,000	-5,000,000
Worrygoose Roundabout - Rest of Rotherham	Essential	Capital	£1,000,000	50%	£500,000		-£1,000,000	-500,000
Anston Jn A57 / B6060 - Site 3	Essential	Capital	£1,200,000	50%	£600,000		-£1,200,000	-600,000
Dinnington Roundabout B6060 / B6463 - site 3	Essential	Capital	£750,000	50%	£375,000		-£750,000	-375,000
Junction Improvements on A633 / A6195 - site 4	Essential	Capital	£750,000	50%	£375,000		-£750,000	-375,000
Woodmand Roundabout A6023 / A633 - site 5	Essential	Capital	£500,000	50%	£250,000		-£500,000	-250,000
A633 / Kilnhurst Junction - site 5	Essential	Capital	£500,000	50%	£250,000		-£500,000	-250,000
Masons Roundabout A631 / B6060 - site 6	Essential	Capital	£500,000	100%	£500,000		-£500,000	-500,000
Addison Road westbound Lane - site 7	Essential	Capital	£1,500,000	100%	£1,500,000		-£1,500,000	-1,500,000
A631 / A618 Whiston Crossroads - site 8	Essential	Capital	£500,000	50%	£250,000		-£500,000	-250,000
Kiverton Lane improvements - site 9	Essential	Capital	£400,000	100%	£400,000		-£400,000	-400,000
Masons roundabout - site 10	Essential	Capital	£500,000	50%	£250,000		-£500,000	-250,000
Sub total			**£24,500,000**		**£15,750,000**		**-£24,500,000**	**-£15,750,000**
TRANSPORT - ALL OTHER (BUS CYCLE)								
Key Route Bus - Rotherham - Thrybergh (Rest of Rotherham) DfT bid	Essential	Capital	£3,500,000	50%	£1,750,000		-£3,500,000	-1,750,000
Key Route Bus - Rotherham to Dearne DfT bid	Essential	Capital	£2,000,000	50%	£1,000,000		-£2,000,000	-1,000,000
Key Route Bus - Rotherham - Maltby (sites 6 & 7)	Essential	Capital	£1,500,000	50%	£750,000		-£1,500,000	-750,000
Key Route Bus - Rotherham - Swallownest (sites 8 & 9)	Essential	Capital	£850,000	50%	£425,000		-£850,000	-425,000
Key Route Bus - Rotherham to Chapelton (site 11)	Essential	Capital	£1,500,000	50%	£750,000		-£1,500,000	-750,000
Bus Rapid Transit Northern Route (site 2) DfT funding in place	Essential	Capital	£34,000,000	50%	£0	£34,000,000	£0	0
Lower Don Valley Cycle Route (site 2)	Essential	Capital	£1,800,000	50%	£900,000		-£1,800,000	-900,000
Rawmarsh to Rotherham Town Cycle Route (site 5)	Essential	Capital	£1,100,000	50%	£550,000		-£1,100,000	-550,000
Dearne Valley to Swinton Cycle Route (stie 5)	Essential	Capital	£320,000	50%	£160,000		-£320,000	-160,000
Sub total			**£46,570,000**		**£6,285,000**	**£34,000,000**	**-£12,570,000**	**-£6,285,000**

Source: Roger Tym & Partners 2012

How can new infrastructure be funded?

Apart from the approved DfT sources, there are no other significant funding streams available at present

5.89 Given this situation, it seems to us sensible to assume that there is not likely to be any new funding currently available for transport improvements created by growth.

5.90 In December 2010 the Department announced that it was introducing a radical simplification of local transport funding, moving from 26 separate grant streams to just four. These are as follows:

- a local sustainable transport fund (capital and resource)
- major schemes (capital)
- block funding for highways maintenance (capital)
- block funding for small transport improvement schemes (capital)

5.91 All other specific grants are being ended, with the funding transferred and included in the main Local Government Formula Grant administered by the Department for Communities and Local Government'. Having said this, a number of major investments have recently taken place for strategic highway improvements and public transport. Indeed over £34m of funding currently in place is DfT funding to support bus and road schemes.

5.92 The amount of funding that each local authority receives for highways maintenance and small transport improvement schemes is determined by a fixed formula and this is not responsive to the actual number and cost of schemes the local authority wishes or feels it is necessary to deliver.

Developer contributions to fund Bassingthorpe Farm access road

5.93 The access road serving Bassingthorpe Farm is expected to be funded through developer contributions. The exact details of the scheme are not finalised, but discussions have commenced in preparing an initial scoping plan with the site owners to consider options, costs and phasing.

5.94 Wider discussion on how developer contributions will be distributed and prioritised is discussed elsewhere in this study, as part of the discussion on funding gap. Suffice to note that any such decisions will depend on site specific proposals and wider RMBC prioritisation of spend of possible Community Infrastructure Levy.

Issues and barriers to growth

Outturn travel demand is subject to a number of uncertainties

5.95 Many of the junctions in the centre of Rotherham are already operating at capacity. High concentrations of growth in the urban centre of Rotherham will place pressure on the highway network. The potential to increase road space is severely limited by the lack of adjacent land and the presence of railway bridges. The major bus routes run along highway corridors that are themselves well used by cars. Bus priority measures will be required to maintain bus journey times and reliability and considerable emphasis is placed on improving key bus routes.

5.96 The rate at which traffic growth associated with existing development in the Rotherham area makes use of the existing limited spare capacity on the strategic highway network and the junctions in the town centre depends on a number of factors. These include:

- The level of economic growth in the area (which affects the level of car ownership and the number of peak hour trips to employment);
- The cost of fuel (which acts as a deterrent to car use); and
- Effectiveness of campaigns to encourage the use of sustainable travel modes.

Initiatives to reduce demand for transport infrastructure

5.97 An attempt could be made to reduce the number of car trips associated with new development by managing the demand for travel. This would be incorporated in residential and workplace travel plans. For major sites the developers could be required to introduce and maintain (utilising Travel Plan Coordinators) such plans as part of their planning consent. The Council may also wish to co-ordinate and implement area wide transport plans, linking in public transport operators.

5.98 The developers of particular sites could be required to fund travel plans and subsidise bus services. The funding for this work would come from Section 106 agreements.

5.99 The improvements planned to public transport and walk/cycle facilities will assist in promoting the choice of non-car modes of transport on a wider scale throughout the borough. South Yorkshire has submitted a bid to the Local Sustainable Travel Fund for schemes that would promote travel by walking and cycling. These measures will also help the performance of the road network by reducing the number of cars that would otherwise be using the roads. When considering the infrastructure requirements for transport the costs of both increasing the capacity of the network and methods of reducing the level of demand are important.

6 EDUCATION

6.1 In this section we examine the education infrastructure requirements stemming from the proposed housing growth, focusing on primary, secondary and sixth form provision and taking account of nursery and special education needs.

6.2 This assessment has been prepared in close dialogue with members of the Education Team at RMBC. We have utilised RMBC and Annual School Census data relating to current and forecast roll numbers and recent school build cost information.

What is the current education infrastructure provision in Rotherham?

6.3 Most of the education infrastructure is owned, managed and provided by Rotherham Metropolitan Borough Council. There are 98 primary schools and 16 secondary schools in the Borough.

6.4 Fifteen schools[13] are managed under Private Finance Initiatives (PFI), whereby the physical asset is owned by a private company and RMBC will pay a rental fee for this. Due to this ownership, any future expansion of PFI schools would require a longer lead in time as consent would need to be sought from the PFI companies.

6.5 There are four Secondary Academies[14] responsible for managing their own revenue budgets, but any capital projects here would be led by RMBC. There are six special education needs (SEN) schools for severely disabled children aged 3 to 19 years old.

Recent or planned investment programmes in education infrastructure

6.6 Whilst Primary Capital Programme funding was available, RMBC has taken advantage of this to undertake the following primary school investments:

- Swinton Queen Primary – provided a complete new school
- Aston Fence – replaced 4 temporary classrooms with permanent buildings.
- Anston Brook – replaced the primary school building

6.7 Additional work had been planned under the Building Schools for the Future (BSF) funding programme, however, this source of funding is no longer available and the proposed schemes are currently on hold until additional resources are identified.

6.8 The Council has current bids under the Government's Priority School Building Programme to replace 4 schools:

- Oakwood Technology College in Moorgate town centre,
- St. Pius Catholic High School in Wath,
- Swinton Community School
- Wath Victoria Primary School.

[13] Primary PFI Schools are Meadow View, Kimberworth, Coleridge, Ferham, East Dene, Wath Central, Malby Crags, Thornhill Secondary PFI schools are Wath, Winterhill, Wickersley, Thybergh, Clifton, Wingfield.

[14] Secondary Academies are Aston, Brinsworth, Maltby and Wales High School.

6.9 If approved, this will involve the rebuilding of the above schools under a government led PFI scheme. However, it appears the funding programme is over subscribed; a decision on the outcome is expected in the summer.

Five year service planning is undertaken by the Education Department

6.10 Historically a School Organisation Plan informed future investment strategies, this is no longer produced and the last plan prepared in 2007-08 and is now a little dated.

6.11 An annual update exercise based on past birth rates is undertaken to inform five year planning. The assessment to inform this study was based on considering the longer term requirements stemming from the proposed housing growth in the broad locations where the growth is proposed.

6.12 A cross check was done to compare the population projections used by the Education Department with the population projections used to inform the LDF housing growth requirements. In terms of the estimated household size and estimated future growth in children's population the two assessments were comparable.

Approach to assessing future requirements

6.13 Our approach to assessing future requirement has been based on the following steps:

- Assess current capacity / deficit using the latest available school census data (2011).
- Consider the impact of existing residential consented schemes on capacity.
- Estimate the future requirements stemming from the proposed growth.
- Assess the effect of this additional requirement on any residual capacity / deficit.
- Consider options with the service provider to assess how this requirement can be provided in a way that minimises the cost of infrastructure provision.

Assumptions informing future requirements and cost

6.14 Our estimate of future requirements has been based on the following assumptions agreed with the service provider:

- Use the data relating to the number on roll as at January 2011.
- Retain some capacity to meet requirements stemming from short term fluctuations arising from movements in population / births.
- Primary and secondary pupil yield is based on 3 pupils per year group per 100 dwellings (0.03 pupils per dwelling per year group). One classroom has about 30 pupils.
- Ideal movement distance for primary school children is 2 miles, and for secondary school pupils is 3 miles.
- The size of extensions has been determined by using Building Bulletin 98 for Secondary schools and Building Bulletin 99 for Primary Schools.
- Where extensions require 4 classrooms or more, there is a need for further supplementary areas to cater for additional pupils, e.g. toilets, small group rooms, dining, circulation.

- The last 3 building projects in Rotherham have equated to £2400 per sq. m. This on average equates to one classroom costing £232,000. For smaller extensions the need for extra areas is reduced, resulting in a typical classroom costing £150,000.
- Individual child place costs will be developed by the client team to inform S106 discussions as part of the LDF implementation discussions.

Some schools have capacity to accommodate growth immediately whilst others are already stretched

6.15 There are a few locations where there is surplus secondary capacity at this point in time to accommodate growth. These locations include Thorpe Hesley, Maltby & Hellaby and Swinton & Kilnhurst. Most of the primary schools appear to have some capacity. There are some highly popular secondary schools that are stretched at present and any future requirement will need to be carefully planned in advance of the requirement, these include locations around Bramley, Thurcroft, Wales and Brampton.

6.16 This information has to be treated with caution as the situation will be constantly changing, it is a snapshot in time, and does not take account of sites with planning consents or new requirements that will result from developments that are currently being built.

6.17 It is clear to see that majority of locations move into a deficit position once the growth requirements are factored in. However, there is still some capacity, at Maltby and Thurcroft for primary and, Swinton, Maltby and Thorpe Hesley for secondary schools. Any future realignment of growth patterns may take this additional capacity into consideration.

6.18 Based on the information currently known to the RMBC Education Team, an assessment has been made on how best to meet the future requirements stemming from the proposed growth. This assessment has factored in current capacity, scope to physically expand an existing school, current and possible catchment area boundaries and the potential to 'claw back' some space currently used by non Rotherham pupils.

The future Primary and Secondary requirements

6.19 We have in our assessment of future requirements taken account of the requirements stemming from the consented sites and any capacity. This has then been assessed to see how the requirement can best be met. Tables 6.1 and 6.2 show the number of estimated primary, secondary school places likely to be required as a result of the growth.

6.20 The cost of additional primary schools is £8.6m. The cost of additional secondary schools is just under £4m.

Table 6.1 Primary education requirements and estimate costs

Growth locations - primary	Pupil requirement from growth	Classrooms required after capacity adjustment	How will requirement be met?	Cost
Bassingthorpe Farm	504	New 420 primary school and nursery	New	£6,500,000
Rest of Rotherham Urban	399	This area incorporates 5 school planning areas and is therefore difficult to rationalise where expansions are needed .	various	per child rate will apply
Dinnington, Anston, Laughton	168	1 classroom	School not determined	£150,000
Bramp, Wath, West Melton	0	No additional growth proposed	Consented sites	£0
Swinton & Kilnhurst	95	existing capacity		£0
Bramley, Wicks, Ravenfield	147	5 classrooms	Grange and Ravenfield as possibles	£1,160,000
Maltby & Hellaby	126	existing capacity	n/a	£0
Aston, Aughton & Swallownest	95	existing deficit	3 to 4 classrooms needed	£812,000
Wales & Kiveton Park	63	existing capacity	n/a	£0
Thurcroft	53	existing capacity	n/a	£0
Thorpe Hesley	32	existing capacity	n/a	£0
Waverley	0	Part of an existing S106	2 new 210 places schools and nursery	£0
Catcliffe, Treeton & Orgreave	32	existing capacity	Currently putting two new classrooms	£0
Total				£8,622,000

Table 6.2 Secondary education requirements and estimated costs

Growth location - secondary	Pupil requirement from growth	Classrooms required after capacity adjustme	How will requirement be met?	Cost
Bassingthorpe Farm	360	8 classroom	**Winterhill could absorb 100 - 150 with existing capacity but this will require a catchment boundary review. Expansion of Wingfield by 200 - 250 places**	**£1,900,000**
Rest of Rotherham Urban	333	Possibly existing capacity	**Secondary capacity varies and needs careful consideration some areas with capacity and others are stretched**	**per pupil**
Dinnington, Anston, Laugtor	142	2 classrooms	**Capacity at Dinnington school to build additional classroom**	**£300,000**
Bramp, Wath, West Melton	0	Existing capacity	**Scheme consented - capacity to meet this, by looking for gradual clawback of space from Barnsley catchment but this will need lead in time to change**	**£0**
Swinton & Kilnhurst	77	Cross border and existing capacity,	**Swinton comp has capacity, combined with Doncaster migration should meet new requirment. BUT current bid to government grant bid to redevelop secondary. If sucessful, it will reduce capacity. Much depends on outcome of bid could require a new classrooms if bid is sucessful**	**£0**
Bramley, Wicks, Ravenfield	119	4 classrooms	**Wickersley is an outstanding school and is already stretched. Will need to expand to accommodate growth and will need lead in time**	**£930,800**
Maltby & Hellaby	102	Existing capacity	**Maltby Academy has capacity, but there is a bid in to DfE funding via Academies Framework funding to rebuild the school. Much depends on outcome of bid could require a new classrooms if bid is sucessful**	**£0**
ston, Aughton & Swallowne	77	1	**Aston Academy - importer of pupils from Sheffield so could increase capacity by claw back. Any capacity created at Aston from claw back will be absorbed by Waverley Anston is in greenbelt and restriction may apply in expansion will need careful management with Waverley**	**£150,000**
Wales & Kiveton Park	51	2 classrooms	**Wales Academy rated as outstanding academy and would need expansion to accommodate new growth Existing consented growth to be met by clawback space from Sheffield catchment but this will need lead in time to change**	**£300,000**
Thurcroft	43	1 classroom	**Wales Academy rated as outstanding academy and would need expansion to accommodate new growth. Existing consented growth to be met by clawback space from Sheffield catchment but this will need lead in time to change**	**£150,000**
Thorpe Hesley	23	Existing capacity	**Capacity at Winterhill here could assist early phases of Bassingthorpe Farm but may required boundary review**	**£0**
Waverley*	0	11 classrooms	**Waverly will require some 11 classrooms. There was no S106 secondary school funding sought as development was to be met with BSF and this is no longer available.The requirement will be met by gradual clawback of capacity from Sheffield pupils at Anston and Brinsworth Academies**	**£0**
Catcliffe, Treeton & Orgreave	26	1 classroom	**Brinsworth capacity will support Waverly so will require one new classroom for this scheme.Gradual expansion of two classrooms to meet new requirment at Brinswort**	**£150,000**
Total				**£3,880,800**

Special education needs requirement and cost

6.21 It is estimated that about 1% of the current population has special needs. Translating this to children requiring special education needs (SEN) school infrastructure stemming from growth is shown in table 6.3

Table 6.3 SEN requirements and costs

SEN places required	Cost of provision
One classroom as a minimum	**£220,000 per classroom**

Costs have been kept to a minimum by using creative solutions

6.22 Care was taken to identify a number of cost saving measures involving the re-use of surplus capacity, claw back from neighbouring authorities, scope to re-align catchment boundaries and classroom expansion instead of new build to arrive at these cost calculations.

Understanding cross border movement of pupils

6.23 Given the location of Rotherham, there are various cross border movements of pupils from Rotherham and adjoining authorities including Sheffield, Barnsley and Doncaster. As part of this study, the RMBC Education Team liaised with neighbouring authorities to capture migration information. This migration information identified that the cross border movement of secondary school pupils is particularly significant, with Rotherham being a net importer of pupils.

6.24 Table 6.4 provides the migration information at a local authority level. This information was assessed in more detail to assimilate which schools were most affected

Table 6.4 Cross border use of Rotherham education infrastructure

Secondary	Into Rotherham	Out of Rotherham	Net total
Sheffield	760	97	663
Barnsley	368	53	315
Doncaster	195	Not known	Not known
Primary	**Into Rotherham**	**Out of Rotherham**	**Net total**
Sheffield	266	75	191
Barnsley	474	88	386
Doncaster	26	Not known	Not known

6.25 In recognition of the fact that funding is very restricted, where possible, this assessment has sought to generate capacity through ‘clawing back’ of places currently being utilised by pupils from adjoining authorities. This will require close working with adjoining authorities to ensure a smooth transition and considerable lead in time. Advice was sought from the school admissions officer to understand the priorities for school allocation.

Boundary review

6.26 The Education Team have considered the general location of proposed growth and secondary schools with capacity that could possibly serve the new requirement. This considered the possible use of school catchment review to utilise any surplus capacity. It should be emphasized that any boundary adjustment would need to follow strict procedures and consultation and would require a suitable lead in time (anything from 3 – 6 months).

How can new infrastructure be funded?

6.27 Government funding streams such as BSF and Primary Capital Programme are no longer available; instead there have been occasional competitive funding pots launched. RMBC has funding for education infrastructure via the 'Basic Needs Funding' stream, which in 2011 was £1.5m, and was used to support improvements for the whole of Rotherham. There is also a mainstream capital programme of £6.4m which is more flexible (not ring fenced), but is needed to meet the expansion of existing provision to accommodate historic growth in pupil numbers.

6.28 Both these sources are no longer ring fenced and so there is greater flexibility to contribute some additional new funding as part of a bigger investment scheme. The DFE have stated that this funding will continue until 2014, but there is no certainty beyond 2014/15, so can only commit to short term schemes.

Issues and dependencies

Treat the data input with care

6.29 The capacity data has to be treated with caution as the situation will be constantly changing, it is a snapshot in time, and does not take account of sites with planning consents or new requirements that will result from developments that are currently being built.

6.30 It is important to note that the number on roll figures is constantly changing, and will be affected by population changes, migration, changes in government policy and capital programmes. Our assessment is based on current information to inform a high level assessment of infrastructure.

Planning applications will be assessed with accurate information at that point

6.31 Regular review of capacity will be needed to inform actual requirements in more detail at master planning and planning application stages. Further refinements will inform more specific proposals; the assessment undertaken for this study provides a general guide on a strategic assessment.

A point of caution in assessing the needs of the 'Rest of Rotherham' education infrastructure

6.32 Given the scale of the rest of Rotherham area, the figure represented here is a high level grouped assessment. However, we are informed by the Education Team that they are experiencing some real capacity issues in the centre of Rotherham, due largely to in migration of population into Rotherham from EU countries. Their understanding of the area suggests that the south and central areas are near to full; indeed Thorn Hill Primary

school is currently undergoing an extension to accommodate this additional growth. Most of the primary schools are full (taking in more than two form entry pupils they are designed for) and there is no room to physically expand.

6.33 It is likely that the unidentified growth in the rest of Rotherham area could require a new stand alone one form entry of 210 pupils with a site area of at least 5000 m2 or ideally 10,000 m2 with on site playing fields. More detailed assessment is needed to fully understand the requirements for the Rest of Rotherham.

Close liaison with neighbouring authorities will be essential to free up capacity

6.34 Much of the additional capacity required to meet the needs of growth has been 'generated' by 'clawing back' spaces currently taken up by pupils in neighbouring authorities - particularly Sheffield, Barnsley and Doncaster. This provides an opportunity to gradually reclaim capacity to meet the needs of a new development. However, this will require close liaison with adjoining authorities to enable them to plan for new requirements in a timely manner, and facilitate Rotherham to meet its needs.

Review of possible catchment areas will need to follow statutory processes

6.35 Any review of the catchment areas will need to follow strict processes for doing this, with appropriate parental / community consultations and this too will need considerable lead in time.

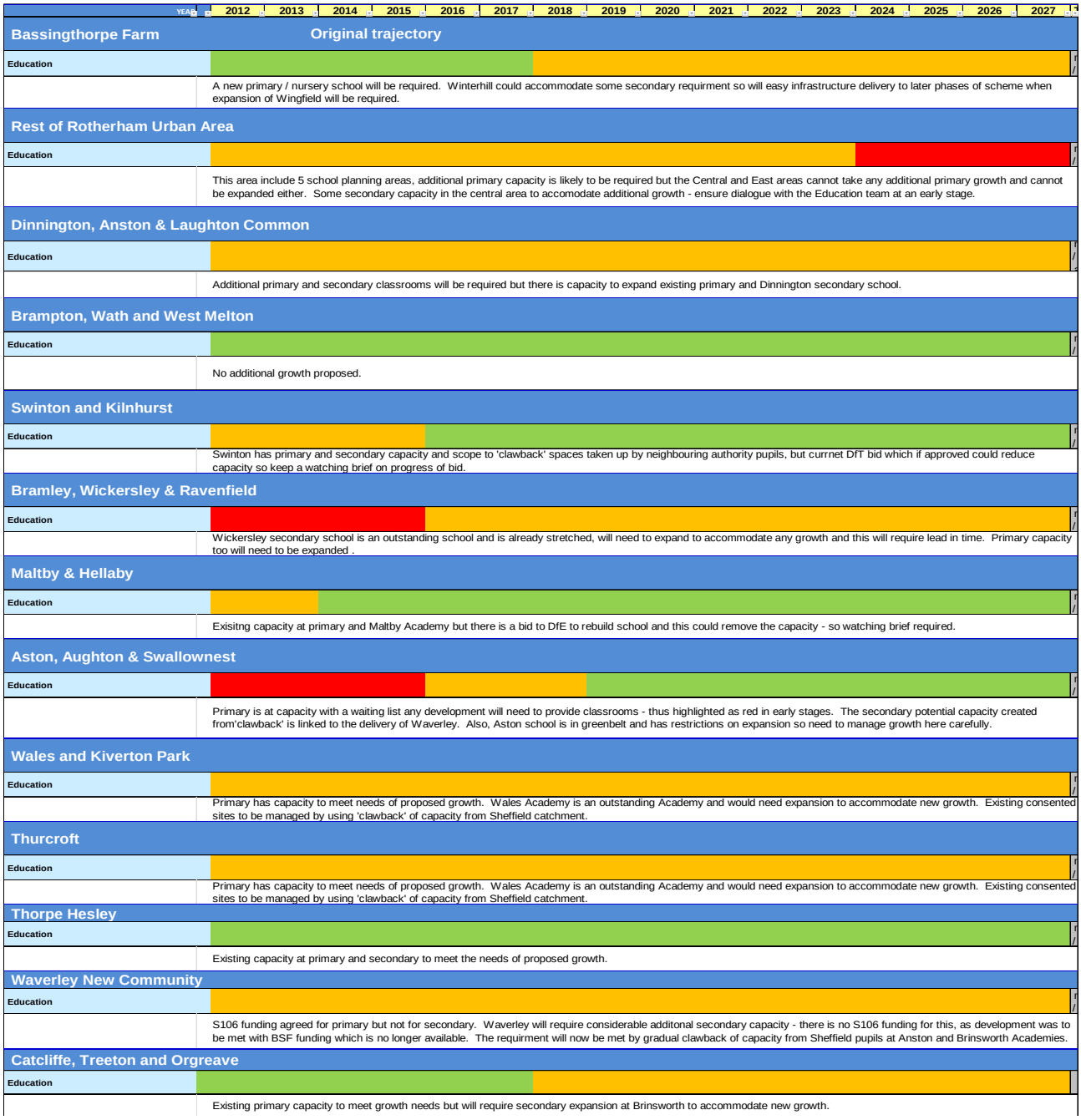
Additional lead in time will be needed when dealing with PFI schools

6.36 Similarly, a note of caution is required when dealing with PFI schools. Early discussions should be entered with the service provider to devise a plan of action to deal with this issue. A number of schools are under PFI contracts and so any alterations here will require early lead in time to get appropriate consents.

On-going discussions with the service providers will be critical to provide timely delivery

6.37 Figure 6.1 is an extract from our traffic light assessment relating to education infrastructure. This highlights the possible areas to pay particular attention to in terms of infrastructure phasing and delivery. A red classification implies that due to current deficit in provision, any new growth will require very early planning of new education infrastructure. There is no capacity at existing schools to expand and accommodate the requirement resulting from the proposed growth. Any new school development will also have implications on the remodelling of existing schools in the area and so early discussions should be initiated to support the proper planning of the education infrastructure needs for this area to ensure housing delivery can commence in a timely manner.

Figure 6.1 RAG assessment for schools



7 RECREATIONAL INFRASTRUCTURE

7.1 In this section, we consider recreation infrastructure in the broadest sense including amenity open space, parks, outdoor and indoor sports facilities, natural and semi-natural open space that is freely accessible to the community. This infrastructure is best considered within an overarching framework of 'green infrastructure' that is then translated into local growth related infrastructure.

7.2 Thus local green space infrastructure on the doorstep of new development may need to be complemented with larger scale recreation facilities. Strategic green infrastructure outside the footprint of new development will bring together both existing and new communities through linking settlements and infrastructure such as country parks, wildlife reserves, urban green spaces, formal parks playing pitches, waterways and so on.

7.3 We have worked with the Leisure and Green Spaces Manager and the South Yorkshire Green Infrastructure Officer to inform this assessment.

Service investment strategies inform infrastructure requirements

7.4 Various strategies have also informed this assessment including:

- South Yorkshire Green Infrastructure Strategy 2011
- Rotherham Green Space Strategy 2010
- Rotherham Playing Pitch Strategy 2009
- Rotherham Play Strategy 2007-2011

7.5 The above strategies include some assessment of the provision and capacity. There is not a single assessment of the accessibility and standards for this wide range of recreational infrastructure. We have worked with the service providers to arrive at a generic assessment to guide this strategic assessment.

What are the requirements and costs?

7.6 Green space here is treated in the broadest sense, and can range from formal parks, play areas, outdoor sports facilities, to natural green spaces. The actual specific requirement will be guided by local assessment of existing capacity and accessibility to the provision. The green space generic standards and costs are summarised in the table 7.1.

Table 7.1 Recreational infrastructure requirement and costs

LDF unconsented growth	Green space @16m2 per person	Cost per sq. m (aver £20 sq. m)
8230	**302,864 sq. m**	**£6,057,280**

7.7 This cost assessment is based on cost of recent schemes. Costs can vary considerably depending on:

- pre-existing ground conditions; and

- the sort of recreational infrastructure to be created.

7.8 The cost can range up to £50 per sq.m depending on the site conditions – particularly where considerable remediation is needed on former industrial sites. A pragmatic approach has been adopted here to reflect the green field nature of much of the development proposed and a figure of £20 per sq. m included.

7.9 The size threshold of 16m2 per person is based on recommendation 1a of the Rotherham Green Spaces Strategy June 2012 (page 55).

Need to treat these standards with caution as access to and quality of existing provision will have a bearing on requirement

7.10 The estimation of space requirements and costs must be treated with caution, as a range of factors will be taken into consideration when assessing site specific requirements. A key consideration will be distance and access to existing provision as well as the space standards and quality of current provision.

Management arrangements will be required as part of any scheme

7.11 The Borough Council does not generally adopt any green infrastructure and the developer will be required to provide a mechanism for the longer term management of facilities, often this is created by setting up a management company or development trust.

Strategic recreation green infrastructure requirements for Rotherham

7.12 The Green Infrastructure Strategy identifies the following three strategic green infrastructure schemes in Rotherham:

- Centenary riverside;
- GI in Rotherham town centre area; and
- Dearne Valley scheme.

7.13 There are no cost estimates at present and work on their enhancement is not linked to any single growth area. South Yorkshire Community Forest will act as an umbrella group that help to co-ordinate delivery of this type of strategic infrastructure but will rely on other partners to help manage the schemes.

Indoor leisure facility requirements and costs

7.14 In 2001 Rotherham Council operated 12 indoor leisure facilities, mainly small swimming pools, spread across the borough. Due to their age and design, these facilities were very inefficient, and could not meet the standards expected today.

7.15 A study was undertaken (using Sport England Facilities Planning Model) to consider how best to meet the needs of the entire borough population (approximately 253,000) with up-to-date facilities, sustainably and equitably. This concluded that a network of four centres at Aston, Maltby, Rotherham town centre and Wath should be provided. This took into account accessibility from all parts of the borough, with the aim of siting them within one bus ride of the majority of the borough's residents. It is also important to note that the Planning Model takes account of leisure provision facilitated in bordering authorities.

7.16 The total number of unconsented dwellings proposed in LDF is 8,230. Assuming an average occupancy of 2.3 people per dwelling, this equates to 18,929 people. Based on this, and the fact that existing and new leisure provision is available in neighbouring authorities, there does not appear to be a case for significant investment in new indoor leisure facilities.

7.17 It should be noted that built facilities in Rotherham are currently provided under a contract with a private provider. There is no need for any additional indoor infrastructure and so no additional cost has been included.

Public art provision within public realm and green infrastructure

7.18 RMBC consider public art in the broadest sense as any creative intervention, either temporary or permanent installation in the public realm, including lighting, environmental arts, sculpture and 2D artwork, as well as enhancements to street furniture such as bespoke decorative railings. Recommendations for the development, implementation and review of proposed public artworks are included in the ArtNav Arts Strategy for Rotherham Borough 2012 – 2015.

7.19 Although no specific requirement has been identified as part of wider recreation infrastructure, the council consider it important that the provision for public realm enhancement is included in new developments at the outset; and will work to ensure that local communities have an opportunity to contribute to and influence their public realm through this medium. This could possibly be linked to the neighbourhood funding pot of CIL if communities decide they want to pursue this as a local infrastructure initiative.

7.20 It should be noted that the Borough Council does not generally adopt any public artworks and the commissioner / neighbourhoods will be required to provide a mechanism for the long term maintenance, repair and decommissioning, of proposed artworks.

How will the infrastructure be funded?

7.21 Spending cuts have reduced the Council's budget to support additional new investment in leisure infrastructure. It is not practical to assume that the Borough Council will be able to contribute significantly to capital expenditure. We have therefore assumed that the capital cost of provision of these facilities is not available from existing mainstream funding.

What priority is allocated to this infrastructure?

7.22 Although not a statutory requirements, the transformation of the Borough environment and quality of life provided by this recreational infrastructure is considered an important requirement. For the purpose of this study, we have classed this infrastructure as 'other'.

Issues, dependencies and barriers to growth

7.23 The entire leisure and open space infrastructure has been classified as "other" rather than "essential". However, it is important that the provision of green open space and play/sports facilities is made in tandem with the build out of the new housing

provision. If this is not done then green open space will only be provided on the periphery of new developments, rather than as an integral part around which good design of new development is established. Also, there is a strong view amongst the client team that green infrastructure is important in helping to transform the image of some areas in the Borough.

Concentrating on primary infrastructure

7.24 In this assessment we are concentrating on primary infrastructure[15]. We are assuming that small scale open space provision (such as LAPs, and very small scale "pocket" open space on housing developments) are for the most part incorporated in build costs, and so do not need to be separately dealt with.

Land costs are not included in the cost calculations

7.25 Land costs are generally not included in these calculations. This is because the price of land will vary widely depending on development location and time. Those developments able to buy agricultural land for use as (say) a playing field or park will typically pay twice agricultural land values; those developments in urban areas using built up land will pay very significantly more. This is particularly relevant for space-hungry requirements, such as playing fields and parks. A more detailed approach would need to be taken on a case-by-case basis, but the lack of land costs here should be borne in mind.

Employment development will require some green space

7.26 New employment development is assumed to incorporate green space requirements within the design of the scheme.

Where possible the approach has accounted for local capacity

7.27 The approach taken seeks, where possible, to take account of local deficits and surpluses in open space. We are mindful that the study is not seeking to address historic deficits, so addressing such deficits is only considered reasonable where it is also contributing towards addressing the requirements of new growth.

Contributions might be used to improve quality instead of quantity

7.28 Where a facility is considered to be of 'below average' or 'poor' qualities, contributions towards its improvement are considered to effectively represent the provision of new facilities. There is no way of clearly knowing how much it would cost to bring these facilities up to an acceptable standard, so the approach taken has been on a case by case basis.

[15] See paragraph 2.3 for definition of primary infrastructure.

8 PRIMARY HEALTH CARE

8.1 In this section we consider the needs of primary health care including hospitals, community services and doctors surgeries[16].Primary health care services in Rotherham are currently delivered by the Rotherham NHS Trust.

Major changes are expected in the delivery of health services in the future

8.2 The Health and Social Care Act will introduce major changes in the way health services are to be delivered in the future, including the abolition of the Primary Care Trusts.

8.3 The NHS Commissioning Board Authority, a special health authority and the shadow form of the NHS Commissioning Board (the Board), is now in operation. The focus of this authority is on designing an innovative business model for the Board. It will work in partnership with the clinical commissioning group leaders and GPs. The intention is to have an independent body in operation from October 2012 (subject to the Bill becoming an Act).

8.4 These changes inevitably create a considerable degree of uncertainty about the future planning of infrastructure until new processes are in place. However, we have worked with the service providers to articulate what they think (based on current understanding of service delivery) what the capacity is, what the future requirements are, and the effect of the changes in the delivery of service in the future. Future requirements could dramatically change depending on the models and way of service delivery, so this will need to be regularly reviewed.

Hospital infrastructure

8.5 Like elsewhere, the National Health Service (NHS) has to make savings nationally of about £20b. So locally, the focus and assessments have been based on at what infrastructure can be removed 'downsized' and this includes hospital patient beds. Service providers are looking for ways to reduce the longer term running cost of their service and this means reducing the amount of capital infrastructure currently in place.

Requirements, cost and funding for hospital and community service infrastructure

8.6 The starting point in assessment of future hospital requirement is an assessment of changes in population and age profile of this. The service provider has informed us that based on the estimation of the proposed growth in Rotherham; the NHS will not be looking to expand. It is noted that the changing population trajectory will impact on the level of retraction that is being considered (i.e. the proposed growth may lead to a reduction in the number of patient beds to be taken out of the system but will not add to it).

[16] We do not cover opticians or dentists as to all extent these are treated as private, although the PCT does have some involvement in their patient lists, there is not capital infrastructure funding support.

8.7 Funding for hospital services is based on a capitation basis (i.e. funding from Central Government follows the increase in population retrospectively for all health care needs). Any surplus in funds after spending on patient activity is invested in new infrastructure.

There are some important changes in the delivery of Community Services which could impact on GP surgery infrastructure in the future

8.8 A key change since April 2011 is the delivery of Community Services by hospitals. This includes services such as district nurses, health and occupational therapists. Most of these services are now to be provided in the 'community' at some 80 separate facilities in Rotherham including health centres and GP surgeries instead of at hospitals.

8.9 There are three locality teams serving Rotherham, dispersed amongst an average GP count of 2000 patients (or 7000 – 8000 patients with group practices of 3-4 GPs). The PCT are dealing with current requirements and waiting to see how changes in the way services are commissioned will shape future requirements.

Current GP services have been supported by PCT's

8.10 The current PCT service provider has informed this study based on their current understanding of capacity and future requirements but this is all under the caveat that it could all change in the future. It is possible that future GP infrastructure and service provision could be treated as entirely private and it will be up the individual GP's to decide whether to invest in new capital infrastructure to meet the needs of growth in the same way as the existing dentist and opticians operate.

8.11 Figure 8.1 shows a map of all the GP surgeries currently serving Rotherham provided by the NHS

Recent investment in GP provision and joint service provision

8.12 Over the last few years there has been considerable investment in creating new or refurbished joint GP / service centres involving the PCT and RMBC. These include:

- Rotherham Community Health Centre – 2009
- Maltby customer service centre – 2008
- Aston Customer Service Centre – 2010
- Kimberworth School Development – 2011

8.13 We understand there is no scope in the short term for any more such joint service provision schemes with RMBC.

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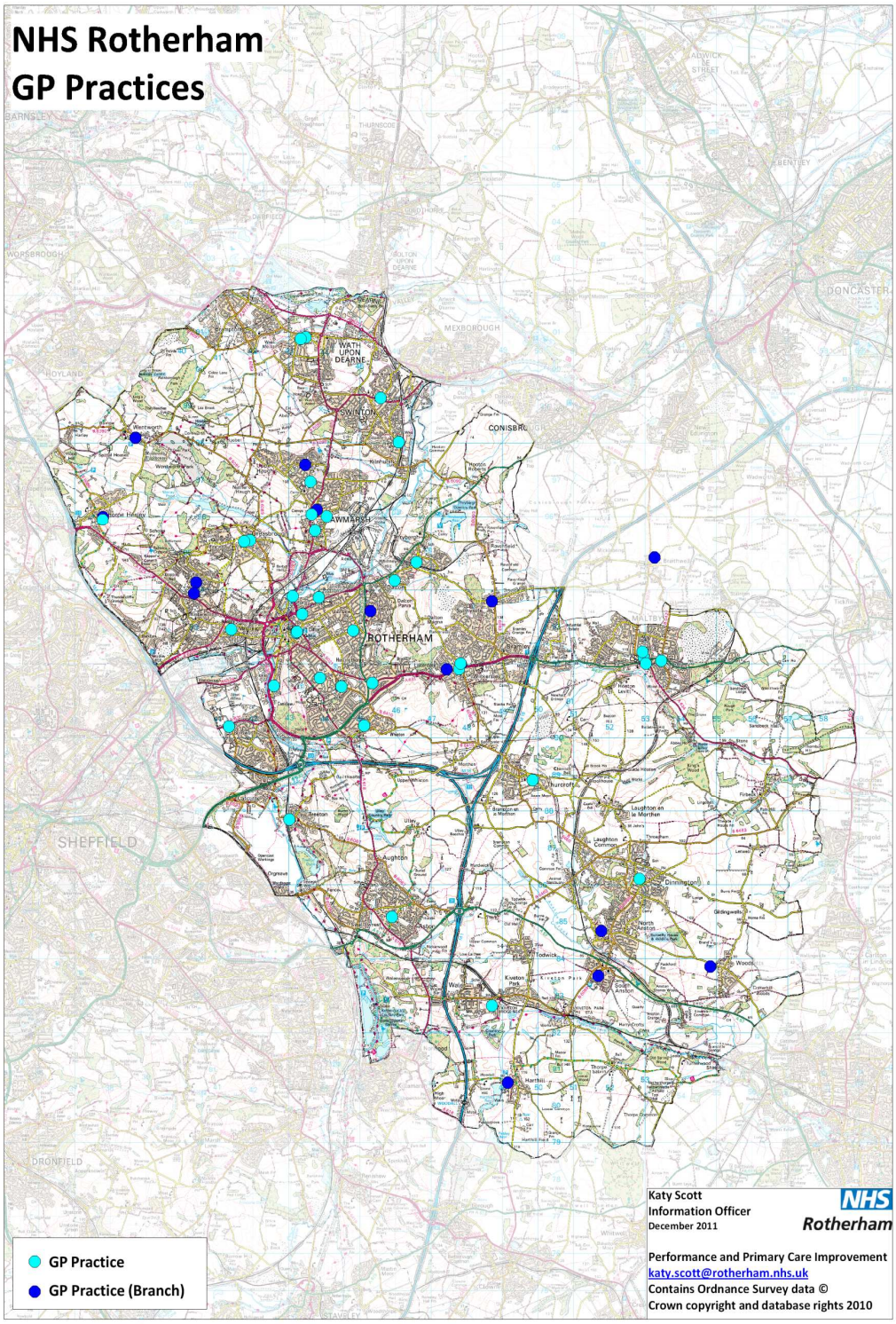
Figure 8.1 Location of Existing GP Surgeries



What are the requirements and costs?

8.14 Figure 8.2 and table 8.1 outline the future requirements and costs based on the PCT Estates Strategy and the service provider's experienced understanding of current

infrastructure capacity to use resources efficiently and identifying only growth that is essential in the future.

Figure8.2 RAG assessment for GP surgeries

YEAR	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Bassingthorpe Farm	Original trajectory															
GP surgeries																
	Proposed development will need a new surgery with approximately 2 GPs between 2017 - 2028 depending on build out.															
Rest of Rotherham Urban Area																
GP surgeries																
	Quality of current provision at Dalton surgery is poor. Growth will provide opportunity to replace and expand size of this facility. However, any plans are likely to be stalled in the short term due to national changes in Health Act and new structures being set up to determine investment decisions.															
Dinnington, Anston & Laughton Common																
GP surgeries																
	A new health centre is needed to meet the needs primarily of existing and need for one additional GP to meet needs of the growth. However, any plans are likely to be stalled in the short term due to national changes in Health Act and new structures being set up to determine investment decisions.															
Brampton, Wath and West Melton																
GP surgeries																
	Plenty of capacity from various recent investments including capacity at Market Street surgery for an additional 2000 patients, and the Wath Health Centre can take another 4000 patients due to new investment here. This will cater for grow at directions 4 and 5.															
Swinton and Kilnhurst																
GP surgeries																
	Plenty of capacity from recent investments including Kilnerhurst which can take an additonal 2000 patients.															
Bramley, Wickersley & Ravenfield																
GP surgeries																
	There is plenty of capacity in Wickersley - four practices that serve this area.															
Maltby & Hellaby																
GP surgeries																
	New Joint Service Centre with RMBC and PCT recently developed so capacity to accommodate growth.															
Aston, Aughton & Swallownest																
GP surgeries																
	New Joint Service Centre with RMBC and PCT recently developed so capacity to accommodate growth (assuming something is provided at Treeton).															
Wales and Kiverton Park																
GP surgeries																
	Plenty of capacity and new surgerty at North Anston to serve this area.															
Thurcroft																
GP surgeries																
	Capacity here is linked to the Dinnington practice capacity issues - so when additional capacity is created at Dinnington it will free capacity at Thurcroft.															
Thorpe Hesley																
GP surgeries																
	Plenty of capacity at the existing two practices that serve the area.															
Waverley New Community																
GP surgeries																
	Initial the surgery expansion at Treeton will serve the Waverley development for the first 5 - 10 years. Once Waverley is sufficiently built out, a branch surgery will be provided at Waverley.															
Catcliffe, Treeton and Orgreave																
GP surgeries																
	Development of Treeton will serve this area and Waverley. However, any plans are likely to be stalled in the short term due to national changes in Health Act and new structures being set up to determine investment decisions.															

Table 8.1 GP requirements and estimate costs

GP Surgeries	Growth Requirement	Growth related cost
1 Bassingthorpe Farm	A new surgery with about 2 GP's. Cost estimated will need refining.	£2,000,000
2 Rest of Rotherham Urban Area	Replacement cost of Dalton Surgery is estimated at £2m. We have assumed 10% attributable to growth (as other existing surgeries will also cater for needs).	£200,000
3 Dinnington, Anston & Laughton Common	Dinnington Surgery needs a new health centre to meet current deficit. Replacement cost is estimated between £3 to £4m. We have assumed 10% attributable to growth (one GP).	£350,000
4 Brampton, Wath, and West Melton	Capacity	£0
5 Swinton & Kilnhurst	Capacity	£0
6 Bramley, Wickersley & Ravenfield	Capacity	£0
7 Maltby & Hellaby	Capacity	£0
8 Aston, Aughton & Swallownest	Capacity	£0
9 Wales & Kiveton Park	Capacity	£0
10 Thurcroft	Capacity will be released once Dinnington is redeveloped - so a phasing issue.	£0
11 Thorpe Hesley	Plenty of capacity – no problem – 2 practices	£0
12 Waverley New Community & Catcliffe, Orgreave & Treeton	Note Waverley proposed growth is already consented and will need to meet £2m. we have assumed new growth = 10% (for Treeton and wider area).	£200,000
Total		**£2,750,000**

8.15 Our estimated cost of providing the infrastructure to meet the requirements of growth total £2.7m. These costs are based estimations and intended to provide a very rough indication of the scale of investment required. We have estimated a percentage of overall costs likely to relate to the new growth. The service provider has provided estimates, based on recent experience for providing a comprehensive new facility to serve existing growth as well as replace existing provision with a modern facility. The total cost of all this provision would be near to £9.5m.

PCTs do not receive specific budget for premises development

8.16 PCTs get funding for GP's from the Department of Health. This funding is ring fenced, and is paid to GP's for running costs. However, PCTs do not receive a specific budget for new premises *developments* as such. PCTs state that funding for expansion to the current provision would be at the expense of other competing PCT priorities and ultimately may not be possible. Therefore other sources of funding for new facilities have to be explored.

8.17 The PCT pays rent to the GPs for the use of existing premises and, where funding permits, the PCT can provide capital funding for new and expanded premises for new developments.

8.18 So, in theory, mainstream funding should provide PCTs with the necessary funds to pay for the new facilities. In practice it is not straightforward:

- Firstly, some facilities will need to be built in advance of the full realisation of the population increase,
- Secondly, there will be a subsequent time lag before Health Service revenue funding catches up with the population growth.
- Thirdly, it is not entirely clear that capitation funding responds fully to the needs of the growth.

8.19 The result is that PCT budgets in areas experiencing growth are invariably under pressure and reliant on other sources of funding to supplement Government funding.

8.20 The private sector has been an important source, using PFI to fund new health centres. Soft market testing has shown that there is an appetite in Rotherham from the private sector to meet the current GP infrastructure requirements.

As PCTs are being abolished, commissioning will become the role of GPs so it is difficult to commit to new investment in infrastructure

8.21 However, because the PCT are soon to be abolished, there is a clear reluctance by the PCT to invest in any substantial piece of infrastructure (even if there is an appetite from the private sector to take on the investment). Ultimately the power to determine provision will be with the GPs soon (and not the PCT's and they will receive payments direct).

We suggest proceeding with caution

8.22 We have included the full cost estimate within the funding assessment for GP surgeries. However, we advise that this is kept under close review. We strongly suspect that once the full implications of the Heath Act kick's in, there is likely to be a move similar to dentist.

What are the priorities?

8.23 We have rated all health services as representing 'other' needs.

Infrastructure timing assumptions

8.24 We have assumed that the health infrastructure will be needed over the same build out period as the housing development.

There is scope for significant efficiency savings from multi-user buildings

8.25 Significant cost efficiencies are potentially available through the PCT. A community-hub style shared service facility could include a medical centre, a library and a community centre, for example.

There is a need to make best use of existing capacity

8.26 Overall, PCTs believe that there is a need to make use of existing capacity in order to use resources efficiently. The emerging Estates Strategy will be an important element in this and it is vital that this ensures the efficient use of existing premises and land.

9 LIBRARY

9.1 In this section we examine how the proposed growth in housing affects the requirements, costs and funding for library and information service in the Borough. The service delivery is based on the 1964 Public Libraries and Museums Act which requires Local Authorities to provide a comprehensive and efficient library service. Our assessment has been informed by the Borough's library and information service manager.

A period of significant investment followed by major revenue cuts

9.2 During the last six years, there has been significant capital investment in library buildings including the opening of six new libraries and refurbishment of others. The service is now under review and options have been requested to deliver a modern, vibrant library service whilst releasing annual efficiency savings of an estimated £500,000.

What is the current service provision?

9.3 The service currently comprises of the following:

- The central library in Rotherham town centre which acts as the main hub for the rest of the library system (soon to relocate to Riverside House on Main Street in Rotherham town centre.)
- 15 community libraries ranging in size and reach depending on the size and make-up of each local community. These are based in Aston, Brinsworth, Dinnington, Greasbrough, Kimberworth, Kimberworth Park, Kiveton Park, Maltby, Mowbray Gardens, Rawmarsh, Swinton, Thorpe Hesley, Thurcroft, Wath and Wickersley.
- 2 mobile libraries which serve our rural communities.
- Services within the District General Hospital, services directly to schools and services to our most vulnerable communities.

There is a strategy to guide service delivery in the future

9.4 There is a recently approved strategy - the Rotherham Library and Information Service Strategy 2011-2015 which sets out the priorities for future service delivery.

What is the current capacity or deficit for this service?

9.5 The assessment for future requirement has taken account of existing capacity and scope to extend / refurbish existing facility instead of incurring the cost of new build. The service uses a standard of a library within 2 miles of every resident as a guide, but recognises that using this as a standard approach is not appropriate in all cases. Libraries will be located in the heart of the community in a location which provides good physical access and its services will be open to all.

What are the requirements and costs?

9.6 The starting point for this assessment was to uses the Museums, Libraries and Achieves (MLA) standard of 30 sq. m per 1000 residents. This is not applied as an absolute, but as a starting point for consideration. Taking austerity measures into consideration, and factoring in the need to minimise longer term revenue implications, we have worked with the service

provider to refine the requirements, based on a considered look at which facilities could be expanded (instead of new build) and factored in a lower cost for expansion / refurbishment compared to new build.

9.7 The cost of new build for library space is £3000 per sq. m based on recent experience in Rotherham. For extensions or refurbishments we have used a percentage (65%) of the new build cost to reflect some cost savings and for some schemes that do not involve any physical works we have not included any additional costs.

9.8 The table 9.1 summarises the estimated library requirements costs for additional library facilities to meet the needs of future growth.

Table 9.1 Library requirements and estimate costs

Location	Growth Requirement	Growth related cost £3000 per Sq. m for new build/ £1950 per sq.m for refurbhishmen
1 Bassingthorpe Farm	Options to provide a new build/refurbhish existing or remodel with other services	£496,800
2 Rest of Rotherham Urban Area	Options to provide a new build/refurbhish existing or remodel with other services	£393,300
3 Dinnington, Anston & Laughton Common	Extension /Improvements to Dinnington library	£107,640
4 Brampton, Wath, and West Melton	None stemming from new growth	£0
5 Swinton & Kilnhurst	Improvements to Swinton Library	£60,548
6 Bramley, Wickersley & Ravenfield	Improvements to Wickersley Library	£94,185
7 Maltby & Hellaby	Options to refurbhish existing or remodel with other services at Maltby library	£80,730
8 Aston, Aughton & Swallownest	Improvements to Aston Library	£60,548
9 Wales & Kiveton Park	Options to refurbhish or remodel Kiverton Park Library	£40,365
10 Thurcroft	Improvements to existing provision in school	£33,638
11 Thorpe Hesley	Marketing and community engagement	£0
12 Waverley New Community	New build (300 sq m) with other services - consented scheme	£0
13 Catcliffe, Orgreave & Treeton	Marketing and community engagement	£0
Smaller villages (1 % allowance)	Marketing and ommunity engagement	£0
Total		£1,367,754

Timing of infrastructure requirements

9.9 Likely to be in the second and third time periods from 2018 onwards, though the details will need to be determined depending on when growth takes place.

What priority should be given to this infrastructure?

9.10 The library service considers provision to be necessary to support sustainable development. We have rated library services as an "other" priority. We expect that further work will need to take place following this commission to refine local priorities.

Co-location has been the most cost effective way to save on costs

9.11 Co-location is already underway with both the public and the private sector at the following locations:

- Riverside House with the main Borough Council Offices,
- Dinnington (with the Community Centre),
- Thorpe Hesley (with the Parish Church Community Centre),
- Wickersley (with the Parish Council Community Centre)
- Aston (with the Customer Service Centre along with Health Services),
- Rawmarsh (with Customer Service Centre along with Health Servicers).

9.12 Mowbray Gardens Library has been at the forefront of new ways of working, developing partnerships and community engagement. Other examples of innovation across the libraries include self service, 24 hour access.

9.13 It is likely that when considering detailed requirements for service delivery, there will be further consideration of how to save of cost by further innovative means and the use of technology. Mobile provision may also be considered as a temporary measure.

How will the infrastructure be funded?

9.14 The Council is about to go through further spending reviews in the summer, so considers further funding problematic. There is concern that additional requirements will have further revenue implications and therefore addressing requirements might be better addressed through improvements to existing facilities.

9.15 The main sources of funding are likely to be a combination of sources including funding through partnerships, grant funding such as Big Lottery funding, limited Council capital funding and developer contribution.

Who will be responsible for the management of the infrastructure?

9.16 RMBC would be responsible for the management of the infrastructure, however, delivery in co-location venues would be reliant on other partners e.g. PCT, parish councils etc.

Infrastructure issues or barriers to infrastructure delivery

9.17 There are no critical issues to delivery.

10 COMMUNITY CENTRES

10.1 In this section we consider the infrastructure requirements for community centres serving as meeting places used by members of the community for social, cultural or recreational activities.

10.2 At present, there is no single body or department that has responsibility for community meeting infrastructure provision. The Environment and Development Services Department and the Neighbourhood and Adult Servicers Department of RMBC currently manage physical assets for a number of existing facilities across the Borough. These include community centres and neighbourhood centres that are either leased by community groups or rented on an hourly basis.

10.3 The maps in appendix 4 show the current location of these facilities.

10.4 There are three schemes where the Borough is working with local groups to build new facilities at:

- Charles Foster Community Centre; Woodland Gardens, Maltby, S66 7NT
- March Flatts Community Centre, March Flatts Road, Thrybergh, S65 4EE
- Blackburn Community Centre, Baring Road, S61 2DH

What are requirements and costs?

10.5 It has not been possible to interview anyone with regard to community facilities, but given the overall cuts in public expenditure, we expect that the Borough is looking to rationalise facilities where possible, and save on management costs rather than creating the provision of new.

10.6 We have allowed for a new community centre as part of the infrastructure requirements for Bassingthorpe Farm similar to Waverley. At this stage, we have not sought to incorporate any other additional stand alone facility. Our assumption, for the time being is to use existing provision with possible expansion or refurbishment at all the other growth areas (however this may require a detailed assessment).

We have used local schemes to guide standards and sought to reduce costs where refurbishments are involved

10.7 The requirement for community centres tends to depend on local needs, often based on surveys of communities residing in an area. We have used our own information taken from experience elsewhere and substantiated this with information from standards used elsewhere to ensure these recommendations are appropriate (though this will need further refinements).

10.8 Space standards can vary considerably per housing unit, for Waverley, it appears that a standard of 0.16 sq. m per dwelling has been used. We have used this measure to guide our assessment for the proposed growth.

10.9 We have, assumed that where there is already some provision, the future investment is more likely to result in a refurbishment (rather than new build) at a reduced cost, and our assumption is to base this on 65% of new build costs.

10.10 Regarding costs, typical build costs (which exclude land costs) range from between £1,100sq m to £1,500 sq. m. We have based the assessment on a cost figure of £1,300 per sq. m. Thus a centre for a community of 2,500 dwelling units would result in a requirement of approximately 400 Sq. m and would cost approximately £520,000 based on our cost estimates.

10.11 We have used the above costs and requirements standards in our calculations to arrive at a broader estimation of community centre costs. The total estimated cost for new community centre provision and refurbishment of existing is estimated at £1.3m to be delivered most likely over the later stages of the plan period (from 2018 onwards). The breakdown for each area is summarised in the table 10.1.

Table 10.1 Community centre requirements and estimate costs

Community centres	Growth Requirement	Timing	Growth related cost £1,300 per Sq m /or £845
1 Bassingthorpe Farm	Refurbishment of existing community provision	2018-2027	£499,200
2 Rest of Rotherham Urban Area	Refurbishment of existing community provision	2018-2027	£256,880
3 Dinnington, Anston & Laughton Common	Within Existing	2018-2027	£108,160
4 Brampton, Wath, and West Melton	Within Existing	2018-2027	£0
5 Swinton & Kilnhurst	Within Existing	2018-2027	£60,840
6 Bramley, Wickersley & Ravenfield	Within Existing	2018-2027	£94,640
7 Maltby & Hellaby	Within Existing	2018-2027	£81,120
8 Aston, Aughton & Swallownest	Within Existing	2018-2027	£60,840
9 Wales & Kiveton Park	Within Existing	2018-2027	£40,560
10 Thurcroft	Within Existing	2018-2027	£33,665
11 Thorpe Hesley	Within Existing	2018-2027	£20,145
12 Waverley New Community	Community Provision contained within Waverley S106 agreeemnt	2018-2027	£0
13 Catcliffe, Orgreave & Treeton	Within Existing	2018-2027	£20,280
LDF			**£1,276,330**

There may be ways of reducing these costs, in order to provide community centres more efficiently

10.12 Given the imperative to a) ensure that development remains economically viable, and to b) use public funding efficiently, it may be wise to investigate other methods for the provision of community centres for the new strategic sites. Stakeholders around the country favour the development of joint multi purpose centres that provide for a range of uses, including community, social, health, learning, and sports facilities for the sustainable urban extensions. There may be economies that can be achieved with the provision of these multi-use centres at Bassingthorpe Farm (though it should be noted that the fire, police or health service are not looking for expansion space here).

10.13 This approach may create some penalties. One may be around flexibility – for example, school premises would not be available during the school day (even though that is relatively short). Another is that there could be a change in the management ethos: community centres are currently run by local management committees on behalf of their communities as a community resource.

10.14 The actual configuration, cost and management of these will vary considerably in each area, and would need to be investigated as master planning processes developed.

How can new infrastructure be funded?

The Neighbourhood funding pot of CIL might be used for community centres

10.15 The Borough does not have a specific fund for the provision of new community centres. Recent community centre developments are likely to be dependent on external funding in the form of grants or developer contributions to support the capital cost of providing the infrastructure and for major extensions / repairs.

10.16 In the future, the Neighbourhood fund pot of the Community Infrastructure Levy (CIL) that is to be 'handed over' to local neighbourhoods could be an important source for part or wholly funding this type of infrastructure.

10.17 Consequently, it could be up to the local community to decide whether they wish to use any proceeds from CIL towards a community centre.

What are the priorities?

10.18 We have rated community centre as an "other" priority. This means that the provision of this new infrastructure is not likely to be legally required by statute or regulation in order for the development to proceed. We expect that further work will need to take place following this commission to refine local priorities.

Infrastructure timing assumptions

10.19 We have assumed that the community centre may be required some time after the development has been completed and the new communities are in place. However, some land for the provision of community space, to be used flexibly should be identified. Note our calculations have not allowed for land costs.

Issues, dependencies and barriers to growth

10.20 Feedback from consultees has raised concerns about identifying agencies / communities willing to take on the management and funding of new community infrastructure.

10.21 As mentioned above, multi-use centres are coming up the agenda as a way of efficiently providing for community needs and this will need to be explored further later.

10.22 There are no other obvious delivery issues.

11 AMBULANCE

11.1 In this section we examine how the proposed growth in Rotherham Borough affects the requirements for the ambulance services in the Borough. It should be noted that we have not been able to contact the relevant service provider for this facility, and have based our assessment on our experience elsewhere in South Yorkshire.

Context

11.2 Ambulance services in Rotherham Metropolitan Borough are provided by the Yorkshire Ambulance Service NHS Trust ('the Service').

11.3 The requirement for ambulance services is set by national targets to respond to 95% of emergency incidents within 19 minutes and 75% of life-threatening incidents within eight minutes. The Organisational Research into Health (ORH) process identifies the provision the Service needs to make to meet these targets. This takes place within the context of rising demand for ambulance services: according to the DoH the number of 999calls for ambulances has increased by one-third in the last five years.

What are the requirements and costs?

11.4 A detailed assessment of the requirements arising from growth will require an ORH study, but this will take place in response to pressures on the service as the pattern of demand arising cannot be predicted with sufficient accuracy to make 'up-front' provision.

11.5 The precise nature of the additional service provided will depend not only on a higher population from new housing, but also on other operational factors such as demand (which is rising independently of population change) and hospital facilities/community secondary care provision. Ambulance stations do not have tightly drawn catchment areas, so the possible requirement for additional provision cannot be linked to a specific growth area, but it does relate generally to growth.

The service is funded by the PCTs

11.6 The Ambulance Service is currently funded through service level agreements with PCTs. Ultimately funding for the Service forms part of the costs of the PCTs it covers, and this in turn is related to their populations. However, with current changes stemming from the Health Act reforms, there could be changes in the funding of ambulance services in the future.

Issues, dependencies and barriers to growth

11.7 Further work will be needed to determine exactly what the requirements of growth will be. Failure to provide additional facilities when needed for the increased population could result in the Service being unable to meet the target response times. However, there maybe some flexibility as to when additional provision is required to maintain response times.

12 FIRE

12.1 In this section we examine how the proposed growth in housing and employment affects the requirements, costs and funding of fire and rescue services in the Borough.

Context

12.2 The fire and rescue service in Rotherham is provided and managed by South Yorkshire Fire and Rescue. This service is a statutory requirement as defined by the 2004 Fire and Rescue Services Act.

12.3 The service delivery is guided by the following plans and strategies:

- Proposals for Service Delivery 2011,
- Review of Sheffield Emergency Cover 2011 and
- Integrated Risk Management Plan

12.4 The fire stations are divided into two Districts east and west. The East District covers Rotherham and Doncaster. Within Rotherham there are stations at:

- Aston Park – located off junction 31 off the M1 this station serves a mainly rural area including Aston, Aughton, Swallownest, Kiverton, Dinnington, and Wales.
- Dearne – situated on Manvers Way serving Mexborough and Brampton.
- Maltby – serves a mainly rural area around Maltby
- Fitzwilliam Road Eastwood – this covers Rotherham town centre and areas of heavy industry as well as Rawmarsh, Greasborough, and Thorpe Hesley.

12.5 Spending cuts have resulted in the service consolidating equipment and closing one fire station in Sheffield (Mansfield Road).

12.6 The 2011 service review found that the incidence of fires and other emergencies have reduced significantly over recent years. These reductions are primarily due to our community safety and targeted risk reduction work over recent years.

What is the current capacity or deficit for this service?

12.7 National targets for service coverage state that South Yorkshire Fire Services should respond to 80% of all threats to life and property within 6 minutes.

12.8 Based on this, the fire service currently has some capacity to support future development.

What are the requirements and costs?

12.9 The Fire Service considers that there is sufficient capacity to support all the developments proposed in the growth maps with the exception of Waverley (site 12), Bassingthorpe Farm (site 1) and the Rotherham Urban Area (site 2). The assessment is based on predicted fatality rates and seeks to ensure that emergencies occurring in future development can be attended within the Authorities target response time of 6 minutes.

12.10 The remaining proposed growth will not give rise to a need for additional infrastructure requirements. The current stations cover the main areas and have quick response times. Modern dwellings have hard-wired smoke alarms and pose relatively little danger, so the proposed growth will not add significantly to the demands on the Service in Rotherham.

12.11 The proposed growth at Bassingthorpe Farm will pull the coverage from Rotherham Fire Station (Fitzwilliam Road) further north and therefore coverage will be insufficient to address development needs.

12.12 In the later stages of the plan there will be a requirement for a new three bay fire station (24 hour whole time) with accommodation for 15 staff to be located to the South of Rotherham near the Sheffield Parkway. The facility is required to support combined growth levels across and adjacent to the Rotherham Urban area including Waverley and Bassingthorpe Farm.

When will it be required?

12.13 A two three year lead time is required and the facility will be required in the second time period 2018 to 2027

What will it cost?

12.14 An estimated cost of £3m has been identified for the facility, based on recent experience in at South Yorkshire (The Fire Service is happy to co-locate with other emergency services to save on cost of service delivery). Table 12.1 summarises the requirements and costs.

Table 12.1 Fire requirements and estimate costs

Requirement	Cost
New 3 bay whole time fire station to serve Bassingthorpe Farm and rest of Rotherham	£3m

How will the infrastructure be funded?

12.15 The Government's Spending Review has resulted in a reduction of grants to South Yorkshire Fire and Rescue (SYFR) totalling £4.7m over the period from 2011-13. This is expected to be followed by further cuts to the budget over the following two years (2013/14 and 2014/15). Thus there is limited funding in the short term and the situation will only get worse.

12.16 The service will need to look to capital reserves, borrowing, and co-location as possible sources of funding. It is important to note that no funding was secured for the Waverley planning application from S106. So this will rely on the existing capacity.

12.17 The fire brigade considers the facility to be necessary to save lives. If there is insufficient capacity, the service will still continue to respond on a reduced service, and this would increase the risk to residents.

13 POLICE

13.1 In this section we examine how the proposed growth in housing and employment affects the requirements, costs and funding of the police service in the Borough. Police services including neighbourhood policing in Rotherham is provided by South Yorkshire Police. This is a statutory service requirement. Our assessment has been informed by the Police service.

What are the requirements and costs?

13.2 Based on a qualitative professional assessment, we have been told, that there is some capacity within existing facilities across Rotherham primarily at Main Street Rotherham and stations at Maltby and Raw Marsh.

13.3 Service infrastructure investment is guided by the South Yorkshire Accommodation Strategy and Association of Chief Police Offices (ACPO) toolkit for S106. An 'Internal Resource Allocation Formula' has informed future infrastructure requirements for this study. This is summarised in the following table 13.1.

Table 13.1 Police infrastructure requirements and estimate costs

Location	Requirement	Cost
Dinnington, Anston & Laughton Common	Expansion will be needed at Dinnington – but flexible over timing of this	£250,000
Brampton, Wath, and West Melton	Expansion at Wath Section Station	£250,000
Total		£500,000

13.4 The indicative costs are based on recent experience in South Yorkshire (Kendray Section Station).

Timing of infrastructure requirements

13.5 This requirement is likely to be needed during the second phase of the development time period, and there is some flexibility over managing demand at Dinnington and Wath.

Who will be responsible for the management of the infrastructure?

13.6 South Yorkshire Police Service will take on the management responsibility for this infrastructure once provided.

Are there any innovative ways to save on infrastructure costs?

13.7 Co-location is an option. In the past it has been considered but the cost of response facilities are prohibitive. New requirements are for neighbourhood policing and as such the cost of custody facilities are avoided.

Infrastructure funding

13.8 Historically infrastructure has been funded through capital reserves and developer contributions. However, there has been a 20% reduction in funding following the Comprehensive Spending Review and as such resources are limited at present, and so investment in capital programme will be a relatively low priority.

What are the priorities?

13.9 We have rated these as an “other” priority for the infrastructure schedule.

Other issues, dependencies

A new station may be required at Waverley.

13.10 In addition to the above requirements that are directly related to the proposed growth, we have been informed that a new section station will be required at Waverley (plus vehicles and equipment) at an estimated cost of £1,020,000. We acknowledge this in this text but do not include it in the cost calculations as it relates to a requirement serving a site that has already been consented. From our understanding, the 106 agreement does not include any funding for this station.

14 ELECTRICITY

14.1 This section deals with electricity infrastructure requirements in the Rotherham Council area.

How is the system structured?

14.2 The electricity industry in Great Britain comprises generation, transmission, distribution, metering, and supply companies. The electricity distribution networks operators (DNO) carry electricity from the transmission systems (owned and operated by National Grid) and some generators that are connected to the distribution networks to industrial, commercial, and domestic users.

Ofgem is the industry regulator

14.3 The electricity market (including the activities of Distribution Network Operators (DNOs) and Independent licensed Distribution Network Operators (iDNOs)), is regulated by the Gas and Electricity Markets Authority, which governs and acts through the Office of Gas and Electricity Markets (Ofgem).

14.4 Ofgem's primary duty is to protect the interests of consumers, where possible by promoting competition. Ofgem specifically regulates those parts of the electricity and gas markets that either cannot be opened up to competition, or where competition is not yet established, such as gas and electricity transmission systems and electricity distribution networks. Ofgem sets price controls to protect consumers from unfair pricing by these monopolies.

DNOs operate on a 'no speculation' principle

14.5 Because DNOs are not permitted to speculatively invest in infrastructure under the terms of their licences, they require 100% investment from those requesting speculative infrastructure. Without careful planning, this can potentially lead to circumstances where a developer on a major scheme who only has an interest in part of the site may be asked to pay for the full costs of delivering the infrastructure that will service the entire site if it is to be in place before the end-users developments are connected. This can be easily mitigated by phasing the infrastructure delivery in parallel with the rest of the development, but requires early engagement with other developers and the DNO.

14.6 Therefore, understanding where and when future growth will take place becomes an important aspect of informing the investment planning function to ensure timely delivery of the infrastructure. We have assessed current capacity in the vicinity of the new growth areas to gain a strategic view of whether there is sufficient capacity in the upstream infrastructure to accommodate the proposed levels of growth.

Is there sufficient capacity?

Northern PowerGrid is the DNO for Rotherham

14.7 Rotherham’s electricity distribution network operator (DNO) is Northern PowerGrid. It is responsible for reliability, capacity and maintenance (and emergency response). Northern PowerGrid is also responsible for the operation and maintenance of its own infrastructure.

Northern PowerGrid has a ten year rolling investment plan

14.8 Northern PowerGrid has its own 10-year rolling investment plan that overlaps the five-year investment plan, which is reviewed annually, and relates to the whole region. This investment plan differs from the five-year asset management plan in that it has greater flexibility to pick up new developments, but the investment stream is usually separate from the Ofgem approved cycle of upgrades and reinforcement, and primarily deals with entirely new infrastructure.

Approach to assessing growth related requirements

14.9 For a strategic assessment of this nature, a professional experience based approach is adopted to evaluating electrical demand for domestic (typically 2kW) dwellings. We modelled the estimated level of electricity that would be required by the total number of dwellings and compared the electricity requirement against the current capacity in the system in the area and the estimated cost of connection per dwelling. This is captured in table14.1. There is capacity at present to meet the proposed residential growth and there are no showstoppers.

Table 14.1 Electricity infrastructure capacity (residential)

Map Key	Broad Location	*Sites with planning consents	Core Strategy Growth (rounded)	Requirement		Busbar Reference	Available capacity in 2011/12 (MVA)	Remaining capacity after development taken into account
				kW	**MVA**			
1	Bassingthorpe Farm	0	2400	4800	4.8	Rawmarsh Road	12.88	8.08
2	Rest of Rotherham Urban Area	540	1900	4880	4.88	Kilnhurst	15.28	10.40
						Park Street	23.13	18.25
						Rawmarsh Road	12.88	8.00
						~~Silverwood~~	~~3.49~~	~~-1.39***~~
3	Dinnington, Anston & Laughton Common	280	800	2160	2.16	Dinnington	15.23	13.07
4	Brampton, Wath and West Melton	1200	0	2400	2.4	Wath-on-Dearne	16.31	13.91
5	Swinton &Kilnhurst	0	450	900	0.9	Kilnhurst	15.28	14.38
6	Bramley, Wickersley & Ravensfield	0	700	1400	1.4	Silverwood	3.49	2.09
7	Maltby & Hellaby	0	600	1200	1.2	Maltby	11.85	10.65
8	Aston, Aughton & Swallownest	0	450	900	0.9	Beighton	2.57	1.67
9	Wales & Kiverton Park	0	300	600	0.6	Kiveton Park	4.73	4.13
10	Thurcroft	0	250	500	0.5	New Orchard Lane	10.97	10.47
11	Thorpe Hesley	0	150	300	0.3	Ecclesfield	7.68	7.38
12	Waverley New	2500	0	5000	5	Orgreave	15.92	10.92

	Community							
13	Catcliffe, Treeton & Orgreave	0	150	300	0.3	Waverley	34.62	34.32
Total		**4520**	**8150**	**25340**	**25.34**			

* 200 homes or more sites with planning consent
** Assumed £1,500/dwelling. Source: Statement of methodology and charges for connection to Northern PowerGrid (Yorkshire) PLC's Electricity Distribution System, 2011
*** Silverwood only has spare capacity for 1,745 more homes to be connected, therefore cannot take the total number of proposed dwellings from the rest of Rotherham Urban Area, and hence has been discounted. However, if only part of the total were being connected here, there would not be an issue with capacity.
Demand Assumption: Peak demand for 1 household = 2kW of electricity

14.10 Broadly speaking, current capacity is adequate at this strategic assessment level, at this point in time, but a site-specific assessment of local infrastructure capacity will be needed as developments are brought forward - the process does not allow for speculative investment in infrastructure. Northern PowerGrid issues a long-term development statement, that includes capacity load tables and which identify existing capacity.

14.11 Commercial developments can only realistically be assessed on a case-by-case basis due to the variance in demand with regard to the proposed employment.

There are no foreseeable issues in meeting the needs of the growth

14.12 It is difficult to predict what the infrastructure requirements to meet the needs of growth will be in detail at this stage - as much will depend on local conditions at the time of development. However, based on the growth maps and trajectory supplied, Northern PowerGrid has confirmed that cannot see any foreseeable issues in meeting the high-level capacity.

14.13 No showstoppers are anticipated, but this is entirely subject to the demand requirements of whatever commercial developments come forward, the order in which they are built out, and what low or zero carbon renewable electricity technologies are installed on each site.

Long term demand is difficult to predict due to various changes in technology

14.14 It is very difficult to predict future electricity demand; it may go up or down. Energy saving measures such as Smart Meters may reduce demand generally, and particularly peaks in demand (which are key for designing electricity networks), but if, for example, use of electric cars becomes widespread, and with increasing reliance on portable gadgets, electricity demand is likely to increase. In addition, the installation of low and zero carbon electrical technologies, including solar photovoltaics, wind turbines, ground-, water-, and air-source heat pumps, combined heat and power (CHP), and hydropower, normally require 100% electrical grid reinforcement in order the distribute the electricity being generated around the network.

14.15 As electricity is very difficult and costly to store, it is worth noting that when solar photovoltaics are generating (i.e. when the sun is shining), this typically coincides with periods of low demand, therefore the majority of electricity being generated needs to be exported directly onto the grid for use or storage, then re-circulated once demand increases. Contrary to common understanding, the mass addition of solar PVs without proper planning consideration can lead to almost double the investment in the electrical grid infrastructure of a development.

14.16 Similar issues relate to wind turbines, although for baseload electricity generation, such as CHP or hydropower, this is easier to manage as there is less risk of fluctuating currents or surges in power every time the sun shines, or wind blows.

Timing of infrastructure requirements vary with the scale of the scheme

14.17 The actual requirement of infrastructure will depend on when the sites come forward for a connection. Typically, for infill housing, an electrical connection should be possible within two to three months. For developments up to fifty dwellings, the time for connection can be somewhere between six months to one year. Where a scheme requires larger infrastructure (e.g. >10MW, or serving more than 5,000 dwellings), then the connection time can take anything from one to three years; although usually this is still within the development build out timescales.

The cost to provide the additional infrastructure will vary

14.18 Costs depend on size of development and capacity of existing infrastructure – if an entirely new development with no existing electricity supply network is proposed, this will require a new sub-station and could cost millions of pounds. If there is already a good electrical infrastructure and sub-station with capacity, then the cost will be considerably less. When considering the study area, there are not anticipated to be any issues on this level for any of the domestic developments; however, it is impossible to determine this at present for the commercial development areas due to the variant iterations of demand for different building uses.

Key issues and barriers

- There is clearly a need for liaison and forward planning. The construction of substations involves long term planning, the purchasing of long lead-time equipment and the reservation of sites for the substations. It has been assumed that all way leaves and legal requirements for the substation sites and cabling works will be forthcoming. Any delay in this process could significantly affect construction works and cause delays.
- There is a need to try to ensure an equitable spreading of costs across site developers. In providing supply reinforcements, we have identified a risk that all the costs could fall on the first developer(s) or on the later ones (depending on the “tipping points” for increasing capacity in the network). It will be important to ensure that the costs are equitably borne by all the developers. An example of dealing with the former problem is a forward funding arrangement between developers.

14.19 Subject to close working between the planning authority, developers and networks there appear to be no showstoppers with regard to electricity supply, and the DNO in Rotherham is very keen to establish effective liaison to support delivery of future infrastructure

15 GAS

15.1 This section deals with gas infrastructure requirements in the Rotherham Council area.

National Grid operates the national gas transmission system

15.2 National Grid operates the national gas transmission system, which supplies the 12 local distribution zones across the country. Within each distribution zones gas is reduced in pressure and piped to homes and businesses through intermediate (I/P), medium (M/P) and low pressure (L/P) networks to industrial, commercial and domestic consumers.

15.3 National Grid are responsible for the management of adopted infrastructure and the emergency response to non-adopted infrastructure; all other asset responsibilities, including management of third-party gas distribution pipelines, lie with other Utility Infrastructure Providers (UIPs)

There are twelve local distributors in the UK

15.4 The twelve local distribution zones are managed by eight gas distribution network operators (GDNs), which each cover a separate geographical region of Britain.

15.5 National Grid also operates the distribution network within the Rotherham area.

Ofgem regulates price control and investment planning through a five yearly cycle

15.6 As existing gas distribution networks are natural monopolies, GDNs are regulated by Ofgem to protect consumers from potential abuse of monopoly power. Similar to the electricity and water industries, 5-year price control periods are used, which incorporate curbs on expenditure as well as incentives for efficiency and innovation. The price controls limit the amount of revenue that energy network owners can take through charges they levy on users of their networks to cover their operating costs and give a return in line with agreed expectations. As with electricity and water, a gas transporter is bound by duties imposed by the Gas Act, other relevant legislation and the conditions incorporated in their licence; if they fail to comply with any condition of its licence or any duty, they may be subject to enforcement action by Ofgem.

15.7 National Grid Gas' current Asset Management Plan is currently under review, to be replaced by "RIIO" which stands for (Revenue = Incentives+Innovation+Outputs). This will restructure asset management plans to promote supply efficiencies and allocate upgrades more effectively. They run on a continuous 5-year cycle.

Five yearly asset management plans include some new infrastructure

15.8 Where the GDN has already planned and financially approved general reinforcement of a Distribution Network System within their 5-year price control period, and those works are due to be undertaken prior to the winter following connection of the new load request (which obviates the requirement for specific reinforcement), the GDN will fund the full cost of the general reinforcement.

15.9 Where a general reinforcement project that has already been planned and financially approved has to be upsized prior to construction due to new development and an

associated increase in demand, then only the additional costs necessary to meet the customer's load can be charged to the developer.

Is there sufficient capacity?

15.10 There is currently sufficient capacity in the existing network to accommodate new domestic growth, calculated by assuming a level of peak demand per dwelling (4kW) and multiplied by anticipated growth.

15.11 Commercial / Industrial growth, however, is much more difficult to assess. There is no "typical" demand for unknown commercial development. However, once future building use is identified, it is possible to determine an approximate demand from CIBSE Key Performance Indicators in the first instance, or directly from National Grid Gas. As soon as information on demand is available, supply is provided on a first come first served basis for provision. If lack of capacity is identified (D+21 days from request), the land enquiry will be made (+5 days), and a quotation for works provided. The time from a decision to go ahead with development to a working connection is between 6 months and 1 year (worst case).

What standards are used for measuring additional requirement?

15.12 A standard domestic demand profile has been developed based on experience.

15.13 Commercial / Industrial demand is calculated based on the processes involved in the building uses or the CIBSE Use Class. Typically, the client would go to the gas advisory service for an outline design based on intended use. This information is then supplied to National Grid, and an allocation is made based on existing capacity.

How will the infrastructure be funded?

15.14 Price control mechanism enables National Grid to raise revenues for investments from customer fuel bills. In some instances, there is scope to charge developers to contribute to the cost of the infrastructure.

15.15 These infrastructure costs are generally picked up by the private sector. They do not represent a priority for public sector investment.

Table 15.1 Gas infrastructure capacity (residential)

Broad Location	*Sites with planning consents	Core Strategy Growth (rounded)	National Grid Capacity			
			Assumed connection point	Grid Reference	Pressure Main	Reinforcement Required
Bassingthorpe Farm	0	2400	Munsborough Lane	441587, 394617	Medium	None
Rest of Rotherham Urban Area	540	1900	West gate and Main Street	442794, 392700	Low	None
Dinnington, Anston & Laughton Common	280	800	Nursery Road	452188, 385100	Low	None
Brampton, Wath and West Melton	1200	0	Church Street	443322, 400831	Medium	None
Swinton &Kilnhurst	0	450	Golden Smithies Lane	444866, 399379	Medium	None
Bramley, Wickersley & Ravensfield	0	700	Moor Lane South	448807, 393288	Medium	None
Maltby & Hellaby	0	600	Leaf Close	453909, 3927287	Medium	None
Aston, Aughton & Swallownest	0	450	Mansfield Road	446525, 383773	Low	None
Wales & Kiverton Park	0	300	The Pastures	450097, 382823	Low	None
Thurcroft	0	250	Green Arbour Road	449537, 388366	Low	None
Thorpe Hesley	0	150	Assumed: Munsborough Lane	441587, 394617	Medium	None
Waverley New Community	2500	0	Woodhouse Mill	442977, 385697	Medium	None
Catcliffe, Treeton & Orgreave	0	150	Assumed: Woodhouse Mill	442977, 385697	Medium	None
	4520	**8150**				

*200 homes or more sites with planning consent
** Source: National Grid Gas Distribution Connection Services Charges, Mar 2011

What will it cost to provide the additional infrastructure?

15.16 Cost is highly subjective to development circumstance, and is assessed on a site-by-site / development by development basis. An assessment will be made at connection stage. National Grid will undertake an economic test at this point to check for the business case for National Grid to fund additional infrastructure. If payback on the infrastructure (through billing) is greater than 10 years, then the developer would be asked to contribute to the cost of providing the infrastructure.

15.17 No showstoppers have been identified for domestic provision.

Are there any innovative ways to save on costs?

15.18 Demand-side management, for example, Smart Meters are being actively encouraged by National Grid, and their new asset management plan, RIIO, rewards efficiency savings through innovation. In addition, National Grid are rolling out upgrades of existing pipes to improve pressure within the network.

15.19 It is important to note, however, that National Grid cannot force customers to use devices such as Smart Meters in homes; they can only make the business case for demonstrated cost savings through demand reduction.

Issues and timing assumptions

15.20 In common with the other utilities, we perceive the following issues:

- The need for liaison and forward planning. Construction involves long term planning. It has been assumed that all Wayleaves and legal requirements for the substation sites and cabling works will be forthcoming. Any delay in this process could significantly affect construction works and cause delays.
- The need for an equitable spreading of costs across site developers. In providing supply reinforcements, we have identified a risk that all the costs will fall on the first developer(s) or on the later ones (if new mains only become essential at that stage). It will be important to ensure that the costs are equitably borne by all the developers.

16 WASTE

16.1 This section sets out the waste infrastructure requirements for the collection, treatment, and disposal of waste stemming from the proposed growth in housing and employment. The assessment has been informed by Rotherham's Waste Management Team

16.2 The provision of waste collection services to domestic properties is a statutory requirement, whilst it is optional to provide waste collection for commercial properties and is provided on request for a reasonable charge.

How is the system structured?

16.3 The waste collection service in Rotherham is provided by RMBC who has been acting as the Unitary (Collections and Disposal) Authority. Together with Barnsley and Doncaster, Rotherham is seeking through a private finance initiative (PFI) to optimise the effectiveness of waste treatment and disposal methods.

16.4 The three authorities of Barnsley, Doncaster and Rotherham have worked together to produce a Joint Waste Plan which runs from July 2011 to 2026. This sets out what, where, how and when waste management will be provided. Each authority has a separate waste strategy but is in the process of reaching financial agreement on a joint waste PFI project. The city of Sheffield also has an important role in the plan area in the context of the waste hierarchy and strong links have been established between the councils and the waste operators through the Sheffield City Region Programme.

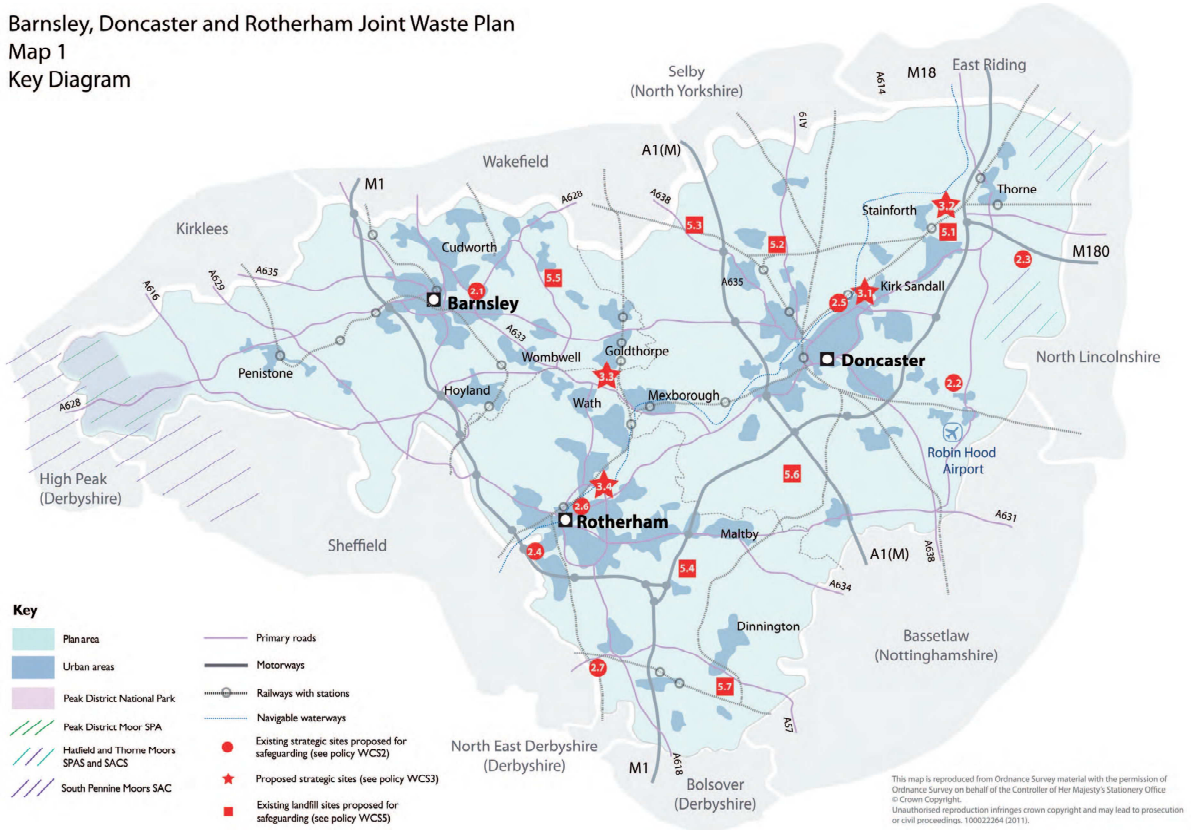
What is the current waste infrastructure provision serving the needs of Rotherham?

16.5 Currently there is sufficient waste collection capacity in Rotherham to cope with growth until 2015. The current method of waste treatment and disposal is for waste to be taken to the Sterecycle Autoclave, where it is separated out into component parts before being recycled at the Sheffield Energy Recovery Facility (Mass Burn) and landfill.

16.6 Key existing strategic sites to be safeguarded or enhanced are identified as shown in figure 16.1 extracted from the Barnsley, Doncaster and Rotherham Joint Waste Plan (now adopted 2012). Within the Rotherham area, these are as follows:

- Recovery / recycling: the Sterecycle Autoclave treatment and recycling facility,
- Eastwood dredging facility,
- Rotherham Road Materials Recovery Facility (MRF)
- Landfill at Thurcroft (non inert waste), and Harrycroft Quarry (inert waste)

Figure 16.1 Barnsley, Doncaster, and Rotherham Joint Waste Plan



The Sterecycle Autoclave recycling facility has additional capacity

16.7 The Sterecycle Autoclave recycling facility, which opened in 2008, is becoming an increasingly attractive investment as Landfill Tax continues to rise. As such, the extension of the existing facility from 100,000 tonnes per annum capacity has recently secured an additional £5.1 million equity from investors to bring it up to 175,000 tonnes capacity by the third quarter of 2012. Sterecycle anticipate being able to deliver a full 200,000 tonnes per annum capacity by early 2013. 22,500 tonnes of waste per annum is currently being sent to the Sheffield Erf site, and there is some scope to purchase additional capacity if required.

Planned investments programmes for waste infrastructure

16.8 New strategic sites have been identified in the Rotherham area at Bolton Road and Aldwarke steelworks, with details for their potential use as shown in table 16.1

Table 16.1 Extract from Infrastructure requirements and timescales, Barnsley, Doncaster and Rotherham Joint Waste Plan (Submission Version) 2011[17]

Site Name	Potential processes	Potential capacity[a]	Infrastructure requirements and mitigation	Anticipated timescale[b]
Bolton Road, Manvers (Rotherham)	Waste minimisation, recycling, composting and recovery (municipal waste from the three boroughs)	250,000 tonnes per year	The site is dependant on the construction of a new bridge to secure access to the site, air quality and flood mitigation measures (e.g. new sustainable drainage system) and appropriate lorry routing to avoid sensitive areas. Proposals must contribute towards the regeneration of the wider area. The site may have long-term potential for freight access via rail and barge	**2015 – 2021**
Aldwarke steelworks, Parkgate (Rotherham)	Recycling, composting and recovery	250,000 tonnes per year	The site should provide rail and river access (via river wharf and railhead) to handle bulk waste. Proposals must include a new sustainable urban drainage/flood alleviation scheme and minimise any impact on the significance of historic assets (including consideration of the impact upon views from the historic park and garden at Wentworth Woodhouse) through appropriate design and landscaping.	**2021 - 2026**

[a] Potential capacity is based on the site area required to accommodate typical throughputs of different sized facilities (from generic site requirements in "Planning for Waste Management Facilities", Office of Deputy Prime Minister 2004)
[b] The table gives a broad indication of the likely phasing of these sites, i.e. the period in which the waste facility is expected to become operational. However, these timescales are not intended to preclude waste development from coming forward earlier of later in the plan period.

What are the infrastructure requirements arising from growth?

16.9 The waste arising from existing development is showing a trend for reducing (as recycling and waste minimisation initiatives increase) infrastructure requirement for waste disposal. This means that some capacity is being released, and therefore designing to current waste arising is effectively a "worst case" requirement. Based on the proposed growth plans, there is some capacity in the existing infrastructure to meet waste collection requirements until 2015, and this capacity has been taken account of in informing future requirements.

16.10 Waste Collection infrastructure for the additional requirement will mean adding additional vehicles to the waste collection fleet. The detail of the additional waste predicted from the growth is outlined in appendix 4.

16.11 For Waste Treatment and Disposal, there are options to extend the current waste treatment and disposal contracts with partners until the new Sub Regional facility comes on line as outlined in the Barnsley, Doncaster, and Rotherham Joint Waste Plan.

What will it cost to provide the additional infrastructure?

16.12 The estimated collection and disposal costs to 2026 are estimated at £1.4m. As new properties are occupied they will be liable for Council Tax and a proportion of the Council Tax will go towards the cost of waste collection; however, this revenue income stream may not reflect the actual revenue costs predicted above. We have included 50% of this cost in the infrastructure cost calculations and assumed the remainder will be met by further waste reduction measures and Council Tax. We have assumed the cost of collection vehicles is included in this though this will need to be refined as costs are clarified.

[17] Note the strategy has been adopted.

Are there any innovative ways to save on costs and generate income?

16.13 Technological advances could save on the costs of collection, treatment, and disposal in the future, as well as behavioural change incentives within local communities to encourage people to reduce the amount of waste they produce in the first case.

16.14 Shanks Waste Solutions and Scottish and Southern Energy have joint venture plans for a Mechanical Biological Treatment (MBT) Anaerobic Digester plant with planned capacity for between 265,000 tonnes per annum, to take the pure organic waste component of domestic waste, and potentially third party commercial waste until full capacity is reached. The MBT Anaerobic Digester plant will produce solid recovered fuel that will go to Ferrybridge site and compliments the other initiatives happening there.

How will the new infrastructure be funded?

16.15 Waste infrastructure is currently revenue funded through Council Tax, and some dedicated Central Government Grants.

16.16 The sale of solid recovered fuel from the proposed MBT AD plant could possibly generate some revenue for RMBC from the electricity produced at Ferrybridge, though it is not possible to determine the value of this until more detail of the proposed MBT AD plant is known, such as the calorific value of the incoming waste streams, and therefore quantity of gas and solid fuel that will be produced.

16.17 It may also be worth investigating the introduction of some form of a profit sharing scheme on future waste contracts so that if they generates a positive income stream from generating energy, then some of this money could flow back to the Council. An alternative could be to consider linking any energy produced to the electricity needs of existing or planned Council properties, thus utilising the electricity generated to supply council facilities.

The timing of infrastructure requirements

16.18 Assuming that future development based on the numbers of future dwellings provided in the study are built out at a steady rate (i.e. an equal numbers of dwellings completed each year throughout the Infrastructure Delivery Plan Period), additional capacity will be required from 2015, then from 2026. No showstoppers are envisaged, and the service can respond to requirements based on the current plans and trajectories being considered as part of this study.

16.19 It is important to note that the phasing and build out rate of the new housing will directly affect when new infrastructure provision will be required. The key information dictating when the “tipping points” for new infrastructure will occur is the proportion of a new collection round that each development forms. Rotherham’s Waste Management Team have indicated that there is sufficient capacity in all three waste collection services (Household Residual, Green Waste, and Kerbside Recycling) until 2015, so taking this as the baseline, if all proposed developments were built out instantaneously, an additional two to three new rounds would be required for each waste stream.

16.20 We are informed that there are a number of commercial waste providers operating within the area and thus commercial waste has not been considered as part of this study.

17 TELECOMMUNICATIONS

17.1 This section deals with Telecommunications infrastructure requirements in the Rotherham Council area and has been informed by new investment infrastructure by Digital Region Limited.

How is the system structured?

17.2 BT is the main telecommunication provider within the Rotherham council area. There are no cable operators such as Virgin Media. The Rotherham area by several telephone exchanges as shown in figure 17.1.

Figure 17.1 Rotherham telephone exchanges[18]

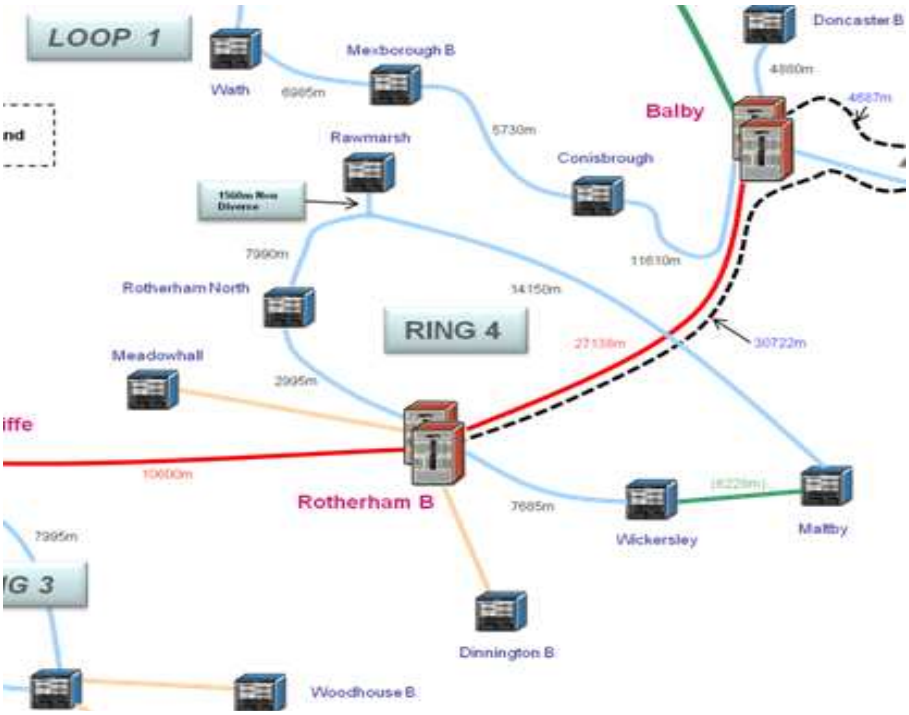
[18] http://www.samknows.com/broadband/exchange_mapping

Digital Region Limited is providing a superfast broadband investment

17.3 There has been a recent programme of investment in telecoms in the area. Digital Region Limited (DRL) has, over the last two years, been rolling out a superfast broadband network in the South Yorkshire area. Barnsley Metropolitan Borough Council, Doncaster Metropolitan Borough Council, Rotherham Metropolitan Borough Council and Sheffield City Council have collaborated together using funding from the European Regional Development Fund to reach 80% of homes and business in South Yorkshire with a new, superfast broadband network. This network will be expanded to cover 97% of the South Yorkshire region.

17.4 The local Rotherham network is shown in the figure17.2

Figure 17.2 Digital Region Limited broadband infrastructure



What are the requirements?

17.5 There will be significant additional demand arising from growth in housing and jobs. The timing of these infrastructure requirements will be broadly in line with the rate of development. However, requirements are unlikely to represent a significant showstopper for growth. BT has a universal service obligation to provide a connection on request with functional internet access delivered over copper cable in addition to the role out of the Digital Region Limited network. BT will provide internet connection speeds of 28.8kbits/s as a minimum service.

Table 17.1 Development Zones and DRL Coverage

Development Zone	DRL Exchange Area
Bassingthorpe Farm	Rotherham North
Rest of Rotherham Urban Area	Rotherham
Dinnington, Anston& Laughton Common	Dinnington
Brampton, Wath & West Melton	Wath upon Dearne– served from Doncaster
Swinton & Kilnhurst	Mexborough – served from Doncaster
Bramley, Wickersley & Ravenfield	Wickersley
Maltby & Hellaby	Maltby & Wickersley
Aston, Aughton & Swallownest	No presence (BT exchange available)
Wales & Kiveton Park	No presence (BT exchange available)
Thurcroft	Wickersley
Thorpe Hesley	Ecclesfield – served from Sheffield
Waverley New Community	Rotherham & Woodhouse – served from Sheffield
Catcliffe, Orgreave & Treeton	Rotherham & Woodhouse – served from Sheffield

17.6 The DRL network provides coverage for the majority of the new developments in the region. Aston and Wales are not currently covered by the DRL network but are served by the BT exchanges at Aston and Kiveton respectively. Aston will be served by broadband with speed of up to 8Mbps and Kiveton is enabled as part of BT's 21st Century Networks roll out for superfast broadband.

17.7 If the cost of providing a connection is less than £3,400 per property, BT sets a standard charge of approximately £125.00. Where the cost of providing a new connection is in excess of £3,400, the additional charges are billed to the customer / developer. This charging principle seems to be only applied to single connection and small developments.

17.8 Broadly speaking, at a network wide level, capacity will exist, and has been bolstered by the Digital Region Limited project. Rather than the actual Telecommunications infrastructure being an area of risk to future development projects especially business related, it is the quality of the services delivered over the infrastructure that will impact future developments such as availability of broadband, broadband speeds, availability of choice in relation to telecoms providers, fibre optic infrastructure down to user level rather than copper etc.

How can new infrastructure be funded?

17.9 Funding for upgrading equipment at main exchanges is borne by BT/Digital Region Limited. All on-site work i.e. installing ducting and chambers is undertaken by the developer or their appointed contractor with BT issuing the required ducting free of charge.

17.10 Should an end user require a connection in excess of the minimum copper connection (e.g. a fibre optic connection), the full cost of providing this service is paid for by the end user / developer. To some extent, the infrastructure required for upgraded services is already being provided. BT is implementing a programme of replacing the main copper connections from exchanges to road side cabinets with fibre optic cabling (known as fibre to cabinet).

Are the upgrades deliverable?

17.11 The upgrading of telecoms infrastructure is an on going process. Requirements are unlikely to materially damage viability overall, although there may be individual exceptions at very remote rural locations. However, these exceptions are highly unlikely to prejudice the overall delivery of the Core Strategy development numbers.

What are the priorities?

17.12 We have ranked this infrastructure as an “other” priority. It is not a statutory requirement. In any event, there are existing mechanisms which require providers to pick up these costs. They do not represent a priority for public sector investment.

Issues and timing assumptions

17.13 BT / DRL require sufficient advance notice of a development (6 months minimum) to develop a plan of how to serve a new development. The timing of infrastructure provision will be related to real-world build-out rates

18 POTABLE WATER

18.1 This section deals with potable water infrastructure requirements in the Rotherham Council area. Rotherham is served by Yorkshire Water.

How is the system structured?

18.2 Water company investment programmes are directed towards maintaining existing company assets and meeting new and existing statutory requirements. For potable water these particularly relate to water quality and ensuring adequate raw water resources, storage, and treatment capacity to serve their existing customer base. Under the current (AMP5) asset management plan, which runs from March 2010 to April 2015, Yorkshire Water is planning a programme of water mains rehabilitation and meter installations to achieve reductions in leakage and wastage. Water companies are required to meet new environmental targets relating to carbon emission reductions.

18.3 Provision is also made in the business plan for investment in new water treatment capacity and resources to meet growth demands.

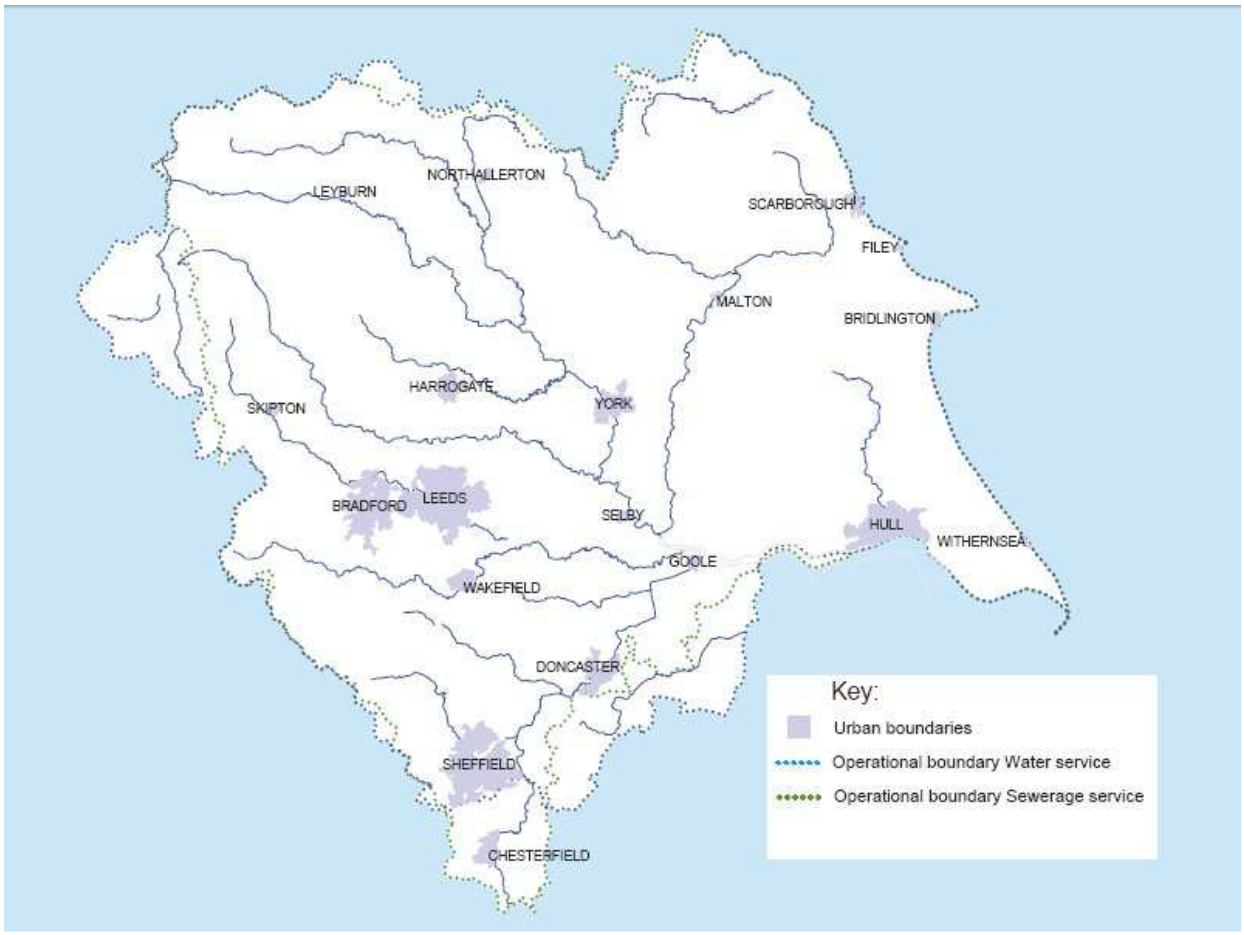
OFWAT regulates prices based on Asset Management Plans

18.4 Price regulation in the water industry is set on a five yearly programme, each company produces a Business Plan for approval by the Water Regulator (OFWAT). The fifth round of Asset Management Plans (AMP5) has recently been agreed by the Regulator (OFWAT) setting out the water companies' charging and investment structures for the plan period.

Potable Water Supply Management Structure

18.5 Yorkshire Water is the Distribution Network Owner (DNO) for potable water supply and distribution networks, and for water resources and treatment, in the study area (see figure 18.1).

Figure 18.1 Water and sewerage operational boundaries for Yorkshire Water



18.6 The Yorkshire Water potable water supply network currently comprises three water resource zones. These are the Grid Surface Water Zone (SWZ), East Surface Water (SWZ), and East Groundwater Zones (GWZ).Over 95% of the region is now connected to the Grid. The Rotherham Growth areas fall within the Grid Surface Water Zone.

No overall water deficit is expected

18.7 Yorkshire Water predict[19] that there will be no overall water deficit in the region for the 25 year period up to 2034/2035, after making allowances for the impact of climate change on water resources, and reductions in demand due to conservation water saving measures. The Water Resources Management Plan allows for population growth based on the Regional Spatial Strategy growth levels.

18.8 Demand growth assumes that all new homes will be built in line with the Code for Sustainable Homes and have a per capita consumption not exceeding 120 litres/head/day.

[19]Yorkshire Water Final Water Resource Management Plan 2010-2035 - WRMP

An East Coast pipeline is planned to improve water distribution

18.9 Yorkshire Water have allowed for the construction of a new east coast pipeline linking the Grid Surface Water Zone to the East Groundwater Zone in their AMP5 investment plans. This pipeline is programmed to be completed in 2011/12.

18.10 The Yorkshire Water Grid allows water to be transferred throughout the Zone to distribute water to meet demands as they arise making full use of the available water resources throughout the region. The new East Coast pipeline increases the resilience on the Grid SWZ to ensure that the levels met up to 2035.

Is there sufficient capacity?

At strategic level there is no constraint on development

18.11 Yorkshire Water has adequate capacity in its existing network and upgraded network following connection of the East Coast GWZ to the Grid SWZ and consequently at a strategic level there is no constraint on development.

Local network upgrades may be necessary at site level

18.12 Local network upgrades may be necessary to provide a water supply to a particular development. These will need to be assessed at a local level. Costs associated with water mains connections and network reinforcement will need to be assessed at a site specific level.

18.13 Yorkshire Water are unable, for security reasons, to release strategic plans of their Grid system and therefore a detailed analysis of water mains issues at a site specific level is not possible.

Developers are expected to pay for local network upgrades on their own sites

18.14 New off-site and on-site water mains to connect new developments to the local network are the financial responsibility of the developer.

18.15 Yorkshire Water may make some investment into the local water network infrastructure but generally they will be expecting developer contributions through the requisition process to fund network reinforcement to provide adequate capacity for specific developments.

18.16 New (off-site and on-site) water mains can be requisitioned from Yorkshire Water through Section 41 of the Water Industry Act 2003 with the requisitioner responsible for paying the Yorkshire Water's costs for providing the water main. Alternatively the person requiring the water main is able to engage a suitably accredited (WIRS) contractor to carry out the water main laying with the pipe then being vested to the Yorkshire Water as a public water main. Normally Yorkshire Water will be responsible for the physical process of connecting the new water main to the local network, with the developer required to meet the water company's costs.

18.17 Where network reinforcements or diversions are deemed necessary - these can be either contestable or non-contestable depending on the strategic sensitivity or other factors of the pipeline. Contestable works are able to be undertaken by any suitably accredited contractor

with the water main then being vested in Yorkshire Water. Non-contestable works must be undertaken by the Yorkshire Water.

Construction costs for a new water main are offset against the predicted income generated

18.18 Yorkshire Water will offset construction costs for a new water main against the predicted income generated from the new water main (based on a 12 year relevant period) either in the form of an asset payment where the new main is provided under the self lay option, or a commuted sum where the new water main is laid by the water company.

Some networks can be operated by organisations other than Yorkshire Water

18.19 For larger developments the on-site water mains network can be owned and operated by an accredited organisation separate from Yorkshire Water. The network operator will bulk purchase water from Yorkshire Water and be responsible for the distribution and billing for water supplied.

Are the upgrades deliverable?

18.20 Although individual site assessments will need to be made, it is thought highly unlikely that there are any significant issues to the delivery of infrastructure. Yorkshire Water has a grid system installed since the mid-1990s, this means it can move water around, so there are no significant problems at a strategic level

Issues and timing assumptions

18.21 The main issue is common to many of the utilities matters is the need for an equitable spreading of costs across site developers. In providing supply reinforcements to a strategic site, there is a risk that all the costs will fall on the first developer(s) or on the later ones (if new mains only become essential at that stage). It will be important to ensure that the costs are equitably borne by all the developers. An example of dealing with this problem is a forward funding arrangement, as discussed elsewhere in the report, with the cost recovered through a charge per dwelling.

19 WASTE WATER

19.1 This section deals with waste water (sewage) infrastructure requirements in the Rotherham Council area.

How is the system structured?

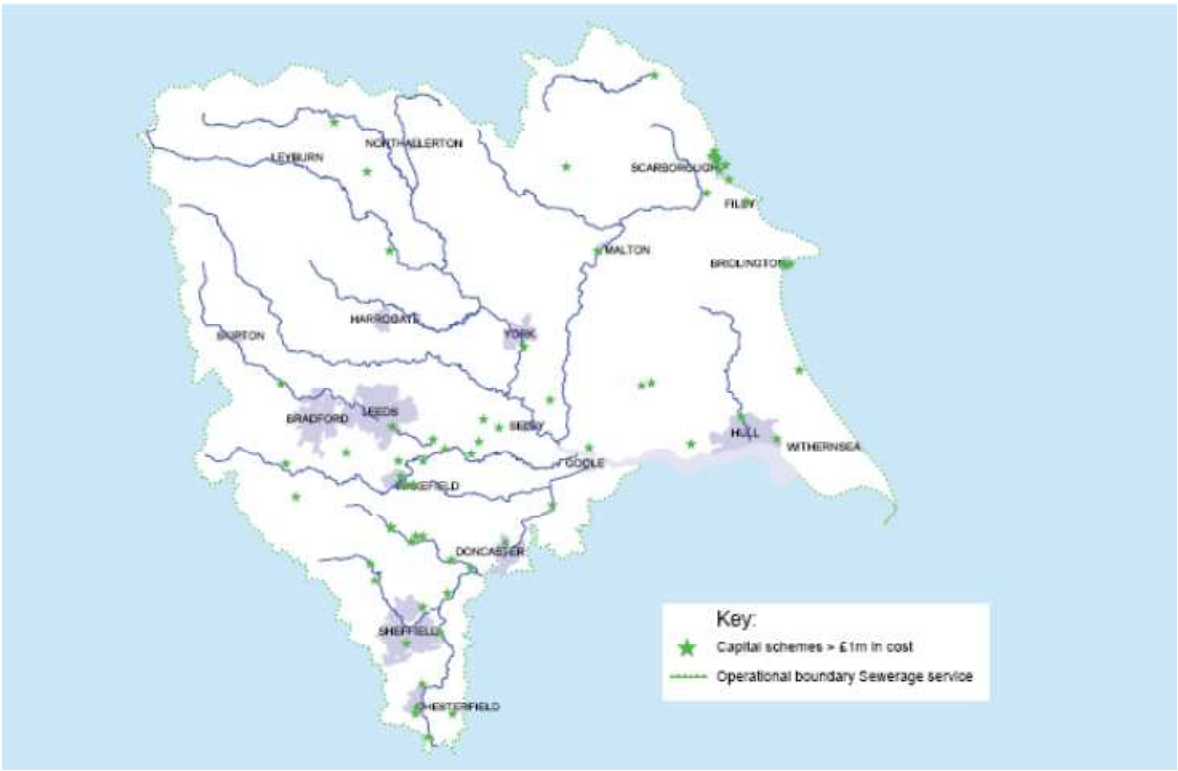
19.2 Yorkshire Water is the owner of the wastewater sewerage network, and operator of the wastewater treatment works in majority of the study area. Severn Trent Water are responsible for all areas of Rotherham situated to the east of the M18.

19.3 Under the current (AMP5) asset management plan Yorkshire Water is planning a programme of works to reduce sewer flooding and sewer collapses, improvements to effluent quality, and enhancements to sewage treatment.

Service delivery is overseen by OFWAT based on a five-year Asset Management Plan

19.4 Price regulation in the water industry is set on a five yearly programme. Each water company produces a Business Plan for approval by the Water Regulator (OFWAT). The fifth round of Asset Management Plans (AMP5) agreed by the Regulator (OFWAT) set out the water companies' charging and investment structures for the plan period. AMP5 will run from March 2010 up to 2015.

Figure 19.1 AMP5 Capital Schemes



Waste water management structure

19.5 Wastewater is collected via the sewerage network and delivered by a combination of gravity and pumped sewers to local wastewater treatment works. Wastewater treatment works serve specific areas and there is generally no facility to transfer wastewater to adjacent treatment works. Treatment works capacity is governed by the maximum population draining to a works, and the consented discharge from the works to a watercourse or sea outfall. These treatment works can range from small units serving a few dwellings to large works that will expand Rotherham.

19.6 Yorkshire Water and Severn Trent Water have a duty to accept new domestic connections into the sewerage network. Allowance has been made in the asset management plan for the needs of new customers over the life of the asset plan (2010 – 2015). At this stage there are no specific plans for investment programmes beyond this horizon.

19.7 The public sewerage network does not serve all areas. Some development sites may be too remote from the sewerage network for a connection to be economically or technically feasible. For smaller sites in these locations alternatives means of sewage disposal may be necessary.

Is there sufficient capacity?

There are a number of specific waste water treatment capacity issues relating to certain wastewater treatment plants

19.8 Where required to meet the growth strategy, improvements to treatment works are planned to meet the projected growth pattern. Development will need to be phased in line with improvement works to these plants or alternatively Developers will need to fund improvements where site are brought forward in advance of the projected development plan. Yorkshire Water has provided brief comments on treatment works status:

- Wath-on-Dearne WwTW: the works has existing capacity and the development areas have planning consent and already have a right to connect to the WwTW.
- Swinton WwTW : The proposed development can be accommodated without a requirement to increase capacity.
- Aldwark WwTW: There could be a need for expansion of the WwTW to accommodate Basingthorpe Farm development. There is no provision to expand the works in AMP5 but the expansion of the WwTW can be incorporated within AMP6 and AMP7 if the growth is flagged up prior to the determination for the relevant AMP.
- Rest of Rotherham urban areas would proceed with caution, and more investigation will be required once further information is known about specific sites and overall growth quantum.
- Woodhouse Mill WwTW: there is capacity available at the Woodhouse Mill WwTW for new development at Aston. However, land constraints limit the expansion of the Woodhouse Mill WwTW to accommodate the Waverley development, which will have to discharge to the Blackburn Meadows WwTW.

- Blackburn Meadows WwTW: consent to discharge 500 dwellings from the Waverley development has been agreed and discussions are ongoing to discuss best means for rest of scheme. Significant connection and pumping infrastructure costs are expected.

19.9 Figure 19.1 highlights the information outlined above to identify critical pinch points.

Figure19.1 RAG assessment for waste water treatment capacity

19.10 At a site specific level where a public sewer is available for a connection local investigations will be necessary to establish available capacity. A point of connection close to the site will need to be agreed with Yorkshire Water and Severn Trent Water. Developers are entitled to employ their own Contractor to install wastewater sewers (and pumping stations) and offer these sewers for adoption to the wastewater undertaker. Alternatively the Developer has the option of requisitioning the sewer from the wastewater undertaker who will construct the sewer with costs rechargeable to the Developer.

19.11 Precise costs are not known.

How can new infrastructure be funded?

19.12 Funding mechanisms depend on the infrastructure requirement in question. However, DEFRA have made it clear that CIL money cannot be used to fund this infrastructure.

19.13 Service billing is set by future investment plans and there is a complicated formulate that is agreed with OFWAT. This billing will pay for both capital investment and maintenance cost, there are no commuted sums (S106); Yorkshire Water and Severn Trent get payment from customers; and the private sector will pay for connection costs too.

Sewage treatment works are funded by Yorkshire Water and Severn Trent Water, and are allowed for in AMP5

19.14 Costs for improvement works will be funded through customer charges (on householders across their areas). Improvement works will be carried out to match the proposed growth levels from the Local Plan replacement and will therefore not be a restriction on development. Should a specific development come forward in advance of the phased plan, or the development was not included in the AMP5 submission, YW and STW would require a developer contribution towards the works.

Mains connections are funded by the developer

19.15 It is the responsibility of the site Developer to fund the works to connect to the public sewer at a point of connection agreed with the sewerage undertaker.

19.16 Yorkshire Water would expect Developer contributions towards the cost of sewer upgrades where required to service a site. This contribution may come through standard infrastructure charges paid to the sewerage undertaker for each property.

Are the upgrades deliverable?

19.17 Although individual site assessments will need to be made, it is thought highly unlikely that there are any showstopper issues. Waste water infrastructure is unlikely to materially damage development viability.

19.18 We have shown above that these infrastructure costs are generally picked up by the private sector. They do not represent a priority for public sector investment. Prioritisation is therefore marked “not applicable” in spreadsheet model.

Issues and timing assumptions

19.19 We see the issues relating to sewage as follows:

Early engagement is important

19.20 The lead times imposed by the five-yearly AMP cycle on improvements to WwTWs need to be reflected in early engagement between the water companies, developers and LPAs. Future rounds of planning will need to ensure that Yorkshire Water have taken plans into account, otherwise development viability could be negatively affected, with resulting risks to housing delivery. The next round of AMP6 is from 2015 -2020.

Infrastructure must precede development

19.21 Where the discharges from proposed developments require enhancements to WwTWs and the networks serving them, it is essential that these are carried out and completed before the developments are occupied. Close liaison between the planning authority and the water companies is essential to ensure that the latter are aware of proposed development programmes.

Equitable cost sharing

19.22 Cost of sewerage network enhancements in a strategic site need to be borne by all the development in the area, rather than falling on those at the beginning or the end. This matter applies to many utilities.

20 SURFACE WATER DRAINAGE

20.1 This section deals with surface water drainage in the Rotherham Council area and has been informed by RMBC and the Environment Agency.

How is the system structured?

20.2 Responsibilities for surface water drainage are as follows:

- Yorkshire Water and Severn Trent is responsible for the public surface water sewers within the Rotherham area.
- The Internal Drainage Boards (IDB) are responsible for the watercourses within their Drainage Districts. These IDBs exercise similar operational and regulatory powers to the Environment Agency within these areas. .
- The Environment Agency is responsible for watercourses which have been designated as Main River and have a duty to ensure that increased flood risk[20] does not result from new development.

New approaches to surface drainage

20.3 Conventional surface water drainage utilises underground piped systems designed to remove surface water from a site as quickly as possible. This may result in flooding problems downstream and reduce the natural recharge of groundwater levels. Such systems may also create a direct pathway for pollutants from urban areas to pass into watercourses and groundwater.

20.4 The former Planning Policy Statement 25 (PPS 25) required local planning authorities to promote the use of SuDS to achieve the control of surface-water. SuDS should be the default drainage measure for all new developments, with other drainage measures only considered if all SuDS forms are considered not viable.

20.5 The use of SuDS is also promoted within the Code for Sustainable Homes guidance Category 4 SUR 1.SuDS aim to mimic natural surface water drainage by dealing with surface water runoff as near to its source as possible. This can be achieved through the use of source control (eg. green roofs, permeable paving, rainwater recycling) and the attenuation and treatment of water through the drainage systems (e.g. using filter drains, swales, basins and ponds). SuDS often involve a “management train” of different techniques to manage runoff and pollution on a site.

20.6 SuDS should be the default drainage measure for all new developments, with other drainage measures only considered if all SuDS forms are considered not viable and this has been clearly demonstrated by the developer. A range of SuDS techniques can be implemented into a development to prevent the increased risk of flooding and pollution control.

20.7 The order of priority for achieving SuDS compliance is:

[20] Note that fluvial flood defence will be examined within the Flood Defence section

- Discharging to ground via infiltration;
- Discharging to a watercourse; and then
- Discharging to a sewer

What are the infrastructure requirements?

20.8 As a minimum, developments on greenfield sites should attenuate surface-water runoff to existing greenfield runoff rates for all events up to and including the 1% (including climate change) storm design event.

20.9 As a minimum, developments on brownfield sites should lead to a reduction in existing runoff rates, so that, at the very least, an allowance for climate change is incorporated. Ideally a greenfield runoff rate should be implemented, but a minimum 30% reduction is recommended unless it is demonstrated that such a reduction is not practicable.

20.10 As part of detailed planning applications applicants will need to submit detailed assessments in accordance with the latest national and local policy requirements such as Flood Risk Assessments and take account of water quality directives.

How can new infrastructure be funded?

New surface water drainage infrastructure will be developer funded

20.11 New surface water drainage infrastructure will be developer funded for each individual site. A commuted sum may also be payable by the developer where third party adoption of SuDS assets takes place to secure long term maintenance and repair.

20.12 Where connections to existing public surface water sewers are necessary the developer will be responsible for any costs incurred.

20.13 Where surface water discharges to Internal Drainage Board watercourses are necessary the IDB may require a commuted sum payment.

Are the upgrades deliverable?

20.14 Individual sites' land values should take account of the need for surface drainage. These should be explored in individual cases.

20.15 We have shown above that these infrastructure costs are picked up by the private sector. They do not represent a priority for public sector investmentl.

21 FLOOD DEFENCE

21.1 This section deals with flood defence in the Rotherham. This assessment has been informed by both the Environment Agency (EA) and the RMBC.

21.2 Flooding can threaten life and cause substantial damage to property. New developments need to take account of flood risk and this may involve new flood defence or drainage infrastructure where necessary and appropriate.

Rotherham's main rivers

21.3 There are a number of 'main rivers' in Rotherham for which the EA is responsible. The main rivers in the vicinity of the growth proposed are listed in the table 21.1.

Table 21.1 EA Main Rivers in Rotherham area

Growth location	Main River Catchment
Dinnington, Wales &Kiverton park and Thurcroft	River Ryton
Bassingthorpe Farm, Rest of Rotherham / Rotherham Renaissance Flood Defence project	River Don
Swinton & Kilnhurst, Bramley, Wickersley &Ravenfield	River Don
Brampton, Wath& West Melton	River Dearne
Aston, Aughton, Swallownest Waverley, Catcliffe, Orgreave & Treeton	River Rother

Flood risk assessment and compliance with National Planning Policy Framework

21.4 Some of the growth areas may fall within EA Flood Map flood zones, in which case they will need to comply with guidance in the National Planning Policy Framework regarding the Sequential Test and where necessary the Exception Test will need to satisfied to determine the appropriateness development in flood risk areas and site specific flood defence / mitigation measures may be required. There are special measures in place for the river corridor which runs through Rotherham town centre known as the Rotherham Renaissance Flood Alleviation Scheme.

The Rotherham Renaissance Flood Alleviation Scheme

21.5 Since the first serious flood event in 2000, RMBC and the Environment Agency, have developed a coordinated response to flooding, resulting in being recognised as a leading local authority in tackling flood risk in the Planning Policy Statement 25 (Development and Flood Risk) Good Practice Guidance.

21.6 A key response has been the development of the Rotherham Renaissance Flood Alleviation Scheme (RRFAS), aimed at ensuring that previously developed land can be brought forward for development. The first phase of the RRFAS involved investment of £15 million towards flood alleviation infrastructure which included:

- 2km of new defences on both banks of the River around the Templeborough Area, which has been designed to withstand climate change,
- the installation of flood release mechanisms should overtopping of the defences occur, to allow standing water can be released back into the River as soon as water levels in the main channel start to fall;
- Creating a new area of functional flood plain Centenary Riverside, which is urban wetland; and
- Removing Don Bridge which improves the flow of the River and reduces flood risk over a significant length upstream of it.

21.7 The completion of Phase 1 of the Flood Alleviation Scheme at Templeborough has resulted in:

- The area upstream of Tembleborough being protected and flood risk reduced. This has attracted new investment on a number of development sites in close proximity to the Town Centre. It also protects major infrastructure in this area, in particular transport access into the Town Centre;
- The combination of Centenary Riverside and the removal of Don Bridge compensating for any floodplain lost as a result of development in the Town Centre. This means that if new development is designed to be fully compatible with Flood Alleviation Scheme, then individual development sites in flood risk areas of the Rotherham Regeneration Area will not need to create their own on-site compensatory floodplain (thus maximising the developable area in each site).

21.8 Once complete, the Rotherham Renaissance Flood Alleviation Scheme will extend along the River Rother and River Don from Templeborough to Frank Price Lock just downstream of Parkgate Shopping Park. The fully completed scheme will provide a 1 in 100 year level of protection from river flooding throughout this area (i.e. a flood event which has a 1% chance of occurring in any year would be defended against).

What are the Infrastructure requirements?

21.9 Phase 2 of the RRFAS will be delivered incrementally as part of new development proposals. RMBC have produced a toolkit[21] to guide development on the flood defence measures to be taken to support the comprehensive delivery of the scheme.

21.10 A map setting out the various flood defence measures required is included in appendix 5.

21.11 Developments within the RRFAS, will be required to contribute towards the creation of new flood risk management infrastructure. This could either be through the direct construction of segments of the RRFAS as part of development proposals or through financial contributions towards its future construction. Contributions will be secured on a case by case basis commensurate with the scale and nature of the proposal, the level of flood risk and in consultation with the applicant

[21] http://www.rotherham.gov.uk/info/856/loca ldevelopmentframework/1301/dealing with flood risk

21.12 The total cost of the remaining scheme is estimated at £15m. We estimate that approximately 20% of the land area within the scheme will be for new development, whilst the rest of the scheme will be to make safe existing land uses. On this basis we have included the following assessment in the infrastructure delivery schedule to support flood defence infrastructure for the RRFAS – see table 21.2

Table 21.2 Flood defence requirements and costs

RRFAS Phase 2 estimate cost	% of cost attributable to new development	Cost included for IDS
£15m	**20%**	**£3m**

The role of the EA in flood defence

21.13 The Environment Agency are responsible for the construction of new flood defences and the long term maintenance of defences which protect existing assets from Main River. The EA will not construct or upgrade flood defences to promote new development within flood risk areas. Where new or renewed flood defences provide protection for both new and existing properties, costs are pro-rata between developers and the EA.

21.14 Any onsite flood protection measures identified within a site specific FRA will be funded by the developer for each individual development.

22 SUMMARY OF REQUIREMENTS, COSTS AND FUNDING

Infrastructure Delivery Schedule

22.1 In the following section and tables we summarise all of the estimated infrastructure requirements, costs and project-related funding to form the Infrastructure Delivery Schedule (IDS).

22.2 Note the prioritisation of projects will change as client team manages delivery. Leads for each scheme have been identified and will be included in the infrastructure data base.

Table 22.1 Summary of infrastructure requirements, costs and project-related funding

Rotherham Infrastructure Schedule	Priority	Capital or revenue?	Known gross cost (not specifically tailored to impact of attributable growth)	Borough impact proportion: % gross costs attributable to growth	Known infrastructure costs attributable to growth ("growth cost")	Funding via mainstream / public agency	Funding via utility companies	Known/ reasonably anticipated funding from other possible sources	Known Gross costs after anticipated funding ("Gross cost funding gap")	Known Growth costs after anticipated funding ("Growth cost funding gap")
(A) TRANSPORT - HIGHWAY										
Bassingthorpe Farm Access Road			Not yet known	100%	Not yet known				Not yet known	Not yet known
Variable message signs linked to Bassingthorpe Farm	Essential	Capital	£500,000	50%	£250,000				-£500,000	-250,000
Taylors Lane Roundabout - DfT bid	Essential	Capital	£1,400,000	0%	£0				-£1,400,000	0
A629 Fenton Road Roundabout - Bassingthorpe Farm	Essential	Capital	£1,000,000	100%	£1,000,000				-£1,000,000	-1,000,000
Centenary Way Roundabouts (4) - Rest of Rotherham	Essential	Capital	£8,500,000	50%	£4,250,000				-£8,500,000	-4,250,000
Aldwarke Employment - Parkgate retail park access	Essential	Capital	£5,000,000	100%	£5,000,000				-£5,000,000	-5,000,000
Worrygoose Roundabout - Rest of Rotherham	Essential	Capital	£1,000,000	50%	£500,000				-£1,000,000	-500,000
Anston Jn A57 / B6060 - Site 3	Essential	Capital	£1,200,000	50%	£600,000				-£1,200,000	-600,000
Dinnington Roundabout B6060 / B6463 - site 3	Essential	Capital	£750,000	50%	£375,000				-£750,000	-375,000
Junction Improvements on A633 / A6195 - site 4	Essential	Capital	£750,000	50%	£375,000				-£750,000	-375,000
Woodmand Roundabout A6023 / A633 - site 5	Essential	Capital	£500,000	50%	£250,000				-£500,000	-250,000
A633 / Kilnhurst Junction - site 5	Essential	Capital	£500,000	50%	£250,000				-£500,000	-250,000
Masons Roundabout A631 / B6060 - site 6	Essential	Capital	£500,000	100%	£500,000				-£500,000	-500,000
Addison Road westbound Lane - site 7	Essential	Capital	£1,500,000	100%	£1,500,000				-£1,500,000	-1,500,000
A631 / A618 Whiston Crossroads - site 8	Essential	Capital	£500,000	50%	£250,000				-£500,000	-250,000
Kiverton Lane improvements - site 9	Essential	Capital	£400,000	100%	£400,000				-£400,000	-400,000
Masons roundabout - site 10	Essential	Capital	£500,000	50%	£250,000				-£500,000	-250,000
Sub total			**£24,500,000**		**£15,750,000**		**£0**	**£0**	**-£24,500,000**	**-£15,750,000**
TRANSPORT - ALL OTHER (BUS CYCLE)										
Key Route Bus - Rotherham - Thrybergh (Rest of Rotherham) DfT bid	Essential	Capital	£3,500,000	50%	£1,750,000				-£3,500,000	-1,750,000
Key Route Bus - Rotherham to Dearne DfT bid	Essential	Capital	£2,000,000	50%	£1,000,000				-£2,000,000	-1,000,000
Key Route Bus - Rotherham - Maltby (sites 6 & 7)	Essential	Capital	£1,500,000	50%	£750,000				-£1,500,000	-750,000
Key Route Bus - Rotherham - Swallownest (sites 8 & 9)	Essential	Capital	£850,000	50%	£425,000				-£850,000	-425,000
Key Route Bus - Rotherham to Chapelton (site 11)	Essential	Capital	£1,500,000	50%	£750,000				-£1,500,000	-750,000
Bus Rapid Transit Northern Route (site 2) DfT funding in place	Essential	Capital	£34,000,000	50%	£0	£34,000,000			£0	0
Lower Don Valley Cycle Route (site 2)	Essential	Capital	£1,800,000	50%	£900,000				-£1,800,000	-900,000
Rawmarsh to Rotherham Town Cycle Route (site 5)	Essential	Capital	£1,100,000	50%	£550,000				-£1,100,000	-550,000
Dearne Valley to Swinton Cycle Route (stie 5)	Essential	Capital	£320,000	50%	£160,000				-£320,000	-160,000
Sub total			**£46,570,000**		**£6,285,000**	**£34,000,000**	**£0**	**£0**	**-£12,570,000**	**-£6,285,000**

Rotherham Infrastructure Schedule	Priority	Capital or revenue?	Known gross cost (not specifically tailored to impact of attributable growth)	Borough impact proportion: % gross costs attributable to growth	Known infrastructure costs attributable to growth ("growth cost")	Funding via mainstream / public agency	Funding via utility companies	Known/ reasonably anticipated funding from other possible sources	Known Gross costs after anticipated funding ("Gross cost funding gap")	Known Growth costs after anticipated funding ("Growth cost funding gap")
(B) EDUCATION										
Bassingthorpe Farm - new primary and nursery	Essential	Capital	£6,500,000	100%	£6,500,000	£0	£0	£0	-£6,500,000	-6,500,000
Bassingthorpe Farm - secondary extension	Essential	Capital	£1,900,000	100%	£1,900,000	£0	£0	£0	-£1,900,000	-1,900,000
Dinnington, Anston & Laughton Common - primary extension	Essential	Capital	£150,000	100%	£150,000	£0	£0	£0	-£150,000	-150,000
Dinnington, Anston & Laughton Common -secondary extension	Essential	Capital	£300,000	100%	£300,000	£0	£0	£0	-£300,000	-300,000
Bramley, Wickersley & Ravenfield - primary extension	Essential	Capital	£1,160,000	100%	£1,160,000	£0	£0	£0	-£1,160,000	-1,160,000
Bramley, Wickersley & Ravenfield - secondary extension	Essential	Capital	£931,000	100%	£931,000	£0	£0	£0	-£931,000	-931,000
Aston, Aughton & Swallownest - primary extenstion	Essential	Capital	£812,000	100%	£812,000	£0	£0	£0	-£812,000	-812,000
Aston, Aughton & Swallownest - secondary extenstion	Essential	Capital	£150,000	100%	£150,000	£0	£0	£0	-£150,000	-150,000
Wales & Kiverton Park - secondary extension	Essential	Capital	£300,000	100%	£300,000	£0	£0	£0	-£300,000	-300,000
Thurcroft - secondary extension	Essential	Capital	£150,000	100%	£150,000	£0	£0	£0	-£150,000	-150,000
Catcliffe, Treeton & Orgreave - secondary extension	Essential	Capital	£150,000	100%	£150,000	£0	£0	£0	-£150,000	-150,000
Special education needs	Essential	Capital	£220,000	100%	£220,000	£0	£0	£0	-£220,000	-220,000
Sub total			**£12,723,000**		**£12,723,000**	**£0**	**£0**	**£0**	**-£12,723,000**	**-12,723,000**
(C) HEALTH										
Bassingthorpe Farm - new surgery	Essential	Capital	£2,000,000	100%	£2,000,000	£0	£0	£0	£2,000,000	-2,000,000
Rest of Rotherham - redevelopment of Dalton surgery	Essential	Capital	£2,000,000	10%	£200,000	£0	£0	£0	-£2,000,000	-200,000
Dinnington, Anston & Laughton Common - new health centre	Essential	Capital	£3,500,000	10%	£350,000	£0	£0	£0	-£3,500,000	-350,000
Catcliffe, Orgreave & Treeton - redevelopment of Treeton	Essential	Capital	£2,000,000	10%	£200,000	£0	£0	£0	-£2,000,000	-200,000
Sub total			**£9,500,000**		**£2,750,000**	**£0**	**£0**	**£0**	**-£9,500,000**	**-2,750,000**

Rotherham Infrastructure Schedule	Priority	Capital or revenue?	Known gross cost (not specifically tailored to impact of attributable growth)	Borough impact proportion: % gross costs attributable to growth	Known infrastructure costs attributable to growth ("growth cost")	Funding via mainstream / public agency	Funding via utility companies	Known/ reasonably anticipated funding from other possible sources	Known Gross costs after anticipated funding ("Gross cost funding gap")	Known Growth costs after anticipated funding ("Growth cost funding gap")
(D) RECREATION										
Recreational infrastructure throughout	Other	Capital	£6,057,280	100%	£6,057,280	£0	£0	£0	-£6,057,280	-6,057,280
Sub total			**£6,057,280**		**£6,057,280**	**£0**	**£0**	**£0**	**-£6,057,280**	**-6,057,280**
(E) LIBRARY & COMMUNITY										
Bassingthorpe Farm - redevelopment of Greasborough Library	Other	Capital	£496,800	100%	£496,800	£0	£0	£0	-£496,800	-496,800
Rest of Rotherham - various	Other	Capital	£393,300	100%	£393,300	£0	£0	£0	-£393,300	-393,300
Dinnington, Anston & Laughton Common - extension	Other	Capital	£107,640	100%	£107,640	£0	£0	£0	-£107,640	-107,640
Swinton & Kilnhurst - extension	Other	Capital	£60,548	100%	£60,548	£0	£0	£0	-£60,548	-60,548
Bramley, Wickersley & Ravenfield - extension	Other	Capital	£94,185	100%	£94,185	£0	£0	£0	-£94,185	-94,185
Maltby& Hellaby - refurbhishment	Other	Capital	£80,730	100%	£80,730	£0	£0	£0	-£80,730	-80,730
Aston, Aughton & Swallownest - refurbhishment	Other	Capital	£60,548	100%	£60,548	£0	£0	£0	-£60,548	-60,548
Wales & Kiverton Park - refurbhishment	Other	Capital	£40,365	100%	£40,365	£0	£0	£0	-£40,365	-40,365
Thurcroft - refurbhishment	Other	Capital	£33,638	100%	£33,638	£0	£0	£0	-£33,638	-33,638
Community building facilities - various	Other	Capital	£1,276,330	100%	£1,276,330	£0	£0	£0	-£1,276,330	-1,276,330
Sub total			**£2,644,084**		**£2,644,084**	**£0**	**£0**	**£0**	**-£2,644,084**	**-2,644,084**
(F) EMERGENCY, WASTE and FLOOD DEFENCE										
Expansion of existing police stations at Dinnington and Wath	Essential	Capital	£500,000	100%	£500,000	£0	£0	£0	-£500,000	-500,000
Fire for Rest of Rotherham and Bassingthorpe Farm	Essential	Capital	£3,000,000	100%	£3,000,000	£0	£0	£0	-£3,000,000	-3,000,000
Rotherham Renaissance Flood Defence Line	Essential	capital	£15,000,000	20%	£3,000,000	£0			-£15,000,000	-3,000,000
Waste collection and disposal	Essential	Capital	£1,418,258	100%	£1,418,258	£709,129			-£709,129	-709,129
Sub total			**£19,918,258**		**£7,918,258**	**£709,129**	**£0**	**£0**	**-£19,209,129**	**-7,209,129**
(I) ADMINISTRATION										
Administration costs of developer contributions, demand management staffing	**Essential**	**Revenue**	**£609,563**	**100%**	**£609,563**	**£0**	**£0**	**£0**	**-£609,563**	**-609,563**
TOTAL ALL INFRASTRUCTURE			£122,522,185		£54,737,185	£34,709,129	£0	£0	-£87,813,056	-£54,028,056

Infrastructure requirements, costs and funding

22.3 In this section we summarise requirements, costs and funding of infrastructure in relation to the requirements of NNPF to provide a sustainable plan.

Analysing estimated infrastructure costs

Estimated "gross" infrastructure costs by category

22.4 Table 22.2 shows estimated infrastructure costs by category. The figures presented below are the "gross" infrastructure costs. These are not specifically tailored to the impact of growth, so some of these costs provide infrastructure with wider benefits to society as a whole.

22.5 Transport is the largest single component of estimated infrastructure costs across the borough, with education representing the second highest cost. Categories listed as 'emergency & other' is third highest, largely due to the Rotherham Renaissance Flood Defence project for the centre of Rotherham.

Table 22.2 Gross estimated infrastructure costs (£m)

Infrastructure Category	Known "gross" infrastructure costs
Transport - highway	£24.5m
Transport - bus, cycle other	£46.6m
Emergency & Other	£20.5m
Education	£12.7m
Health	£9.5m
Recreation	£6.1m
Library & Community	£2.6m
Total	£122.5m

Source: RTP. Note that the costs presented are **gross costs** over the plan period (and these are not specifically tailored to the impacts of growth)

Refining the "gross" infrastructure costs to get an "infrastructure cost of growth"

22.6 Above, we have shown the "gross" infrastructure cost. This is useful, because it provides a broad picture of how much money will need to be spent on infrastructure in Rotherham in the plan period.

22.7 However, the key understanding in planning terms to satisfy NPPF is the cost of infrastructure required to meet the forecast demands and to plan positively for the development and infrastructure required in the area to meet the objectives, principles and policies of the NPPF[22].

22.8 There is a difference between these two numbers, because the need for infrastructure improvements (particularly transport and flood defence infrastructure)

[22] Paragraph 157 of NPPF

cannot always be entirely ascribed to new growth some growth is attributable to historic deficit and not forecast demand.

22.9 To calculate the cost of infrastructure ascribable to growth, we have made some estimations about the extent to which new infrastructure costs arise from growth alone, and shared those costs pro-rata. It is clear that some of the requirements are included to improve existing deficits and we have sought to differentiate between these, especially as growth will not pay for deficit, and other sources of funding will be needed to meet these requirements.

22.10 The difference between the gross cost and the more refined "cost of growth" is considerable and is due largely to:

- The 'other transport project costs' aimed at improving bus and cycle corridors and car park interchange throughout Rotherham. Indeed the DfT is currently providing over £34m funding towards some of the bus transport schemes.
- Rotherham Renaissance Flood Defence scheme which has already benefitted from £15m Objective 1 funding and Environment Agency support for the most critical parts of the scheme, but more work still remains.
- Some health schemes which will have the dual role of accommodating growth, but also benefit from refurbishment of existing outdated 'stretched' facilities. Again, there has already been considerable investment jointly by the PCT and RMBC to upgrade a number of existing facilities and some still remain.

22.11 These are measures designed for historic growth as well as future growth. Table 22.3 presents the infrastructure costs attributable to growth.

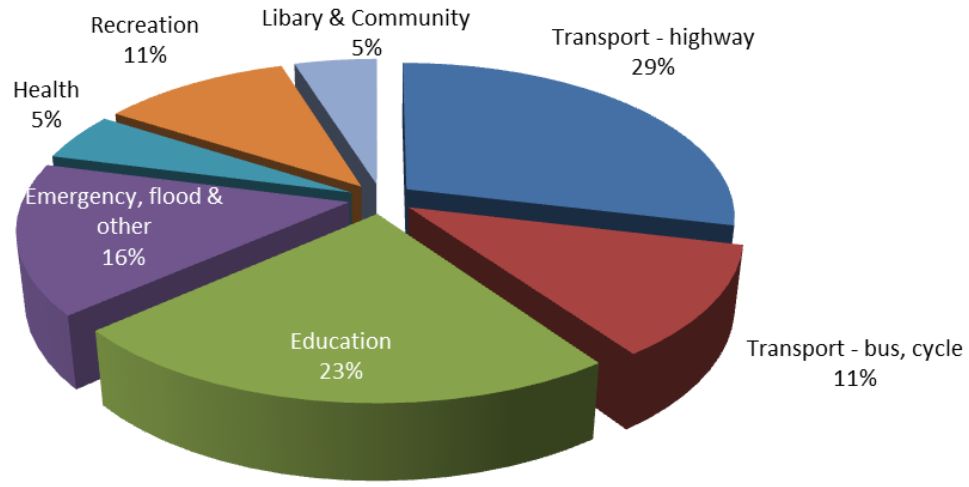
Table 22.3 Estimated infrastructure costs attributable to growth

Infrastructure Category	Known infrastructure costs attributable to growth ("growth
Transport - highway	£15.8m
Transport - bus, cycle	£6.3m
Education	£12.7m
Emergency, flood & other	£8.5m
Health	£2.8m
Recreation	£6.1m
Libary & Community	£2.6m
Total	£54.7m

Source: RTP 2012

22.12 We have shown these known growth related costs as a % of the overall growth cost in figure 22.1.

Figure 22.1 Estimated infrastructure costs attributable to growth (%)



Source: RTP 2012

"Big ticket" project costs

22.13 There are a number of what we class as "big ticket" infrastructure projects that have been identified as required to facilitate growth. The top cost infrastructure items are shown below.

22.14 In table 22.4, we have presented gross infrastructure costs. We have taken the gross cost here because this funding will need to be found to deliver these projects, irrespective of the extent to which they serve the immediate needs of housing growth. However the timescale for the delivery of these schemes will vary based on the intended growth coming forward e.g. the Aldwarke industrial area could take some time to deliver given the current economic climate, whereas work on the Bus Rapid Transit Northern Route will be commencing very soon.

Table 22.4 Big ticket project costs (£m) (gross costs)

Infrastructure project or category	Cost (£)
Bus Rapid Transit Northern Route (site 2) DfT funding in place	34,000,000
Rotherham Renaissance Flood Defence Line	15,000,000
Centenary Way Roundabouts (4) - Rest of Rotherham	8,500,000
Bassingthorpe Farm - new primary and nursery	6,500,000
Aldwarke Employment - Parkgate retail park access	5,000,000
TOTAL	**£69.0m**

Focusing on essential schemes reduces the infrastructure costs

22.15 We have analysed which infrastructure items are essential to allow growth to proceed. This has been based on our own judgement and will be subject to further refinements.

22.16 Table 22.5 shows that if partners were to provide only those items considered to be essential in order for development to proceed, then costs could be reduced.

22.17 However, this is not to say that the items making up the 'other' category are not important. Essential items in this context represent items without which development could not be brought forward.

Table 22.5 Estimated infrastructure costs for growth by priority

Infrastructure Category	"Essential" infrastructure costs for growth	% of total "essential" costs	"Other" category infrastructure costs for growth	% of total "other" costs
Transport	£15.8m	34.2%	£0.0m	0.0%
Transport - bus, cycle other	£6.3m	13.7%	£0.0m	0.0%
Education	£12.7m	27.6%	£0.0m	0.0%
Health	£2.8m	6.0%	£0.0m	0.0%
Recreation	£0.0m	0.0%	£6.1m	69.6%
Library & Community	£0.0m	0.0%	£2.6m	30.4%
Emergency & Other	£7.9m	17.2%	£0.0m	0.0%
Administration costs	£0.6m	1.3%	£0.0m	0.0%
Total	£46.0m	100.0%	£8.7m	100.0%

Source: RTP 2012

Analysing estimated funding

22.18 The largest proportion of identified funding relates to one specific transport scheme this is the bus rapid transit northern route scheme that has £34m of DfT funding.

Table 22.6 Mainstream and utilities funding

Infrastructure Category	Funding via mainstream public/ agency
Transport	£34.0m
Education	£0.0m
Health	£0.0m
Recreation	£0.0m
Library	£0.0m
Emergency & Other	£0.7m
Total	£34.7m

Source: RTP 2012 / RMBC

Estimating developer contributions through CIL and Section 106

22.19 Developer contributions will make an important contribution to the funding of infrastructure to support growth. Viability assessment has been undertaken to inform the affordable housing assessment and also a possible future Community Infrastructure Levy. Based on these strategic viability appraisals, we have included a 'conservative' assessment of the likely developer contribution that could be generated from the residential development (both as CIL and S106) to support the delivery of the infrastructure. Obviously these contributions will vary (up and down) depending on specific proposals.

22.20 We have not 'allocated' this funding to any specific scheme, this will be for more refined thinking to be determined at the planning application stage and the preparation of the Regulation 123 relevant infrastructure list.

22.21 We have sought to understand the likely conservative estimate of developer contribution that can be expected to contribute towards the cost of infrastructure. The findings are set out in tables 22.7 and 22.8

Table 22.7 Estimated S106 contributions to support growth

Funding stream	Unconsented dwellings	Developer contributions per dwelling	Est S106 funding
S106 @ £3,500 per dwelling average	6173	£3,500	£21,603,750

Source RTP 2012

Table 22.8 Estimated CIL contributions to support growth

Category	CIL
Possible estimate charge per sqm	£35
Average home size m2 (rounded)	90
per dwelling cost	£3,150
Number of homes without planning permission	8230
Assumed % of affordable housing	25%
Number of homes chargeable	6173
Total possible contribution	£19,443,375
Calculated on the basis of the number of homes without planning permission.	

Source: RTP 2012

Putting costs and funding together

22.22 Table 22.9 summarise the known estimate growth costs less estimate funding to reveal the funding gap for the Core Strategy

Table 22.9 Potential funding gap

Funding Stream	
Known infrastructure costs attributable to growth ("growth cost")	£54.7m
Mainstream funding	£0.0m
Utilities funding of	£0.0m
Anticipated S106 funding	£21.6m
Anticipated CIL funding	£19.4m
New Homes Bonus funding	£0.0m
Funding Gap	£13.7m

Source: RTP 2012 (note this funding gap is not the same as for CIL)

Seeing the funding gap on a per annum basis makes the gap appear more tractable

22.23 Whilst there is a large funding gap, it should be borne in mind that this plan runs until 2027. The funding gap over this timescale is to be expected. There are many unknown variables and other infrastructure costs that will be refined and developed over the course of the plan. PPS 12 recognises this. There will be processes in place to manage the funding gap. Per annum funding appears much more tractable.

Cashflow issues

22.24 We used our work to look at particular cost and funding "pinch points" – for example, the times where up-front infrastructure requirements and costs ran ahead of funding.

22.25 The success of showing that the Core Strategy is deliverable will, to a significant degree, depend on the ability to deliver the infrastructure required in the first five years. One of the fundamental requirements therefore is that the necessary funding is in place to fund infrastructure required in the short term.

22.26 Table 22.10 below shows a simplified infrastructure cashflow situation for the first five years. It is important to be clear that this is not a developers' individual cashflow for their development. Rather, it is a simple view of the total infrastructure costs, set against the available funding. The table necessarily makes some assumptions. These are

- that mainstream funding, where available, will be found in the same year that as infrastructure demands are created by growth; and
- that developer contribution payments are generated in line with the assumed delivery trajectory, and exclude homes with planning permission.

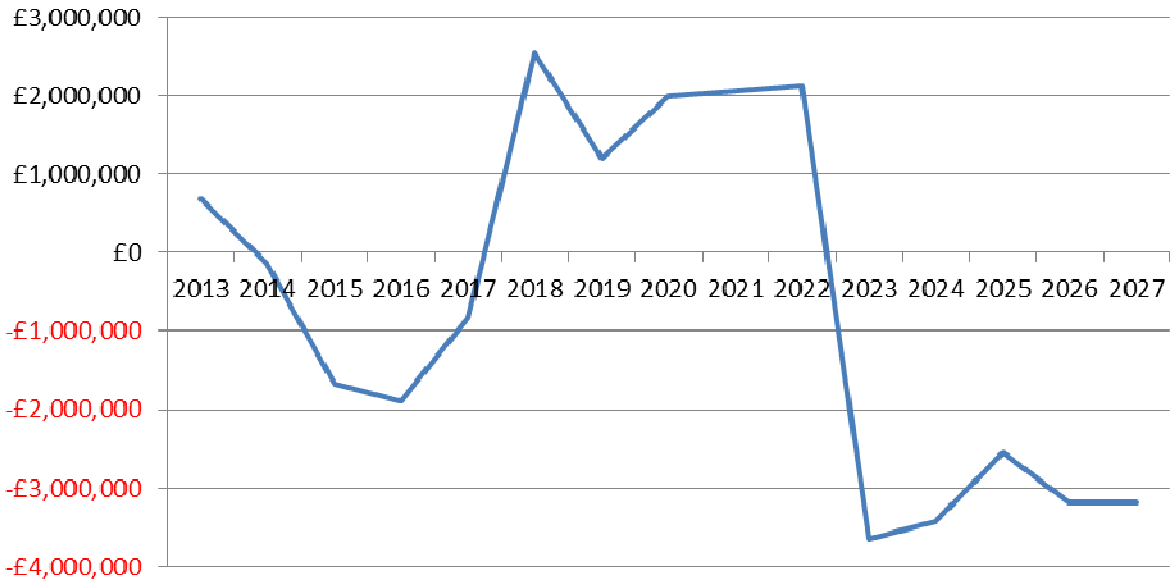
Table 22.10 Six year infrastructure cashflow

	2013	2014	2015	2016	2017	2018
Known **Growth** costs after anticipated mainstream, ("Growth cost funding gap")	-£1,228,684	-£2,050,703	-£3,584,576	-£3,805,792	-£2,743,292	-£2,239,225
New Homes Bonus funding for infrastructure	£0	£0	£0	£0	£0	£0
Developer contributions	£1,910,677	£1,915,666	£1,910,677	£1,910,677	£1,915,666	£4,784,175
Cashflow	£681,993	-£135,037	-£1,673,900	-£1,895,115	-£827,626	£2,544,950

Source: RTP 2012

22.27 Over the whole of the plan period, the results of our cashflow analysis are shown in figure 22.2.

Figure 22.2 Cashflow projections over Core Strategy period



Source: RTP 2012

22.28 The analysis above suggests that there are cashflow problems in the early period. There are possible solutions to this problem, though, more detailed business planning work will be carried out to look at these more closely.

How do these findings affect infrastructure delivery?

22.29 The figures above show a long term funding gap which is to be expected given so many unknowns about mainstream funding sources. However, this funding gap could be narrowed, and cashflow problems addressed, by the following means:

- Focusing on the delivery of essential items.
- Re-prioritising the essential items. The Council may need to prioritise both within theme areas (say, prioritising the most important transport projects) and also between theme areas (say, deciding to invest in open space, rather than transport, or vice versa). Properly, these decisions rest with elected representatives and their officers on the basis of good quality information about what is realistically possible.
- Delaying the dates by which infrastructure items are required and increasing the 'pain threshold' by not providing all the strategic infrastructure identified.

22.30 There is most likely a need for Infrastructure Delivery Mechanism or similar process to be instigated. If this route was taken, the Infrastructure Delivery Mechanism would need to be a practically orientated and could focus on the following:

- Identify tasks on the critical path, set dates for those issues to be resolved, and clarify delivery roles and responsibilities for different organisations and individuals;
- Focus on how any problems will be resolved, identify risks and priorities.
- Define issues in time sequence. This would allow the focusing of resources on short term issues and a process of active planning for medium term issues. Longer-term problems (where it is clear that fundamental changes in

funding regimes or market conditions are required) could be left for future work;

- Help the political process by clarifying decisions that need to be taken, when they need to be taken, and what the ramifications of choices are.

23 CONCLUDING COMMENTS

Care has been taken not to 'gold plate' the infrastructure requirements

23.1 In our experience of working on infrastructure studies, this is possibly the first time where most of the service providers we have spoken to have been cautious about any additional new capital infrastructure requests. Most providers are going through an intense period of 'retrenchment' looking at cutting back on capital expenditure and minimising revenue services through efficiency savings and looking for innovative ways of service delivery.

23.2 It has been eye opening to find that we did not have to avoid the 'gold plating mentality' that we so frequently encounter in undertaking such studies. We found that infrastructure providers were very mindful of the longer term budgetary implications of any additional new facility proposed. They were keen to ensure that where possible innovative means of delivery and sharing capital facilities with other providers were investigated first to reduce the revenue burden.

None the less the proposed development will require new infrastructure

23.3 None the less, the proposed development will require the provision of a range of infrastructure as set out in the Infrastructure Delivery Schedules (IDS) in the previous section. Over half the requirements in the IDS are related to transport and education infrastructure. Much of the transport infrastructure is intended to deal with the cumulative impact of growth in the centre of Rotherham and key routes into Rotherham. The requirements relate to 'managing traffic' through focused interventions.

23.4 The education requirements too have been based on looking to expand existing facilities where possible. Care has been taken not to inflate requirements, and to look at how savings can be made by using existing facilities more efficiently, and clawing back capacity where possible from neighbouring authorities. However, there will be a need to fund this additional infrastructure – how will this happen?

Rotherham, like the nation is facing a period of financial cut backs

23.5 Following the budget, the Financial Times reported[23] that capital expenditure is set to drop by almost 60 per cent in the period between last year and 2015-16, despite the chancellor's statement in the Budget that he was not cutting it further. As a result, public sector net investment is due to fall from £49bn last year – a figure somewhat inflated by the drive to bring forward capital projects to combat the recession – to a fraction under £21bn by 2015-16.

23.6 It is likely that public funding of any kind, whether grants or public borrowing, will be very constrained at least until the currently projected cuts conclude in 2016. Even if there are substantial increases after that date, the increases will start from a low base, and so real terms rises are likely to be modest.

23 Nicholas Timmins, *Capital spending set to fall 60% by 2016*Financial Times June 23

23.7 The story is the same in Rotherham, mainstream capital funding is highly unlikely to fund much in the way of new capital infrastructure and it will remain so until 2016 at the earliest. Rotherham MBC is looking for an additional £30m budget saving during 2011/2012, a £20m saving 2012/13 and a further £12m saving in 2013/14 due to a reduction in Central Government funding. The authority has a freeze on Council Tax and so is significantly constrained in raising money in the immediate future. The same picture emerges for the health sector, emergency services and Environment Agency. All are looking to make savings and so it is best to assume that mainstream local funding will be scare at least for the short term.

23.8 But it should be born in mind that the Rotherham Infrastructure Study is spread over two decades and there remains the possibility that public sector funding for infrastructure may become available again during this time. Indeed, one of the main transport capital projects in Rotherham is being delivered with a DfT grant of £34m, and there are other bids in the pipeline for education and transport projects to deal with historic 'pain / deficit'.

Fortunately Rotherham has been through a strong period of capital investment

23.9 RMBC in partnership with other service providers is in the process of completing a number of very major capital investment projects including new schools, Council offices, libraries, doctor's surgeries, joint neighbourhood service centres, train station, and swimming pools. This has resulted in considerable new capacity being created which will help Rotherham to 'weather the storm' for the short to medium term. However, this does mean that the Council's Capital Programme is committed to these existing projects which are currently under construction and will not be readily available for new investments.

So how will new infrastructure be paid for, at least in the short term?

23.10 The Council will need to take key decisions on the infrastructure priorities, the level of 'stress' and congestion that is considered 'acceptable' to help support the delivery of growth. At the same time, important decisions will be required on the how finite developer contributions are to be used, (for instance to fund infrastructure or other priorities such as affordable housing and other policy requirements).

23.11 Having said this, securing developer contributions to pay for the some of the infrastructure requirements will be important, particularly in the short term whilst public sector funding is going through a period of retrenchment. It should be stressed that just because infrastructure items have been identified in this study, they will not necessarily be 'funded' by developers or external sources. Mainstream funding will also be required to pay for infrastructure (particularly for those services that are currently funded on the basis of growth in population change (albeit retrospectively). Changes in legislation could have a substantial impact on the way some services are funded in the future such as doctor's surgeries.

23.12 In the following paragraphs we outline how Rotherham might deal with:

- Infrastructure funding
- Managing infrastructure delivery.

Infrastructure funding

What are the main sources of funding to enable growth to take place?

23.13 It will be crucial in the current economic climate, to carefully prioritise infrastructure requirements and costs to the most essential needs at any point in time. Some of the main sources of funding are likely to be:

- Developer contributions
- New Homes Bonus
- Prudential borrowing powers
- Users charging and new income generation schemes – car parking, green burials, energy from waste
- Private sector finance
- Rent convergence income
- Tax increment finance

23.14 In the following paragraphs we briefly explain these potential income sources and how they might be used by RMBC.

Developer contributions

23.15 Developer contributions are likely to play a critical role in funding growth related infrastructure. Given the nature of the type of cumulative transport schemes that require funding, it is likely that the Community Infrastructure Levy will be critical. Our assessment has been based on factoring in an estimated level of developer contributions, however the Council will need to seriously consider it's approach to collecting and spending developer contributions in a systematic and 'project managed' approach.

23.16 This infrastructure assessment has factored in the viability assessment of 'non oven ready' green field sites and their ability to contribute towards the required infrastructure. Account has also been taken of the changes stemming from the Planning Act 2008 in relation to the use of developer contributions (S106) for directly relevant infrastructure and the use of Community Infrastructure Levy (CIL) contributions to support wider strategic infrastructure. The Council will avoid double funding from these sources, by issuing a Regs 123 list of relevant infrastructure for CIL.[24]. Site specific work will be required at the stage of planning applications to determine S106 contributions.

New Homes Bonus

23.17 Rotherham has received £1.58m of New Homes Bonus funding for 2012/13, most of this budget, (£1.48m) has been used to support the general budget, and the remaining £100,000 will pay towards the cost of housing posts. So funding from this source is not likely to available for 2012 / 13, but a percentage could be introduced to fund / forward funding infrastructure investment until developer contributions are in place in future years, especially as other housing rent related funding schemes kick in.

[24] RMBC has yet to decide on whether to implement a CIL.

Prudential borrowing

23.18 The Council is open to using this mechanism for other appropriates schemes. Depending on the scheme, it is possible for the Council to borrow finance prudentially and enable investing in infrastructure at a lower finance rates. In this sense RMBC is proactive and keen to use its powers to borrow from the Public Works Loan Board (Central Government), backed by secured assets, and meeting the Council's criteria. For instance, RMBC has recently borrowed at cheaper rates to enable the FE College to borrow £5m for investment. There are discussions to develop the High Street, and the Council will use its Well Being Powers and new power of General Competence to borrow cheaper to support town centre regeneration.

23.19 Rotherham Borough could use its prudential borrowing powers to advance fund key elements of infrastructure in anticipation of planning contributions or other possible income streams in the future.

23.20 There are opportunities to improve the economics of development by delaying the implementation of infrastructure schemes for as long as possible and using public funds to pay for what is required on an interim basis with repayment once the proceeds from development begin to materialise.

User charges – car parking charges

23.21 Given that Rotherham is facing a freeze on Council Tax rises, it is considering introducing service user charges. Income from the proposed car parking charges could possibly be securitised and used to pay for small scale transport improvements. However, any capital sum raised might be modest.

Private sector finance

23.22 Private finance has already been market tested for health / GP infrastructure and there are willing investors for this. However, decisions relating to investment in the health sector could be stalled for the short term until new Strategic Boards get their 'feet properly under the table' and start to take strategic investment decisions.

Rent convergence

23.23 Changes in finance affecting the Housing Revenue Account (HRA)[25] could permit RMBC to allow significant investment in housing. New arrangements, linked to rent convergence, aimed at bringing council housing rent into line with private sector accommodation. Thus in Rotherham where the rent had been very low, it has now moved to a higher rent (9.4%). This will result in a significant increase in rent income to the Council, which will put the authority in a strong position to invest in social housing. The Council is currently working on business plan for this. It could be in the future that CIL payments made as 'in-kind' land contributions could help the Council to secure the delivery of affordable housing instead.

[25] A separate account, which takes rent income from tenants to manage the housing stock

Tax Increment Financing

23.24 The Tax Increment Financing (TIF) model is a method of financing using a future uplift in business rates (a "tax increment") resulting from an infrastructure investment. It does not involve any additional taxation.

23.25 The scheme may be useful where the sources of funding available for a scheme to deliver economic growth and renewal cannot cover the cost of infrastructure required by the scheme.

23.26 In the scheme envisaged by the Government, the additional business rates revenue that is raised as a result of a development is used to pay for the necessary infrastructure, without which the development would not otherwise occur. The increased future tax income stream which would ordinarily go to the Exchequer is "securitized" (ie, converted to a capital lump sum) by a bank. Then, the future tax income is used to repay the loan over a given period. At the end of the repayment period, tax revenues revert to the Exchequer.

23.27 There could be a role for TIF in financing the Rotherham Renaissance Strategic Flood Defence scheme, but this would require further investigation. Significant set-up costs mean that TIF would be only worth doing with a relatively large scheme. We note that much depends on legislation (which will be necessary), and on the willingness of local authorities to lend against the (uncertain) future income stream created by business rates. The Council would be at risk if new business rates did not materialise.

Green burials opportunities to generate income could be explored

23.28 For the wider green infrastructure schemes there could be a requirement from the design stage to assess revenue generating initiatives to support the longer term management cost of these schemes. Innovative ideas could be to consider 'green burials' as an income source or other appropriate sources of income such as rental of café or recreational hire schemes.

Energy from waste income possibilities should be explored

23.29 The sale of solid recovered fuel from the proposed anaerobic digester plant could possibly generate some revenue for RMBC from the electricity produced at Ferrybridge, though it is not possible to determine the value of this until more details of the proposed MBT AD plant is known, such as the calorific value of the incoming waste streams, and therefore quantity of gas and solid fuel that will be produced.

23.30 It may also be worth investigating the introduction of some form of a profit sharing scheme on future waste contracts so that if they generates a positive income stream from generating energy, then some of this money could flow back to the Council. An alternative could be to consider linking any energy produced to the electricity needs of existing or planned Council properties, thus utilising the electricity generated to supply council facilities.

Project management of infrastructure delivery

Need to share information and inform investment plans of service providers

23.31 An infrastructure forum should be set up to meet and share information between providers on key development and phasing. We market tested the idea for such a forum and there was over whelming support for this.

23.32 Key service providers would like to meet once or twice a year, in order to understand where growth is taking place, discuss any delivery issues, inform medium term investment planning and look to innovative ways to meet future needs.

Duty to cooperate and scope to strengthen existing cross border working

23.33 As part of this study, a number of service providers (see appendix 1) have been engaged and a mechanism to continue their engagement is proposed. Many of these providers work at a sub regional level across various authority boundaries.

23.34 There are a number of cross border infrastructure groups including for transport, utilities health, fire, police and waste. The mechanism for education may require formalising and strengthening given the need to clawback some spaces from neighbouring authorities.

23.35 As part of this process a mechanism should be introduced to strengthen the current cross border liaison at a strategic level to ensure infrastructure planning for sub regional infrastructure continues to be provided in a planned way. Some service providers that are most likely to be affected.

23.36 .***Careful management and regular review will be needed***

23.37 The IDS will be subject to regular review and update through liaison with providers reflecting the capacity and requirement at any point in time. Note the schedule is indicative and final requirements will be assessed on a site specific basis. A budget has been included in the IDS based on CIL guidance to use 5% of the revenues to introduce proactive management and delivery of infrastructure.

24 RECONCILING CHANGES IN HOUSING TRAJECTORY

Phasing and distribution of growth has subsequently been amended

24.1 The housing trajectory used to develop the infrastructure assessment has a bearing on the requirement and thus the planning and funding for infrastructure.

24.2 At the start of the study we were supplied with a housing and employment trajectory by RMBC. Rotherham Metropolitan Borough Council updated the distribution of growth during the course of the study. Appendix 2 provides the two trajectories to highlight the main differences.

24.3 The main assessment of this study is been based on the original numbers to stay consistent with the numbers provided to infrastructure providers. The overall totals to be planned for have not changed. The key changes relate to:

- Re-profiling of growth that was not delivered during 2008 – 2011.
- Re-distributing growth, so Bassingthorpe Farm has been reduced (from 2400 to 1700 dwellings) and Rest of Rotherham has been increased (from 1900 to 2560).
- Some slight changes elsewhere e.g. Dinnington has reduced from 800 to 619.

24.4 We have undertaken a high level assessment for possible showstoppers, phasing and delivery issues affecting the main changes in the revised distribution for Rest of Rotherham and outline these here.

What are the main effects of this change in distribution?

24.5 The main infrastructure affected by this change is transport, education, and waste water. We have gone back to the service providers to seek their views on these changes and have incorporated these in the following RAG traffic light figure 24.1.

For Bassingthorpe Farm there is greater lead in time for infrastructure planning and delivery

24.6 For Bassingthorpe Farm the costs will go down slightly for education as the requirements are reduced and the trajectory is pushed back into the last two five yearly periods. There still remains a need to continue with discussion with Yorkshire Water and the transportation team to consider the capacity of the Aldwarke waste treatment plant and the highway infrastructure to serve the development.

Figure 24.1 RAG assessment for Bassingthorpe Farm – revised trajectory

For Rest of Rotherham there is a need for continued coordination

24.7 There is scope to deliver the growth, but will need careful liaison with transport, education and waste water inparticular to ease the pain of any cumulative impact of the various individual sites.

Transport "pain" could be felt sooner with the revised distribution

24.8 The main issue with the increase in Rest of Rotherham growth, is the potential impact it will have to the traffic congestion experienced in the centre of Rotherham. As explained

in section 5, the results of the transport model runs showed the junctions in town centre which will be congested in the future. The worse affected junctions are in the north and west of Rotherham town centre.

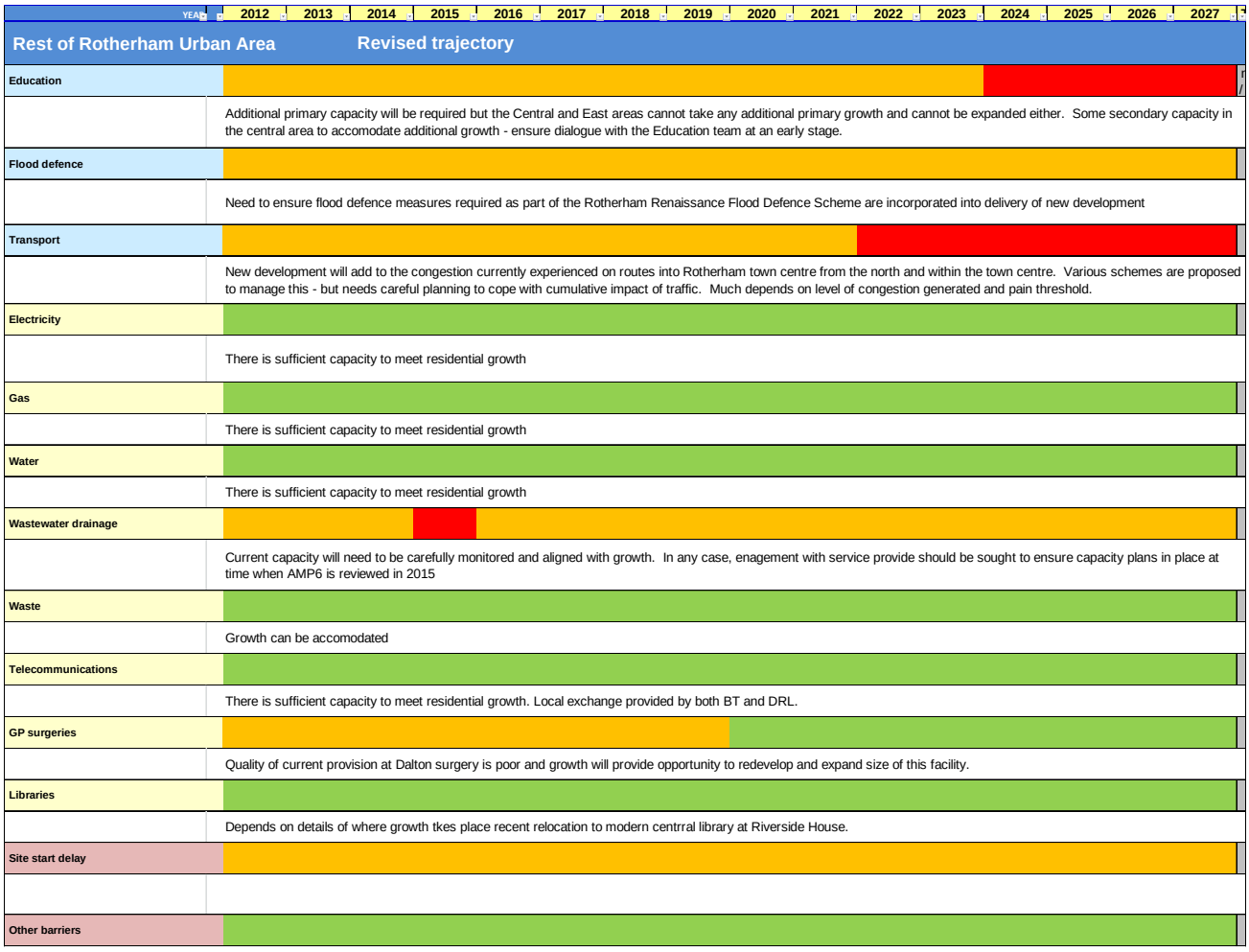
24.9 Additional housing in Rotherham urban area would add to the current congestion predominantly on the inner ring road and at other junctions in the town centre.

24.10 With the change in distribution, it is likely that the 'pain or congestion' could be felt sooner and may need to be addressed sooner. However the advantage of the Rest of Rotherham distribution is that it is not dependent on the delivery of one major scheme but a series of traffic management measures that can be delivered in stages linked to growth and funding.

Education infrastructure in some parts of Rest of Rotherham is at capacity

24.11 The Education team have informed us that there is no capacity to expand the existing primary schools in the central and eastern areas of Rotherham and these schools are at capacity. So careful planning will be required to ensure the needs emerging from the growth is channelled to where it can be accommodated in other parts of Rotherham where there is capacity or ability to expand.

Figure 24.2 RAG assessment for Rest of Rotherham – revised trajectory



Estimating developer contributions through CIL and Section 106

24.12 Developer contributions could make an important contribution to the funding of infrastructure to support growth. Viability assessment has been undertaken to inform the affordable housing assessment and also a possible future Community Infrastructure Levy. Based on these strategic viability appraisals, we have included an estimation of the likely developer contribution that could be generated from the residential development (both as CIL and S106) to support the delivery of the infrastructure. Obviously these contributions will vary (up and down) depending on specific proposals. The findings are set out in tables 24.1 and 24.2.

Table 24.1 Possible S106 contributions to support growth

Funding stream	Unconsented dwellings	Developer contributions per dwelling	Est S106 funding
S106 @ £3,500 per dwelling average	5940	£3,500	£20,790,000

Source RTP 2012

The change in quantum has meant a slight reduction in potential S106 funding

Table 24.2 Possible CIL contributions to support growth

Category	CIL
Possible estimate charge per sqm	£35
Average home size m2 (rounded)	90
per dwelling cost	£3,150
Number of homes without planning permission	7920
Assumed % of affordable housing	25%
Number of homes chargeable	5940
Total possible contribution	£18,711,000
Calculated on the basis of the number of homes without planning permission.	

Source: RTP 2012

24.13 As the dwellings without planning consent has fallen, the level of developer contribution has fallen. We have not 'allocated' this funding to any specific scheme, this will be for more refined thinking to be determined at the planning application stage and the preparation of the Regulation 123 relevant infrastructure list.

Putting costs and funding together

24.14 Table 24.3 summarise the estimated known growth costs less estimate funding to reveal the funding gap for the Core Strategy. Note this is based on all planned development being delivered.

Table 24.3 Potential funding gap

Funding Stream		
Known infrastructure costs attributable to growth ("growth cost")	-	£52.7m
Mainstream funding	+	£0.0m
Utilities funding of	+	£0.0m
Anticipated S106 funding	+	£20.8m
Anticipated CIL funding	+	£18.7m
New Homes Bonus funding	+	£0.0m
Funding Gap		£13.2m

Source: RTP 2012 (note this funding gap is not the same as for CIL)

Seeing the funding gap on a per annum basis makes the gap appear more tractable

24.15 Whilst there is a large funding gap, it should be borne in mind that this plan runs until 2027. The funding gap over this timescale is to be expected. There are many unknown variables and other infrastructure costs that will be refined and developed over the course of the plan. PPS 12 recognises this. There will be processes in place to manage the funding gap. Per annum funding appears much more tractable.

Cashflow issues

24.16 We used our work to look at particular cost and funding "pinch points" – for example, the times where up-front infrastructure requirements and costs ran ahead of funding.

24.17 The success of showing that the Core Strategy is deliverable will, to a significant degree, depend on the ability to deliver the infrastructure required in the first five years. One of the fundamental requirements therefore is that the necessary funding is in place to fund infrastructure required in the short term.

24.18 Table 24.4 shows a simplified infrastructure cashflow situation for the first six years. It is important to be clear that this is not a developers' individual cashflow for their development. Rather, it is a simple view of the total infrastructure costs, set against the available funding. The table necessarily makes some assumptions. These are

- that mainstream funding, where available, will be found in the same year that as infrastructure demands are created by growth; and
- that developer contribution payments are generated in line with the assumed delivery trajectory, and exclude homes with planning permission.

Table 24.4 Six year infrastructure cashflow

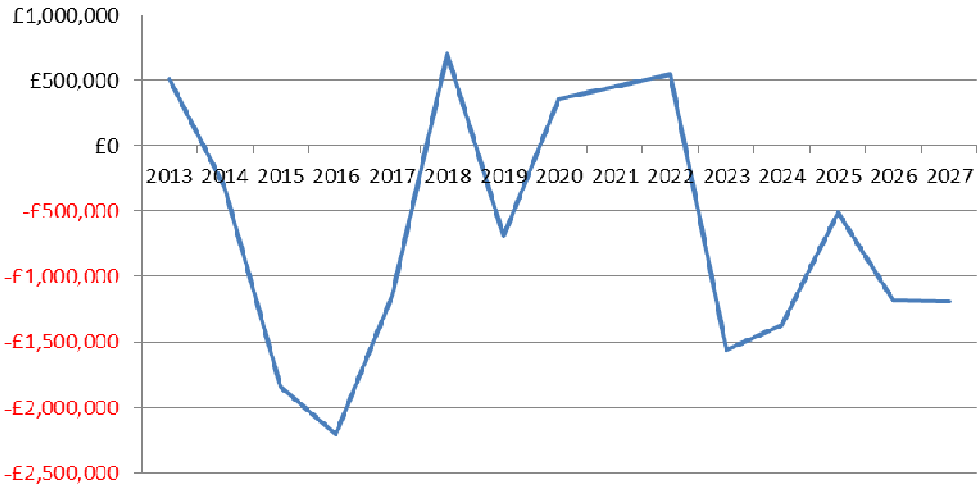
	2013	2014	2015	2016	2017	2018
Known **Growth** costs after anticipated mainstream, ("Growth cost funding gap")	-£1,167,784	-£1,989,803	-£3,522,948	-£3,881,663	-£2,819,163	-£2,410,830
New Homes Bonus funding for infrastructure	£0	£0	£0	£0	£0	£0
Developer contributions	£1,675,800	£1,675,800	£1,675,800	£1,675,800	£1,675,800	£3,107,213
Cashflow	£508,016	-£314,003	-£1,847,148	-£2,205,863	-£1,143,363	£696,383

Source: RTP 2012

24.19 The change in trajectory makes an important change in the cashflow, with greater periods showing deficits. These will need to be managed possibly using some of the measures mentioned earlier.

24.20 Over the whole of the plan period, the results of our cashflow analysis are shown in figure 24.3.

Figure 24.3 Cashflow projections over Core Strategy period



Source: RTP 2012

24.21 The analysis above suggests that there are cashflow problems in the early period and the later period. There are possible solutions to this problem, though, and more detailed business planning work might be carried out to look at these more closely.

APPENDIX 1

List of Consultees

Subject	Organisation	Name & Role	consulted
SPATIAL PLANNING	RMBC	David Edwards, Team Leader, Planning & Regeneration & various team members	Yes
TRANSPORT (ROADS/PUBLIC TRANSPORT)	SYPTE South Yorkshire Passenger Transport Executive	Matt Reynolds; Transport Planner	Yes
TRANSPORT (ROADS/PUBLIC TRANSPORT)	RMBC	Tom Finnegan Smith; Transportation Team Manager & various team members	Yes
TRANSPORT (ROADS/PUBLIC TRANSPORT)	RMBC	Ian Ashmore; Traffic Manager	Yes
TRANSPORT (ROADS/PUBLIC TRANSPORT)	Highways Agency	Daniel Gaunt; Network Planning Manager (Y&NE)	Yes
CAPITAL BUDGET -CW&C FINANCE	RMBC	Andrew Bedford; Strategic Director Finances	Yes
HEALTH PCT (STRATEGIC)	NHS Rotherham	Joanna Saunders, Public Health Strategic Development	Yes
HEALTH PCT (GP)	NHS Rotherham	Duncan Smales, Asset Management	Yes
HEALTH (HOSPITALS)	Rotherham General, Rotherham NHS Foundation Trust	Mike Pinkerton, Chief of Strategic Development	Yes
EDUCATION	RMBC	Dean Fenton & Chris Stones, School Organisation	Yes
EDUCATION	RMBC	Andy Parry Asset Management	Yes
EDUCATION -EARLY YEARS	RMBC	Aileen Chambers, Manager	Yes
POLICE	South Yorkshire Police	Mary Verity, Business Manager	Yes
FIRE	South Yorkshire Fire & Rescue	Neil Hessell, T/Assistant Chief Fire Officer, Service Delivery Directorate. Alternative: Steve Makepeace	Yes
AMBULANCE	South Yorkshire	Duncan Smales, Asset Management	No response
STRATEGIC GREEN INFRASTRUCTURE	South Yorkshire Community Forest	Flora Parkin, GI Project Officer	Yes
LEISURE AND RECREATION & GI	RMBC	Phil Gill, Green Spaces Manager	Yes
ARTS	RMBC	Lizzy Alageswaran, Principal Officer Community Arts	Yes
LIBRARIES	RMBC	Bernard Murphy; Manager, Library and Information Service	Yes
FLOOD DEFENCE	RMBC	Ryan Shepheard	Yes
FLOOD & DRAINAGE	Environment Agency	ENVIRONMENT AGENCY Sally Armstrong; Planning Liaison & vrious EA officers	Yes
SURFACE WATER DRAINAGE	RMBC	Graham Kaye; Drainage	Yes
WATER SUPPLY & SEWAGE	Severn Trent Water	Peter Davies, Senior Commercial Development Advisor	Yes
SEWAGE & WATER SUPPLY	Yorkshire Water	Stephanie Walden / Matthew Naylor; Development Planner	Yes
TELECOMMUNICATIONS / BROADBAND	Digital Region South Yorkshire	James Gardner	Yes
ELECTRICITY	Northern PowerGrid (formerly) CE Electric Ltd	David Van Kesteren, Asset Management	Yes
ELECTRICITY	National Grid c/o Indigo Planning Ltd		Yes
WASTE& RENEWABLES	RMBC	Adrian Gabriel; Team Leader Waste Management	Yes
RENEWABLE ENERGY	Wardell Armstrong	Haydn Scholes;Rotherham Low Carbon and Renewables Study including some viability assessment	Yes
GAS	National Grid (Gas)	Stuart Richards / Paul Cudby	Yes

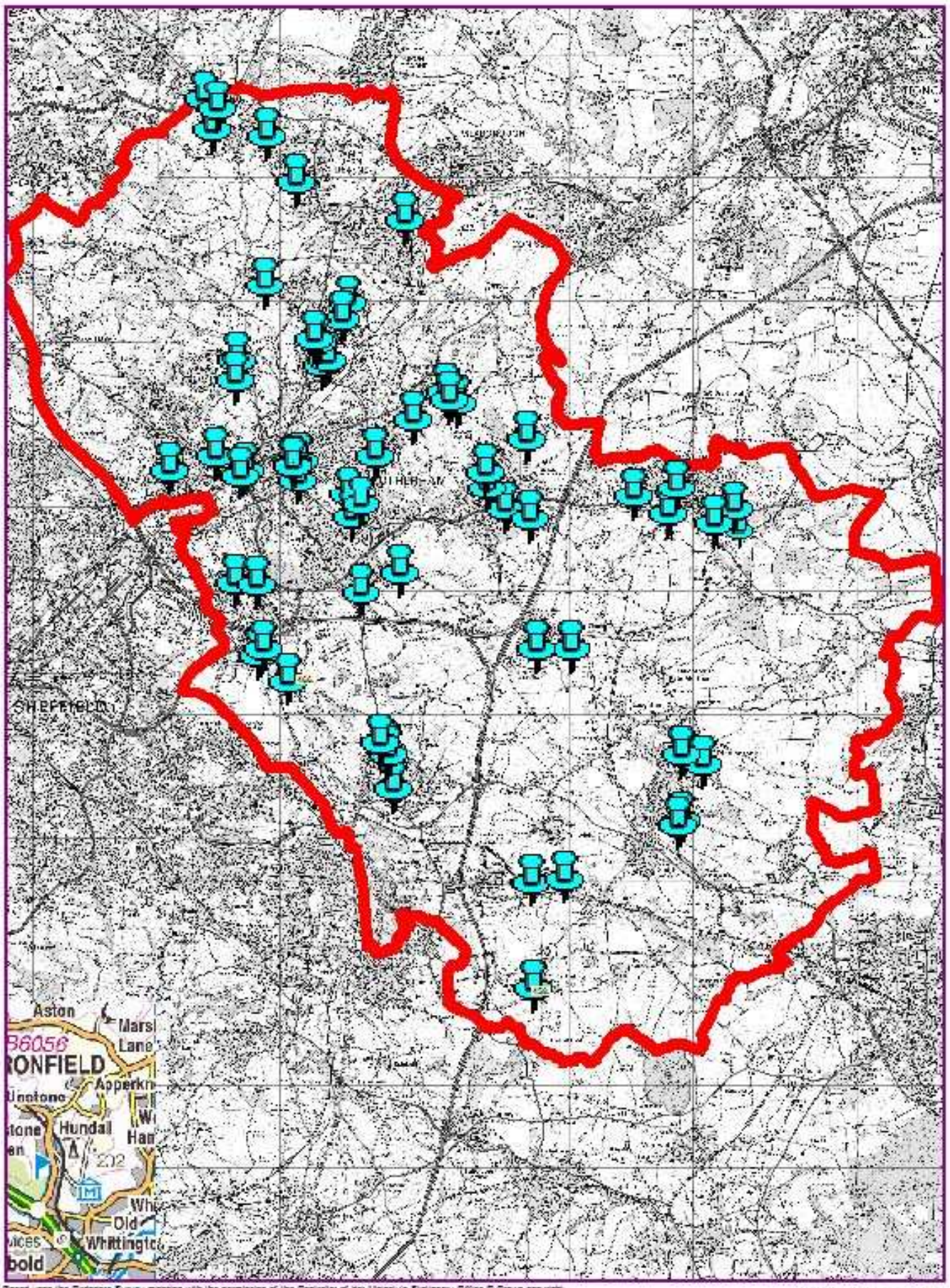
APPENDIX 2

Original and revised housing and employment trajectory and distribution of growth

Name	Site number and name	2013-2017	2018-2022	2023-2027	Core Strategy Local Growth
					Net (Rounded)
1 Bassingthorpe Farm					0
	Sites with planning consents Revised	0	0	0	0
	Original	0	0	0	0
	New development Revised	0	850	850	1700
	Original	383	1609	407	2400
2 Rest of Rotherham Urban Area					0
	Sites with planning consents Revised	268	157	141	566
	Original	242	157	141	540
	New development Revised	852	854	854	2560
	Original	756	857	287	1900
3 Dinnington, Anston & Laughton Common					0
	Sites with planning consents Revised	232	125	84	441
	Original	148	132	0	280
	New development Revised	156	231	232	619
	Original	150	256	224	800
4 Brampton, Wath, and West Melton					0
	Sites with planning consents Revised	616	284	314	1214
	Original	537	349	314	1200
	New development Revised	0	0	0	0
	Original	0	0	0	0
5 Swinton & Kilnhurst					0
	Sites with planning consents Revised				0
	Original	0	0	0	0
	New development Revised	150	150	150	450
	Original	150	150	150	450
6 Bramley, Wickersley & Ravenfield					0
	Sites with planning consents Revised	0	0	0	0
	Original	0	0	0	0
	New development Revised	150	275	275	700
	Original	121	579	0	700
7 Maltby & Hellaby					0
	Sites with planning consents Revised	0	0	0	0
	Original	0	0	0	0
	New development Revised	100	250	250	600
	Original	32	324	244	600
8 Aston, Aughton & Swallownest					0
	Sites with planning consents	0	0	0	0
	Original	0	0	0	0
	New development Revised	80	185	185	450
	Original	80	370	0	450
9 Wales & Kiveton Park					0
	Sites with planning consents Revised	0	0	0	0
	Original	0	0	0	0
	New development Revised	68	116	116	300
	Original	68	178	54	300
10 Thurcroft					0
	Sites with planning consents Revised	0	0	0	0
	Original	0	0	0	0
	New development Revised	80	85	85	250
	Original	80	117	52	250
11 Thorpe Hesley					0
	Sites with planning consents Revised	0	0	0	0
	Original	0	0	0	0
	New development Revised	21	65	64	150
	Original	21	107	21	150
12 Waverley New Community					0
	Sites with planning consents Revised	720	900	900	2520
	Original	833	833	833	2500
	New development Revised	0	0	0	0
	Original	0	0	0	0
13 Catcliffe, Orgreave & Treeton		81			81
	New development Revised	0	34	35	69
	Original	50	50	50	150
Smaller villages (1 % allowance)		0	0	0	0
	New development Revised	26	26	28	80
	Original	26	26	28	80
	Totals (17,400)	7277	10681	7368	25420

APPENDIX 3

Map of Community Facilities in RMBC



Rotherham Metropolitan Borough Council

NEIGHBOURHOOD COMMUNITY CENTRES

22/07/2009

Scale: 1:120,000

M:\SPT\Angie\Combuild\Youth & Community_Centres_RMBC.

APPENDIX 4

Estimated Waste Infrastructure Costs

Residential

LDF Core Strategy Infrastructure
Delivery Plan Period 2012-2027

Map Key	Broad Location	*Sites with planning consents	Core Strategy Growth (rounded)	Cost per Year												TOTAL
				Household Residual				Green Waste				Kerbside Recycling				
				Collection Round	Service Cost	Tonnes produced	Disposal Cost	Collection Round	Service Cost	Tonnes produced	Disposal Cost	Collection Round	Service Cost	Tonnes produced	Disposal Cost	
1	Bassingthorpe Farm	0	2400	0.38	£66,285.71	1262.4	£135,859.49	0.27	£37,600.00	326.4	£6,485.57	0.32	£22,421.05	283.20	£0.00	£268,651.82
2	Rest of Rotherham Urban Area	540	1900	0.39	£67,390.48	1283.44	£138,123.81	0.27	£38,226.67	331.84	£6,593.66	0.32	£22,794.74	287.92	£0.00	£273,129.35
3	Dinnington, Anston & Laughton Common	280	800	0.17	£29,828.57	568.08	£61,136.77	0.12	£16,920.00	146.88	£2,918.51	0.14	£10,089.47	127.44	£0.00	£120,893.32
4	Brampton, Wath and West Melton	1200	0	0.19	£33,142.86	631.2	£67,929.74	0.13	£18,800.00	163.2	£3,242.78	0.16	£11,210.53	141.60	£0.00	£134,325.91
5	Swinton &Kilnhurst	0	450	0.07	£12,428.57	236.7	£25,473.65	0.05	£7,050.00	61.2	£1,216.04	0.06	£4,203.95	53.10	£0.00	£50,372.22
6	Bramley, Wickersley & Ravensfield	0	700	0.11	£19,333.33	368.2	£39,625.68	0.08	£10,966.67	95.2	£1,891.62	0.09	£6,539.47	82.60	£0.00	£78,356.78
7	Maltby & Hellaby	0	600	0.10	£16,571.43	315.6	£33,964.87	0.07	£9,400.00	81.6	£1,621.39	0.08	£5,605.26	70.80	£0.00	£67,162.96
8	Aston, Aughton & Swallownest	0	450	0.07	£12,428.57	236.7	£25,473.65	0.05	£7,050.00	61.2	£1,216.04	0.06	£4,203.95	53.10	£0.00	£50,372.22
9	Wales & Kiverton Park	0	300	0.05	£8,285.71	157.8	£16,982.44	0.03	£4,700.00	40.8	£810.70	0.04	£2,802.63	35.40	£0.00	£33,581.48
10	Thurcroft	0	250	0.04	£6,904.76	131.5	£14,152.03	0.03	£3,916.67	34	£675.58	0.03	£2,335.53	29.50	£0.00	£27,984.56
11	Thorpe Hesley	0	150	0.02	£4,142.86	78.9	£8,491.22	0.02	£2,350.00	20.4	£405.35	0.02	£1,401.32	17.70	£0.00	£16,790.74
12	Waverley New Community	2500	0	0.40	£69,047.62	1315	£141,520.30	0.28	£39,166.67	340	£6,755.80	0.33	£23,355.26	295.00	£0.00	£279,845.65
13	Catcliffe, Treeton & Orgreave	0	150	0.02	£4,142.86	78.9	£8,491.22	0.02	£2,350.00	20.4	£405.35	0.02	£1,401.32	17.70	£0.00	£16,790.74
Total		**4520**	**8150**	**2.01**	**£349,933.33**	**6664.42**	**£717,224.88**	**1.41**	**£198,496.67**	**1723.12**	**£34,238.39**	**1.67**	**£118,364.47**	**1,495.06**	**£0.00**	**£1,418,257.75**

* 200 homes or more sites with planning constent

Information

Collection Service (@2011/12 level)	HH/wk/ round	Service cost per round
	(HH)	*(£)*
Household Residual	6,300	174,000
Green Waste	9,000	141,000
Kerbside Recycling	7,600	71,000

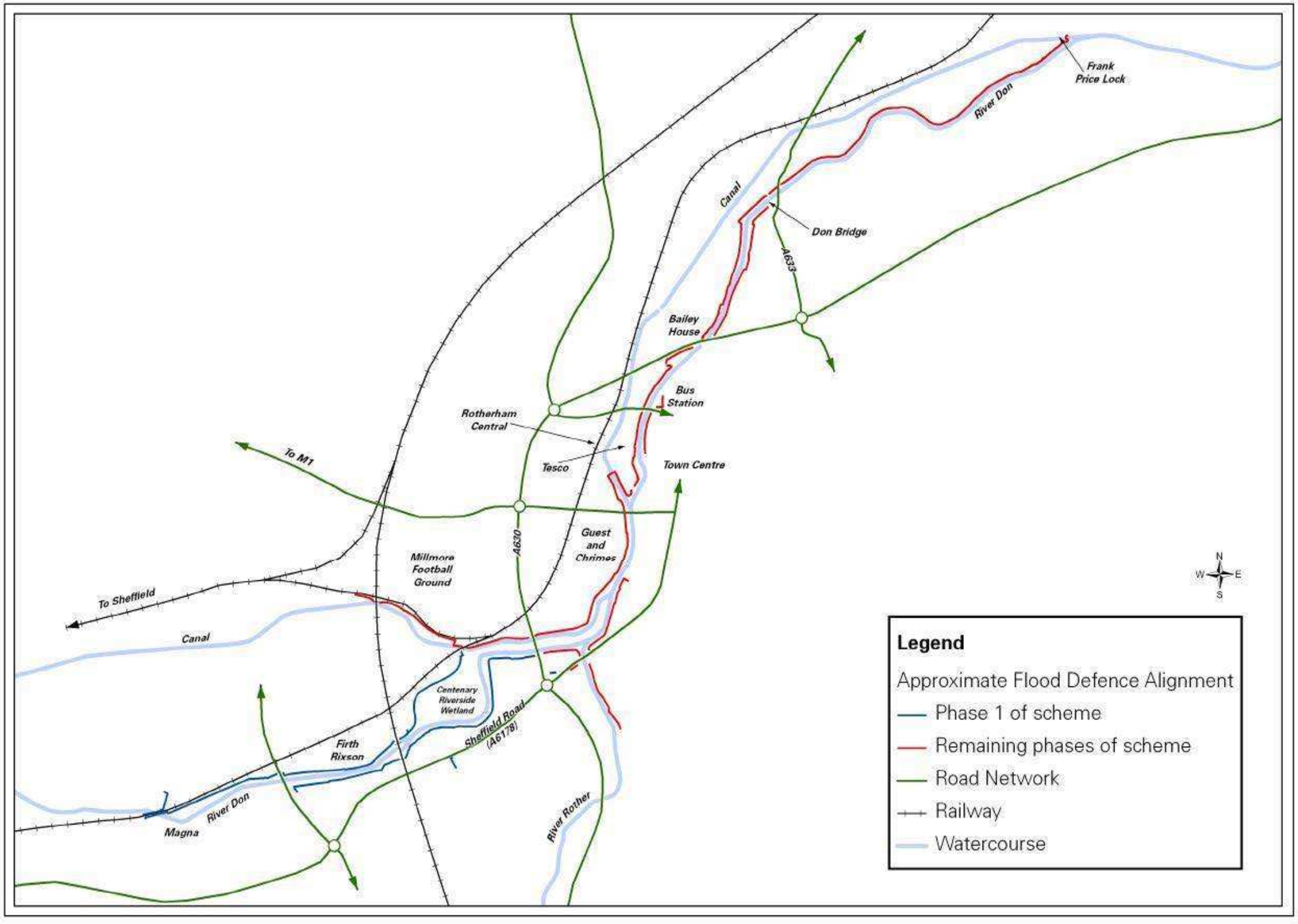
Disposal in 2011/12	av. Tonnes/hh/pa
Household Residual	0.526
Green Waste	0.136
Kerbside Recycling	0.118

Assuming that there is no existing capacity
Information gained from Roth Infrastructure Comment

Average disposal cost for household residual waste for the next 16 years is £107.62/tonne
Cost for green waste disposal for the next 16 years is £19.87/tonne

APPENDIX 5

Rotherham Renaissance Flood Alleviation Scheme


Frank
Price Lock
River Don
Canal
Don Bridge
A633
Bailey
House
Bus
Station
Rotherham
Central
Tesco
Town Centre
To M1
A630
Guest
and
Chrimes
Millmore
Football
Ground
To Sheffield
Canal
Centenary
Riverside
Wetland
Sheffield Road
(A6178)
Firth
Rixson
River Don
Magna
River Rother
N
W
E
S
Legend
Approximate Flood Defence Alignment
Phase 1 of scheme
Remaining phases of scheme
Road Network
Railway
Watercourse