Planning for

Infrastructure

in Worcestershire

CONSULTATION ON STRATEGIC OPTIONS TO INFORM PREPARATION OF STRATEGY

Version 2

Draft

June 2012

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1. Introduction

Infrastructure is of critical crosscutting importance across Worcestershire as it provides the support services that are necessary to ensure sustainable and long term economic and social growth, as well as creating quality places where people want to live, work and thrive. Worcestershire already has a strong provision of infrastructure in place but population growth, demographic shift and new development poses a challenge to the capacity, resilience and distribution of our existing infrastructure in all its guises.

What do we mean by Infrastructure?

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- The physical systems of a community's population; including transport, waste management, emergency services, communications, water supply, wastewater, flood risk, minerals and energy (including heat), health, community and cultural infrastructure and other local facilities.
- These systems are essential for enabling productivity in the economy and

Historically, there has been under-investment in infrastructure across the UK. There has been a tendency to 'patch-up', add on to or react to existing assets rather then consider the infrastructure network in a holistic way when planning for the future. This approach can result in asset and operational failure and impacts on the cost of providing infrastructure, which is often more expensive than costs in other countries[1].

An integrated approach to infrastructure planning is essential to the development of a coordinated and integrated infrastructure plan which has agreed public and private sector buy in to the implications of growth, shifting demographic patterns resource constraints and climate change on the long term viability of infrastructure provision. Continuing to provide new infrastructure on a business-as-usual basis is unlikely to result in efficient and sustainable infrastructure networks.

For the first time, Worcestershire County Council's Strategic Planning Team is preparing a county-wide Infrastructure Strategy, in consultation with public and private sector partners (including representatives of the Local Enterprise Partnership[2], the Place Shaping Group of the Local Strategic Partnership and Local Authorities and infrastructure providers).

[1] See British Chamber of Commerce (2011), *Tackling the Infrastructure Puzzle*

[2] All references to "the LEP" include both the Worcestershire LEP and the Greater Birmingham and Solihull LEP (of which the three north Worcestershire councils are also part).

Strategic Planning Team

Worcestershire County Council's Strategic Planning Team works on the larger than local issues that require planning strategically across local boundaries. The team works collaboratively with a wide range of stakeholders on strategic planning matters to promote sustainable development.

The Strategy will:

- Provide a strategic framework for co-ordinating and concentrating partner investment across the county to meet strategic needs and deliver maximum economic benefit and resource efficiencies, reflecting the challenges of the economic downturn and reduced public spending.
- Provide the economic and policy context for private and public sector investment in infrastructure to support development, growth and regeneration across Worcestershire.
- Be useful for investors (inward and existing Worcestershire businesses), house builders, housing associations, and developers who need to understand when and how infrastructure will be provided to support their investment decisions.
- Serve as a valuable bidding document when seeking funds from external funding sources as it takes an evidence-based approach to infrastructure planning, demonstrating a commitment by delivery partners to investment priorities.

At this stage the document is not the draft Strategy, rather it is a compendium of evidence gathered so far (supported by a more detailed Needs and Issues Evidence Paper), that presents options for how best to proceed towards a Strategy. This not a policy document and is not intended to override any adopted strategies or policies. The infrastructure requirements, costs and funding included in this paper are only estimates and should not serve as a valuation of any particular site. Our findings do not directly translate to a Section 106 requirement or a Community Infrastructure Levy charge, and they will not be used to negotiate Section 106 agreements (any such negotiations would require more detailed discussions at local authority level).

The Needs and Issues Evidence Paper has been developed in consultation with infrastructure providers and contains breakdowns by infrastructure type of what infrastructure is needed, where, by when, and at what cost. The paper has been fact-checked and has been used to inform the summaries presented in this document. The information provided in this document will be updated according to the latest information supplied by infrastructure providers to make sure that it is robust, relevant and useful.

It supplements and refreshes, but does not replace, the *Baker Associates* Infrastructure Requirements study of 2009.

Structure of the document

This document starts in **Chapter 2** by introducing the infrastructure planning context in Worcestershire, including the status and content of local authority planning documents. It moves on to outline the purpose of the work being undertaken by Worcestershire County Council and how it relates to other plans and strategies.

Over the last few years WCC and its partners have developed an extensive evidence base about infrastructure requirements associated with new development. This evidence base is summarised in *Chapter 4*, and outlined in full in the accompanying Needs and Issues research paper.

The next step is to bring this intelligence together and add value to it. In order to develop the strategy with full engagement from our stakeholders and partners, WCC have written this consultation document: "Planning for Infrastructure: Strategic Options". *Chapter 3* of this document sets out some of the issues about delivery of infrastructure, including governance, prioritisation, funding and delivery options.

Evidence Base

Baker Study (2009) – based on RSS targets. Found total cost of infrastructure £819.33 million

Research Papers (2011)

- Needs and Issues
- Prioritising Infrastructure
- Funding and Delivery Mechanisms

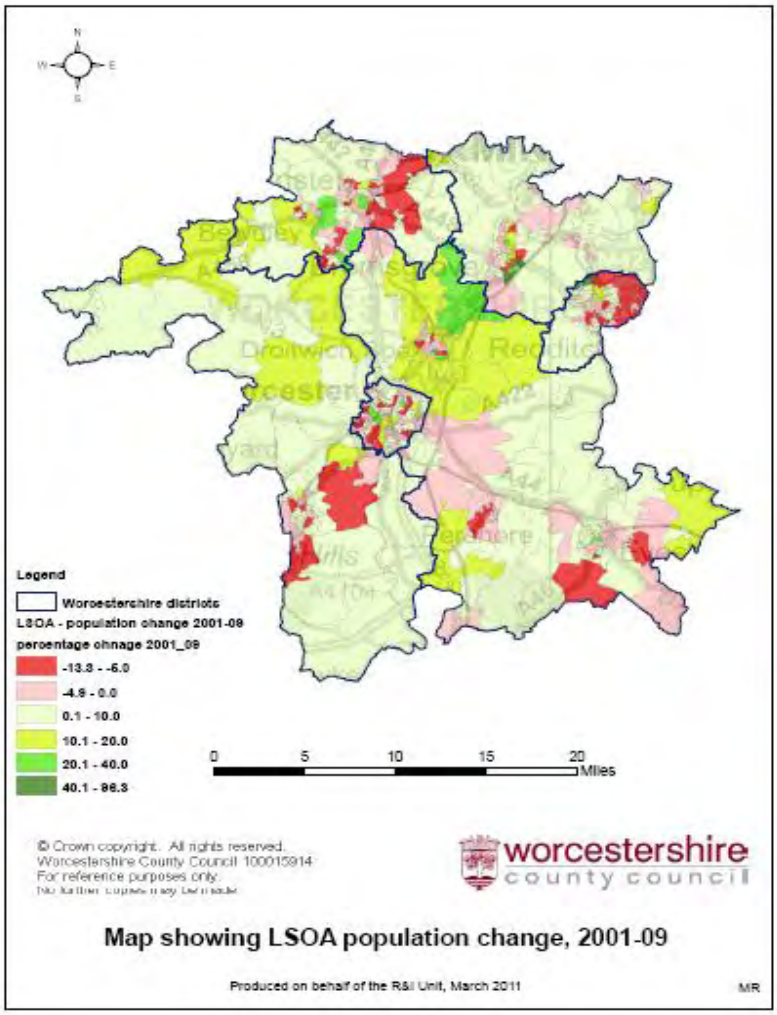
Based on updated targets. Minimum cost of strategic infrastructure c.£850m, with a funding gap of c.£400m (funding gap is based on currently-expected sources of funding. This is subject to significant change, as discussed in the funding section of the Needs and Issues evidence paper).

In *Chapter 5*, settlement profiles are set out which will identify the key developments anticipated in each settlement along with the strategic infrastructure required to support the proposed growth.

2. Worcestershire Context

Over the next 20 years, significant population growth and demographic shift is expected in Worcestershire. The current population of Worcestershire stands at around 557,400 people and is anticipated to rise to 618,142 by 2031 (approximately an 11% increase). The map below (Fig.1) shows how population has changed between 2001 and 2009 and it is anticipated to continue changing over time.

Figure 1: Map showing LSOA population change, 2001-09



This growth needs to be managed in a way that meets economic, housing social and regeneration pressures. To ensure growth is sustainable, it must respect the environmental and cultural character of the county (sense of place) and must be accompanied by sufficient infrastructure.

The level of housing and employment development required as a result of this population change is determined at a district level through the local planning

process. The quantum and location of new development will be set out in Local Plans[3], supported by district-level Infrastructure Delivery Plans (IDPs). In Worcestershire, there is currently one adopted Core Strategy (for Wyre Forest district). Bromsgrove and Redditch districts are working on their respective Core Strategies but do not yet have fixed timetables for adoption. The South Worcestershire authorities (Malvern Hills district, Worcester City and Wychavon district councils) are working jointly on a South Worcestershire Development Plan, due for adoption in late 2013.

The following table outlines the current development targets set out in draft local plans:

District	Dwellings	Employment land
Bromsgrove (2006-2026)	4,000 (+2,000-3,000)*	28ha
Redditch (2006-2026)	3,200	33ha
Wyre Forest (2006-2026)	4,000	44ha
Worcester City (2006-2030)	8,400	124ha
Wychavon (2006-2030)	7,800	146ha
Malvern Hills (2006-2030)	4,160	39ha
Worcestershire (2006-2026/30)	31,560 (+ 2,000-3,000)	414ha

*It is likely that land for 2000-3000 additional dwellings will need to be identified in Bromsgrove district for the period 2021-26.

Alignment with other plans and strategies in the development of the Strategy

- Draft South Worcestershire Development Plan (Oct 2010)
- Wyre Forest Core Strategy (adopted Dec 2010)
- Bromsgrove Draft Local Plan
- Redditch Draft Local Plan
- Sustainable Community Strategy
- WCC Corporate Plan
- Local Investment Plan
- Hereford and Worcester Minerals Local Plan
- Worcestershire Waste Core Strategy
- The various corporate/business plans and strategies of our partners and stakeholders

[3] Previously known as Core Strategies

3. Developing a Strategy

Purpose of the Strategy

Why?

- Help to prioritise
- Develop partnerships to plan for and deliver infrastructure
- Secure new funding and use funds more effectively
- Better use of infrastructure assets
- More sustainable patterns of delivery

Historically, there has been a tendency to 'patch-up' or add to existing assets rather than consider the infrastructure network and its wider context in a holistic way. Investment, particularly in relation to economic and environmental drivers, has been made when and where money has been available and without any co-ordination or clear prioritisation across the network as a whole. This can result in asset and operational failure and impacts on the cost of providing infrastructure, which is often more expensive than costs in other countries.

An integrated and agreed approach is essential in developing the co-ordinated provision of infrastructure. This requires understanding by the public and private sectors on its long-term viability, including consideration of the implications of growth, demographic change, resource constraints and climate change. Continuing to provide new infrastructure on a business-as-usual basis is unlikely to be efficient or sustainable.

WCC believes the co-ordination, prioritisation and implementation of strategic infrastructure is best carried out at a larger-than-local scale and is therefore working in co-operation with district councils and infrastructure providers to produce a county-wide Infrastructure Strategy. This aligns with the geography of the LEP and the PSG (and, in due course, may need to reflect any revised geography of devolved transport funding).

By setting out a clear framework for the provision of infrastructure the Strategy aims to move from a “business as usual” position to one which is more efficient and sustainable.

This approach accords with government policy; paragraphs 178 to 181 of the National Planning Policy Framework (2012) set out strategic priorities for the planning system and advocates the use of informal strategies such as joint infrastructure and investment plans, cooperation

Duty to Cooperate

Under s110 of the Localism Act, planning authorities and some public bodies must engage "*constructively, actively and on an ongoing basis*" in developing strategic policies. LEPs and private utilities are not bound by the duty, but we are working closely with them to address strategic issues

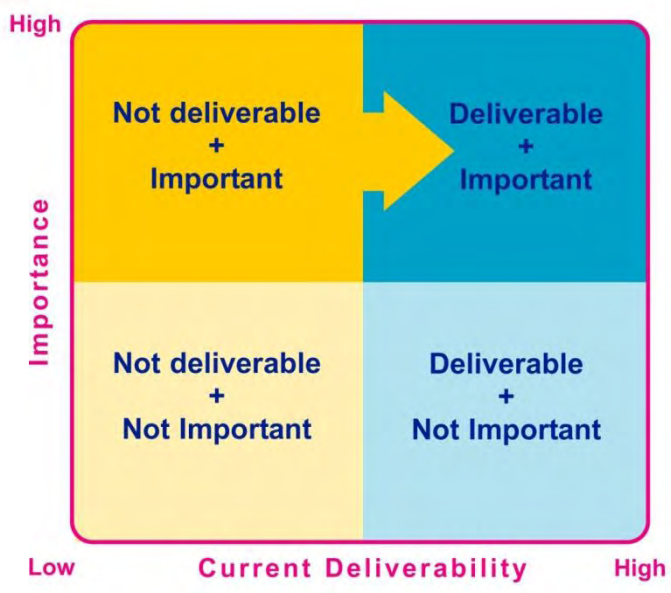
between tiers and collaborative working between planning authorities to enable delivery of sustainable development in consultation with Local Enterprise Partnerships and Local Nature Partnerships. Local planning authorities should also work collaboratively with private sector bodies, utility and infrastructure providers.

The Infrastructure Strategy:

- is an informal infrastructure strategy as advocated by the NPPF;
- covers only the strategic issues that require collaboration to enable the delivery of sustainable development;
- helps district councils and partners to plan for the infrastructure needed;
- gives confidence to house builders and businesses investing in Worcestershire;
- ensures the wider social and place-shaping context is reflected in plans.

Through dialogue with partners, one outcome of the options consultation will be to identify schemes that are not currently deliverable, but which are important for the sustainable development of Worcestershire. The ultimate purpose of the Strategy is to bring together the partners, resources and delivery mechanisms required to bring these schemes forward (see Fig. 2 below). It will therefore identify schemes that need collective intervention in order to be realised.

Figure 2: Diagram of importance/deliverability



To be successful in this 'place shaping', we need to draw together the full range of budgets and tools available to communities to lead the physical, social and economic renewal of our neighbourhoods. In tackling this agenda, we are building on the existing experience of our districts, businesses and

partners, aspects of which will be illustrated by case studies in the final Strategy.

Aims of the Strategy

- to identify and prioritise the strategic infrastructure interventions required to support growth in employment, housing and sustainable communities across Worcestershire;
- to identify and mobilise the resources required to fund these interventions;
- to ensure delivery agents are capable of and committed to delivering the infrastructure in the right places at the right time;
- to identify and agree appropriate governance arrangements for the delivery of infrastructure;
- to help implementation of district Local Plans;
- to help the LEP and PSG understand the opportunities and constraints of growth and shifting demographic patterns;
- to allow WCC and all partners to prioritise their resources in accordance with agreed strategic priorities.

The following objectives set out how these aims will be met:

- Summarise the quantum and location of proposed development across Worcestershire;
- Articulate the medium- to long-term priorities of the County Council, the Place Shaping Group, the LEP & others;
- Identify critical infrastructure to deliver priorities;
- Set out the preferred approach to delivering critical infrastructure;
- Identify funding sources that could be used to finance investments, and highlight key decisions that need to be taken and risks and opportunities associated with each;
- Gain the commitment of lead delivery agents to deliver infrastructure projects;
- Gain support for the co-ordination of funding streams (pooling); and
- Set out how delivery will be managed.

Scope

As a strategic document, the Strategy should identify the key infrastructure essential for delivery of spatial strategies. It will not consider non-strategic infrastructure, which will be covered by the more comprehensive district-level IDPs. The Strategy will be consistent with district Local Plans, but will take a Worcestershire-wide approach to infrastructure delivery.

The Strategy will also need to present a prioritisation framework to help determine which infrastructure should be supported and progressed, in the context of limited resources.

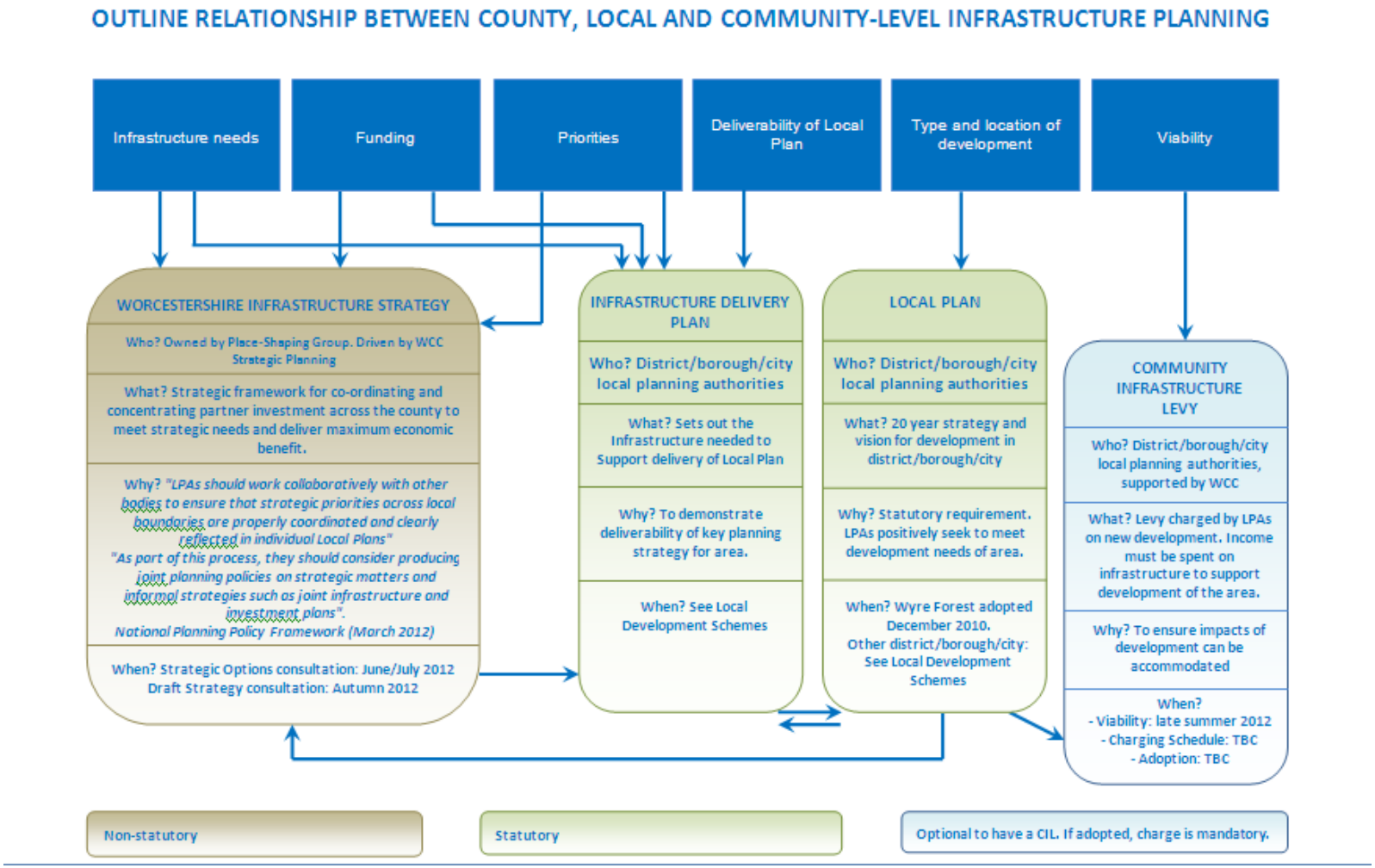
Funding is crucial to scheme deliverability. A number of funding streams will come forward over the next 20 years and WCC and its partners will need to ensure schemes are eligible for funding. In many cases schemes need to be ready to go quickly and have full support of those responsible for delivery.

The strategy will identify potential funding sources and highlight where a decision is required over which funds will be utilised. Difficult decisions will need to be made. Not all infrastructure can be funded through existing sources and there will need to be a thorough understanding of the risks and opportunities associated with different sources of funding to enable decision makers to make the correct choices.

This Strategy assesses infrastructure needs for approximately the next 20 years, and also considers what interventions will be necessary to make development viable in the longer term. Local mechanisms (including district Infrastructure Delivery Plans) will look to shorter timeframes, typically the investment needed to support development over the next 5-year period, as well as identifying longer-term needs*. Figure 3* below, sets out the relationship between the different tiers of Infrastructure Planning.

WCC will regularly update the priority list and pipeline of projects in the Strategy and assess progress made towards its implementation. It will be formally reviewed and updated every three years to ensure that any changes to funding, prioritisation and development activity can be reflected and taken into account. Through this consultation we are seeking the views of stakeholders on the scope and focus of the Strategy.

Figure 3: Relationship between County, Local and Community Level Infrastructure Planning



Purpose of the Options Consultation

Distilling the priorities set out in various policy documents and strategies has identified a number of guiding principles for investment in infrastructure. These have been supplemented with additional principles which are considered essential to secure efficient and sustainable infrastructure networks:

Any investment in Worcestershire's Infrastructure should:

- ✔ Create the conditions to sustain and generate employment
- ✔ Support prosperous, expanding and changing communities
- ✔ Protect and enhance the county's environment
- ✔ Reduce carbon emissions and be resilient to Climate Change
- ✔ Use existing infrastructure smartly
- ✔ Strengthen partnerships between stakeholders
- ✔ Solve problems through coordination across the whole network; rather than taking single project approach
- ✔ Be designed to contribute to high quality places
- ✔ Be complementary to and aligned with the objectives of local plans
- ✔ Be focussed on agreed priorities

Successful delivery of sustainable development depends on co-ordinated, sustained action from a wide range of organisations. To achieve this requires a shared vision and shared objectives. It is vital that the forthcoming Infrastructure Strategy is not in conflict with the districts' spatial strategies and infrastructure delivery plans, or private sector growth. There needs to be co-ordinated action to effectively deliver essential physical, social, environmental and economic infrastructure efficiently and on time. Such delivery requires the support and confidence of relevant agencies and organisations.

This Options consultation sets out what the overall infrastructure need is for approximately the next 20 years, identifies how much the infrastructure will cost to deliver and outlines options for funding and delivery. It further seeks to initiate a dialogue that will start to clarify which infrastructure projects/themes and locations should be prioritised, and which of the identified potential funding sources are favoured and warrant further investigation.

Drawing on information from discussions with infrastructure providers, WCC's Strategic Planning team have identified strategic infrastructure necessary to support the strategies in local authority development plans. However, WCC is aware of some infrastructure categories where information is limited and is therefore looking to stakeholders to help identify where information is missing or incorrect.

This options document seeks your views on:

1. what infrastructure is needed and where
2. how infrastructure could be better delivered
3. how infrastructure could be prioritised
4. how infrastructure could be funded
5. how funding of infrastructure could be front-loaded
6. the role of groups such as the PSG and LEP in setting priorities and funding arrangements
7. the phasing implications of infrastructure needs
8. whether you agree that the aims, objectives and principles are the right ones to inform the Strategy
9. whether we should focus on improving the standard of infrastructure, advocating more sustainable and self-sufficient infrastructure (e.g. provision and treatment at the point of demand/water/energy)
10. whether there are any major bottlenecks/pinch-points in 'your' network that, if addressed, would enhance the performance of the system
11. what your triggers are for delivery of new infrastructure
12. whether you can identify any synergies/co-location opportunities between infrastructure themes
13. what the typical 'lead-in' times are for your infrastructure theme, i.e. from concept to construction.
14. what your preferred option is from the selection below (or is there another option you may have that is not listed)?

In addition to seeking views on the questions above, in order to ensure the final strategy fulfils the needs of our stakeholders and partners, we would also like to find out what your preference is for the content and scope of a Worcestershire Infrastructure Strategy. The table below sets out a number of suggestions for the potential scope of the forthcoming Strategy:

Option	Summary	Strengths	Weaknesses
All Strategic sites and infrastructure	This option would consider all infrastructure requirements of all development. It would be a composite strategy, merging all LPA Infrastructure Delivery Plans and applying a prioritisation framework to arrive at a ranking list.	Would provide a comprehensive list of all schemes required across Worcestershire Would allow a Worcestershire-wide funding gap to be identified Would create a long pipe-line supply of schemes	Effort would be spread thinly, resulting in potential delivery failure (due to lack of funds/capacity) Would duplicate IDPs, thereby adding limited value.
Selected priority sites (the "game changers")	This option would identify the infrastructure of selected highest priority sites across Worcestershire (both employment and housing)	Narrower focus means greater potential for successful delivery of prioritised sites Delivery of housing and employment land in parallel Focusing limited resources, both financial and time/people Ensure the 'game changers' are realised	Would create a smaller pipe-line supply of schemes Focus may be too narrow, with risk of missing wider social or environmental needs Focus on sites risks missing strategic infrastructure required as a result of cumulative impacts of development

Option	Summary	Strengths	Weaknesses
Selected strategic employment sites only	This option would focus on the infrastructure requirements of all strategic employment sites (the 'game changers').	Would give focus to investment, giving greatest chance of success Focus on employment will open up land for jobs and inward investment, aiding Worcestershire's economy Ensure the 'game changers' are realised Focusing limited resources, both financial and time/people	Would create a smaller pipe-line supply of schemes Focus may be too narrow, with risk of missing wider social or environmental needs Focuses on short-terms gains (jobs) at the potential expense of longer term requirements (e.g. educating and housing a workforce) Focus on sites risks missing strategic infrastructure required as a result of cumulative impacts of development
County Council infrastructure only	This option would focus only on infrastructure provided by the County Council. It would need adoption only by WCC rather than by all partners.	Greater chance of delivery as directly in WCC control	Narrow focus on County Council infrastructure, risks other key infrastructure not being delivered

Prioritisation

Priority infrastructure is that which is needed most urgently to meet strategic economic, environmental, social and cultural policy objectives, respond to demographic change and shifting patterns and enable the delivery of new development. While different interests may each consider particular infrastructure requirements to be essential, in practice councillors and decision-makers will need to decide whether or not a given piece of infrastructure is needed for a site to go ahead, or for a strategy to be delivered.

There is a real risk that if resources are spread too thinly over a wider range of "wish list" schemes, the Strategy will fail to deliver the infrastructure critical to Worcestershire. It is therefore essential that the resources of WCC and its partners are directed to ensuring the delivery of those pieces of infrastructure that will have greatest benefit to Worcestershire's economy by ensuring Worcestershire is "Open for Business". In order to clarify priorities, at this strategic level it is necessary to make difficult choices and it may be that strategic infrastructure necessary to facilitate development will be given a higher priority than community infrastructure. These kinds of decisions will be made as the strategy is further developed, reflecting the need to prioritise infrastructure required to unlock development sites in order to demonstrate deliverability of Core Strategies/Local Plans.

In order to identify the most important infrastructure items, the Strategic Planning Team has already engaged with district councils, the LEP, the PSG and other stakeholders, to develop a list of sites that it considers are essential to the economic success of Worcestershire. The list includes both housing and employment sites, as both need to be delivered hand in hand in order to ensure sustainable growth.

A series of questions have been developed within the *Priorities* research paper which supports this document, designed to establish how far a potential site or infrastructure element accords with local and wider strategies and what contribution it would make to critical interdependencies. As stated earlier, priority schemes should be those that are not currently deliverable, but which are important for the sustainable development of Worcestershire (see Fig. 2 on page 11). It will therefore identify schemes that need collective intervention in order to be realised.

An absolute mechanism for 'scoring' infrastructure needs is too inflexible, and some degree of subjective judgment will always be needed, but a mechanism will help inform discussions with decision-makers and budget-holders.

A robust consultation process, alongside a close consideration of what can realistically be delivered, will help to clarify the priorities. In order to ensure that the right type of infrastructure can be delivered where and when it is needed, the priorities must have a degree of flexibility, and must recognise risk of non- or delayed delivery. Inevitably, circumstances will change over

time; funding streams may disappear, developers may withdraw from major schemes, and the policy context and political and social priorities could shift. All of this means that the priorities must be able to respond to change.

Priority Development Sites

North Worcestershire

- Bromsgrove
- Bromsgrove Town Expansion Sites (housing and employment)
- Bromsgrove Technology Park (employment)

Redditch

- Brockhill East and West (housing and employment)
- Land to the rear of the Alexandra Hospital (housing and employment)
- Woodrow Strategic Site (housing)
- Redditch Town Centre (housing and employment)

Wyre Forest

- South Kidderminster Business Park (includes British Sugar, Stourport Road) (employment)
- Kidderminster Central Area Regeneration Sites (housing and employment)

South Worcestershire

- Malvern Hills Science Park (employment)
- Malvern QinetiQ (housing)
- Newland (housing)
- Worcester City Centre (housing and employment)
- Worcester Technology Park (employment)
- Grove Farm (University Park) (employment)
- South of Worcester (Broomhall and Norton Barracks) (housing)
- West of Worcester (Temple Laughern) (housing)
- Shrub Hill Opportunity Zone (housing and employment)
- Copcut Lane (Droitwich) (housing)
- Vale Park (Evesham) (employment)
- Keytec (Pershore) (employment)
- Urban Extensions to Evesham and Pershore (housing and employment)

- ✔ Do you agree we have identified the key strategic sites?
- ✔ Are there any sites that are missing that you believe are a strategic priority for Worcestershire?
- ✔ Are there any sites on the list that you do not believe to be a strategic priority for Worcestershire?
- ✔ Which infrastructure items are critical, essential, optional to delivery of these sites?
- ✔ Are there any evidenced demographic, social, or cultural shifts which could impact our prioritisation of these key strategic sites?
- ✔ How should infrastructure projects be prioritised – theme, site, geography?

Delivering Infrastructure

Timing of Delivery

Infrastructure needs to be delivered to support new development, however exactly when the infrastructure needs to be in place can vary. In some cases it needs to be in place ready for the occupancy of the first property (e.g. gas, electricity, water supply), at other times funding constraints may require a critical mass of development to bring in sufficient revenue to fund the infrastructure (e.g. through CIL), or the population needs to have grown sufficiently to ensure the service is viable (e.g. schools need to run at near capacity). In all cases it is important to consider the phasing of the development and the infrastructure to ensure it is provided at the right time.

Infrastructure projects can take a long time to plan, source funding and deliver on the ground. Therefore a thorough understanding of lead-in and delivery times is necessary in order to ensure phasing assumptions are realistic.

Some initial research on the time projects have taken to get planning permission has been undertaken by WCC Strategic Planning team. This evidence will continue to be developed to ensure that the forthcoming strategy is based on robust assumptions.

Funding Delivery

Infrastructure can be delivered in a number of different ways. The challenge of creating sustainable communities at a time of economic and fiscal restraint requires the identification and co-ordination of many funding sources and mechanisms.

Government has stressed that limited public funding is available for capital investment, and those funds should be used wisely to unlock all sources of investment. Developer contributions will continue to play a significant part in meeting infrastructure requirements, but efforts are needed to maximise contributions to physical, social and green infrastructure from a wide range of funding sources and by making better use of, and creating greater efficiencies in, our existing infrastructure. This may involve finding new ways of delivering infrastructure beyond the 'business and usual' approach.

Capital funding for projects can come from a number of sources. It is important to understand early on the mechanisms available to secure capital, as well as achieving buy-in and coordination from infrastructure providers for their own investment decisions.

Funding mechanisms are likely to come from a number of avenues including the public sector, central government, developer contributions and business investment. Mechanisms which may be used are shown in the table on the next page.

CONSULTATION QUESTIONS

- ✔ What are the triggers for delivery of new infrastructure?
- ✔ What are the phasing implications of infrastructure need?
- ✔ What are the typical 'lead-in' times for your infrastructure theme? (i.e. from concept to construction).
- ✔ How can infrastructure be funded?
- ✔ How can funding be frontloaded?
- ✔ Can you identify co-location opportunities between infrastructure items?

Funding Source	Brief Description	Time period	Limits/Constraints	Opportunities	Decision with
Developer Contributions (CIL)	If implemented, a mandatory charge on chargeable development	In place by 2014	Affordable to development. To fill the funding gaps that remain once existing sources have been taken into account. Not be used to remedy pre-existing deficiencies in infrastructure provision unless those deficiencies will be made more severe by new development. Administration costs authorities are required to monitor and prepare annual report with details of receipts expenditure and infrastructure funded.	Used to increase the capacity of existing infrastructure or to repair failing existing infrastructure. Can pool revenue from the levy. Charging authorities (District Councils) can recover the costs of administering the levy.	District Council
Developer Contributions (S106)	Negotiated as part of planning consent. Needed to enable the development or as planning gain.		Planning obligations cannot be used for items already funded by CIL. Administration costs authorities are required to monitor and prepare annual report with details of receipts expenditure and infrastructure funded.	Can be used to fund affordable housing and services or revenue payments. Can be pooled up to 5 developments where infrastructure is not intended to be funded by CIL.	District Council/developer
Regional Growth Fund (RGF)	£1.5bn fund over two years. Round 1 closed 21.01.2011. Massively over-subscribed.	Round 1 - closed Feb 2011. Round 2 – not for infrastructure	A minimum bidding threshold of £1m applies. To support move from public sector to private sector employment creates jobs. Bids must demonstrate that the Fund will create long term growth by levering private sector investment and jobs.	S106 funds can be used to match fund private sector contributions.	Central Government

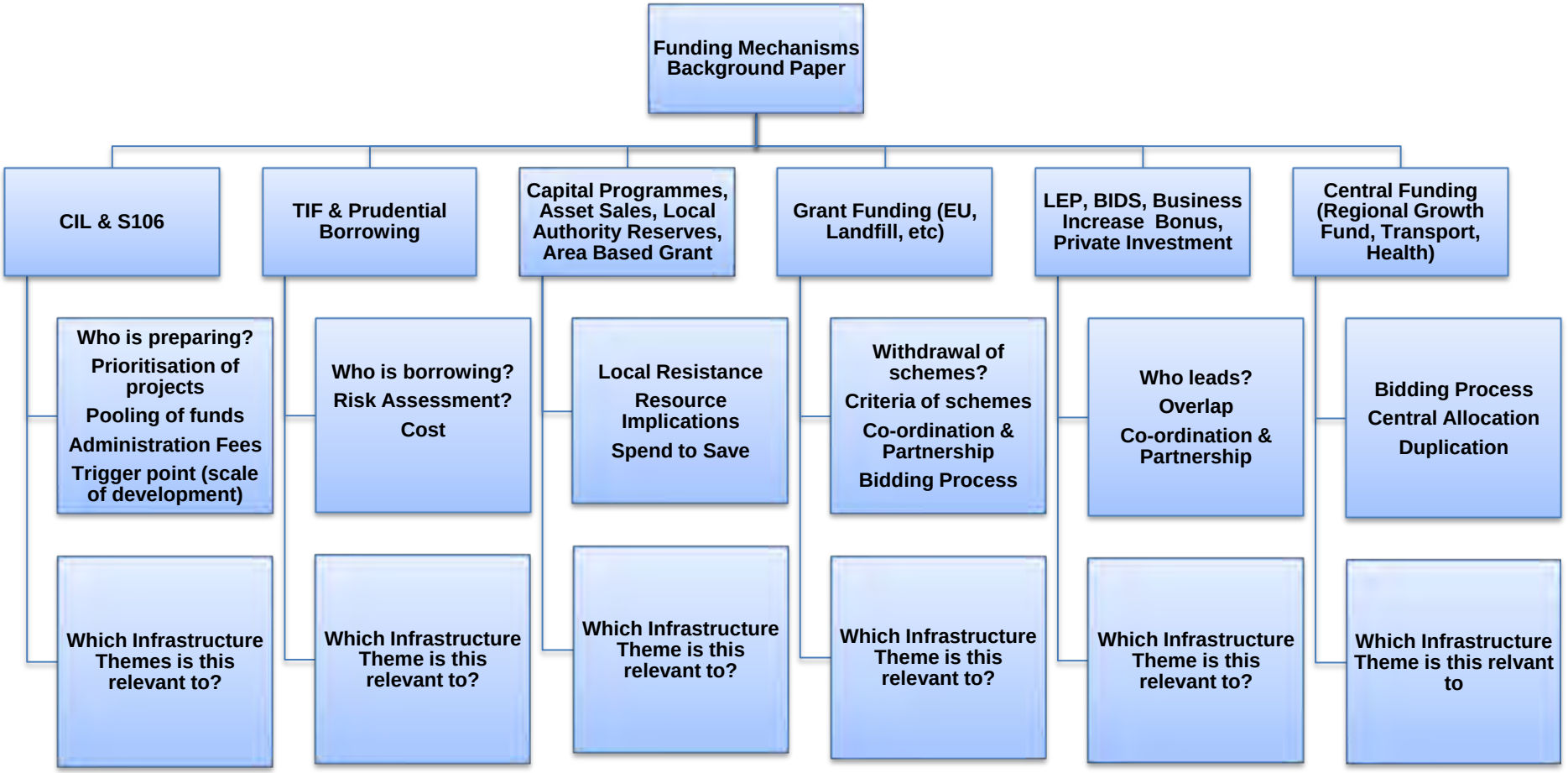
Funding Source	Brief Description	Time period	Limits/Constraints	Opportunities	Decision with
New Homes Bonus	Extra Council tax receipt on new homes. To be split 80/20 (district/county) to help local communities to meet costs of development.	First payments 2011/2012 ongoing for 6 years.	Some districts have allocated spend on anticipated receipts already. Benefit must be local. Lag time in receipt of affordable homes element. Expectation that local councillors will work with communities and neighbourhoods affected by housing growth to understand priorities for investment and to communicate how the money will be spent. Un-ring fenced. If oversubscribed may be subject to claw back from Local Settlement resulting in no net gain. Un ringfenced.	Payable for six years. Development delivers a return.	District/County
Local Transport Capital Settlement (Integrated Transport Block)	Funding for transport authorities for small improvement schemes less than £5 million. Schemes include - small road projects, road safety schemes, bus priority schemes, walking and cycling schemes and transport information schemes.	Allocated to 2014/15		Not ring-fenced, can be spent in accordance with local priorities.	Local Transport Authority

Funding Source	Brief Description	Time period	Limits/Constraints	Opportunities	Decision with
Local Transport Capital Settlement (Highways Maintenance Capital)	Covers major resurfacing, maintenance or replacement of bridges/tunnels and occasional reinstatement of roads following natural disasters.	Allocated to 2014/15		Not ring-fenced, can be spent in accordance with local priorities.	Local Transport Authority
Local Sustainable Transport Fund	Local transport can apply for funding to support the cost of a range of sustainable travel measures.		Bidding process. Need to meet criteria of supporting economic growth and reducing carbon.	Authorities will be able to bid for small packages of under £5 million and larger packages of up to £50 million over the Fund period.	Local Transport Authority
Community Transport Fund	£10-million of funding to be distributed to rural local transport authorities to kick-start the development of community transport services.		Small amount when split across all authorities.	Will complement the Local Sustainable Transport Fund	Local Transport Authority
Business Improvement District	A defined geographical where ratepayers invest collectively in local improvements in addition to those delivered by local Government. Worcester City BID is funded by a 1.5% levy on the rateable value of most businesses in the area.	No set time span introduced by business groups	Spend of income has to be identified prior to BID vote.	Additional investment does not replace rates.	Local businesses.

Funding Source	Brief Description	Time period	Limits/Constraints	Opportunities	Decision with
Business Rates/Business Increase Bonus	Business Rates normally levied centrally and redistributed by government. The Business Rate Supplements Act 2009.4 provides a discretionary power for councils to levy a supplement on the national business rate. Levying authorities can retain the revenue raised from the supplement to invest in additional projects aimed at promoting the economic development.		Businesses are unlikely to favour higher business rates. My only be suited to large scale projects. The scale and type of businesses may not create a sufficient revenue stream to finance major investments. Business community may be unwilling to pay a business rate supplement that would benefit only one area.	Additional income. Authorities can group together to create levy.	District/Business community.

Funding Source	Brief Description	Time period	Limits/Constraints	Opportunities	Decision with
Tax Increment Finance	Enables local authority to borrow based on anticipated growth in tax base from development.	Consultation not expected until late 2011.	Risk to councils if tax revenues do not materialise as expected An increase in net public sector debt. It may be difficult to prove that uplift in business rates are additional, not simply caused by businesses relocating from one area to another. May require long periods (up to 25 years) for enough tax to be generated to pay off loans. TIF schemes may be used for areas where redevelopment would happen anyway. Meaning that the extra tax generated is used up paying off loans, rather than being available as revenue. May attract development to certain areas at the expense of other parts.	A new source of funding for projects that may otherwise be unaffordable The ability to finance infrastructure in advance of housing developments A potential confidence boost for an area, making it more attractive to investors.	Local Authority/Local Businesses
Prudential Borrowing	Allows local authorities to borrow to invest in capital works and assets.		Can only be used as a source of capital expenditure. Revenue implications as authorities have to meet the interest and repayment costs of the borrowing. Can be more difficult where multi agencies are involved	Enable long term strategic planning of infrastructure.	County Council

Funding Source	Brief Description	Time period	Limits/Constraints	Opportunities	Decision with
Green Investment Bank	The aim is for the bank to support low-carbon and renewable energy infrastructure projects by raising equity and debt finance.	Due to commence April 2012	Current uncertainty of banks mechanisms and structures. May see pooling of existing government funds and grants i.e. Carbon Trust. Reducing other potential sources of funding. Revenue implications as authorities have to meet the interest and repayment costs of the borrowing.	Opportunity to sell energy and benefit from The Renewable Heat Incentive, Feed in Tariffs and ROC's would off- set some cost creating a sustainable model for rolling investment i.e. ESCO.	Local Authorities, Business, Communities .
EU Funding • JESSICA • INTERREG • ELENA • ERDF • RDPE	A suite of mechanisms to fund interventions at a variety of scales and for a number of infrastructure typologies.		In some cases complicated application process or bidding rounds. Requires specialist knowledge of funding EU funding mechanisms and laws. May require dedicated posts. Some schemes may be subject to withdrawal or re-prioritisation.	Able to attract large sums of funding. Able to couple with other sources of funding i.e. private sector, TIF etc. Funding can cover cost of posts research.	Local Authorities, Business, Partnerships.
Local Asset Backed Vehicle			One-off receipt. May be subject to community objection. The capital cost of new facilities may exceed the capital value of any assets released.	Generation of capital receipt for re-investment. Co-location or sale of surplus or inefficient assets may generate revenue savings.	Asset owner
Public Works Loan Board	The PWLB provides loans on both a fixed rate and variable basis.		There may however be hidden costs such as the early repayment of PWLB loans being more expensive and, thereby, raising the cost of debt restructuring for local authorities.	Opportunity to pool authorities borrowing into a single public offering can be beneficial in terms of both reduced borrowing margins and arrangement fees.	Local Authority


Funding Mechanisms Background Paper
CIL & S106
TIF & Prudential Borrowing
Capital Programmes, Asset Sales, Local Authority Reserves, Area Based Grant
Grant Funding (EU, Landfill, etc)
LEP, BIDS, Business Increase Bonus, Private Investment
Central Funding (Regional Growth Fund, Transport, Health)
Who is preparing?
Prioritisation of projects
Pooling of funds
Administration Fees
Trigger point (scale of development)
Who is borrowing?
Risk Assessment?
Cost
Local Resistance
Resource Implications
Spend to Save
Withdrawal of schemes?
Criteria of schemes
Co-ordination & Partnership
Bidding Process
Who leads?
Overlap
Co-ordination & Partnership
Bidding Process
Central Allocation
Duplication
Which Infrastructure Themes is this relevant to?
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Governance

The environment in which the Infrastructure Strategy will be delivered is complex, with various bodies and stakeholders all having their view on priorities, funding sources, etc. To successfully prioritise, manage and fund the delivery of infrastructure will require strong leadership to ensure that the right infrastructure is delivered in the right place at the right time and also to manage, where necessary, conflicting views.

There are already a number of groups in existence that are considering the future of Worcestershire and it will be essential that these groups are coordinated and working towards consistent outcomes to ensure successful delivery of infrastructure and ultimately the growth of Worcestershire's economy.

Partnership working is already well established in the county, and will be one of the key mechanisms underpinning the Worcestershire Infrastructure Strategy. To ensure we maximise synergies and are as efficient as possible in the infrastructure interventions and investment across the county, these bodies will need to work in partnership. Key partners in the delivery of the critical strategic infrastructure include:

Government and its agencies

The coalition Government has a fundamental role to play in the delivery of strategic infrastructure. This is both directly through its agencies such as the Highways Agency and NHS, or via its departmental funding such as from the Department of Transport and Department of Communities and Local Government.

Local Government

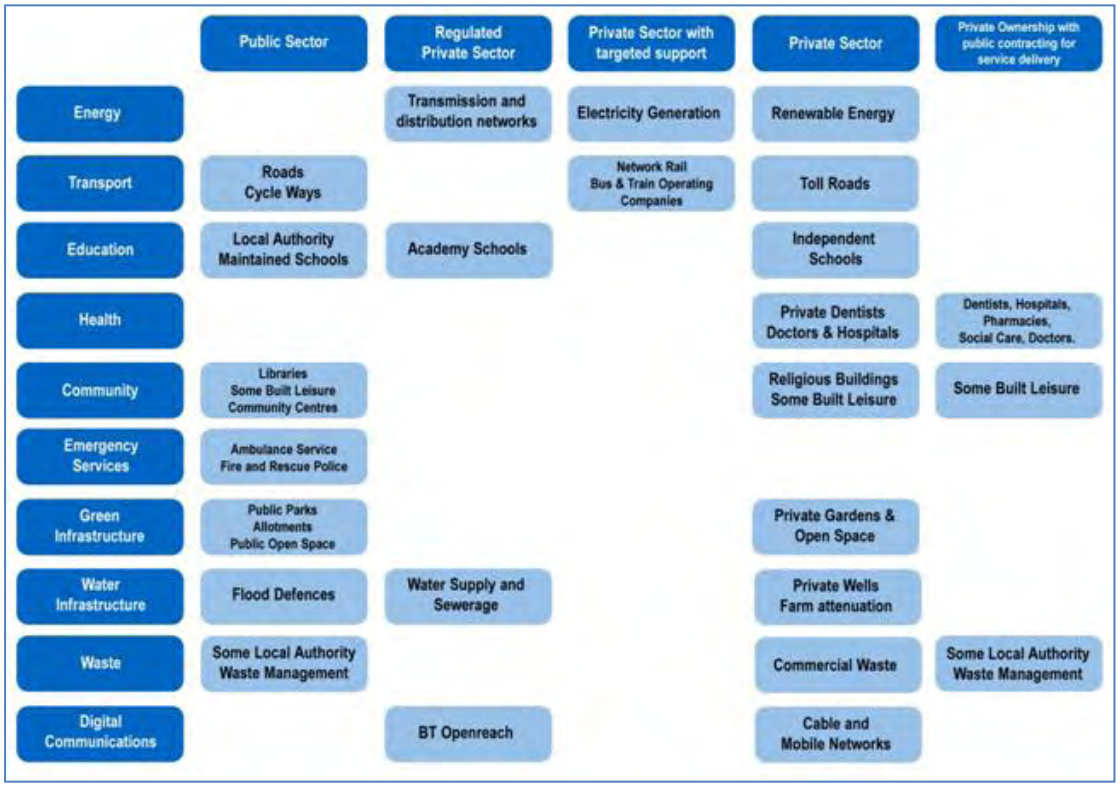
Local government has a crucial role to play in delivery of infrastructure, both strategic and local. This can range from open space provision through to libraries, schools and transport. Local government also plays a key role in identifying and coordinating community and economic priorities and in implementing the regulatory mechanisms associated with the delivery of infrastructure. The planning system, for example, requires councils to ensure that buildings and structures in the local area are built in the right place and to the right planning standards. To enable this to happen councils prepare Local Plans that set out the development locations within their area, supported by Infrastructure Delivery Plans (IDP) identifying infrastructure needs, phasing, costs, funding and responsibilities for delivery.

Despite current funding difficulties within local government, local councils still play an important role in helping to directly fund infrastructure. This may be in the use of its mainstream funding, council tax and business rates, borrowing, use of new homes bonus or accessing/channelling European or government funding.

Business

The private sector has long played a role in delivery of infrastructure as Fig. 3 below demonstrates:

Figure 4: Public and private sector roles in infrastructure delivery



Adapted from National Infrastructure Plan 2010 Box A1: Infrastructure delivery: public sector markets and private markets.

The Local Enterprise Partnerships covering Worcestershire are business-driven private and public-sector partnerships that are leading economic development in the county. The Worcestershire LEP and the Worcestershire Partnership have agreed a Memorandum of Understanding regarding the effective operation of the planning system, setting out clear roles and expectations in shaping new development within Worcestershire.

The National Planning Policy Framework states at paragraph 178 that *"Public bodies have a duty to cooperate on planning issues that cross administrative boundaries, particularly those which relate to the* ***strategic priorities*** *set out in paragraph 156 [i.e. infrastructure]"*. Paragraph 180 states that *"in two tier areas, county and district authorities should cooperate with each other on relevant issues. Local planning authorities should work collaboratively on strategic planning priorities to enable delivery of sustainable development in consultation with Local Enterprise Partnerships and Local Nature Partnerships. Local planning authorities should also work collaboratively with private sector bodies, utility and infrastructure providers"*.

The **Worcestershire Place Shaping Group (PSG)** has the appropriate membership and scope to enable the prioritisation and delivery of public and private infrastructure. It is anticipated that the Worcestershire Infrastructure Strategy will be adopted by PSG to co-ordinate the approach to strategic infrastructure matters and inform the strategic investment decisions of its members. To this end the Place Shaping Group will seek to ensure that the delivery of infrastructure is planned and delivered in a joined up and programmed manner that is consistent with and supportive of Local Plans and the vision of the Local Enterprise Partnerships.

The Worcestershire Place Shaping Group

The Place Shaping Group (PSG) is focussed on shaping Worcestershire through developing a strategic and coordinated voice for the county's economy, housing, transport and infrastructure. It aims to remove barriers to economic development by considering these aspects collectively and addressing the county's challenges through joint working. Delivery of the agreed priorities will be achieved through new or existing partnerships.

Membership of the group reflects the above elements, and includes public, private and third sector representation. The group meets quarterly to discuss issues and set priorities for action.

The PSG approach complements the Worcestershire Local Enterprise Partnership's (LEP) focus on securing sustainable economic growth. This means maximising opportunities for business growth, jobs and enterprise for the benefit of businesses and people who live and work in the county.

PSG also works to ensure that key local plans are fully aligned with the single Sustainable Community Strategy for Worcestershire.

PSG is chaired by Councillor Simon Geraghty, Deputy Leader of Worcestershire County Council.

CONSULTATION QUESTIONS

- ✔ What is the role of the various stakeholder groups (for example the LEPs, PSG) in setting priorities and choosing funding arrangements?
- ✔ What is the best governance structure to ensure the cost-effective delivery of strategic infrastructure?

Delivering Infrastructure in New Ways

The way infrastructure is planned and delivered can have significant effects on Worcestershire's communities, economy and environment. Specific impacts will depend on growth patterns, timing and delivery methods.

The next few paragraphs set out, in very broad terms, some key issues that need to be taken account of in considering different approaches to delivery, and suggest how alternative options could lead to better outcomes for Worcestershire.

How sustainable is the 'business as usual' approach?

Business as usual does not mean stagnation; new technologies can and will emerge, allowing better use of resources with lower environmental impacts. Such technological improvements may, however, be offset by an expansion of conventional resource-intensive development in 'bolt on' additions to existing unsustainable infrastructure. Similarly, the way some infrastructure types (for example education) are funded and operated continues to evolve, and the current political emphasis is on reducing the size of state control and transferring greater powers to local communities.

Delivery of the infrastructure themes in the Strategy will have wide-ranging implications, and will be governed by accepted business models at the time. As examples:

- Delivery of the communications theme will impact not just on the economy (through improved business opportunities), but will also reduce environmental impacts (through facilitating reduced travel and remote working) and improve social conditions (through availability of electronic access to goods and services, and as a means of staying in touch with family and friends).
- Delivery of the energy schemes will have sustainability affects across all three spheres, but risks environmental degradation (including beyond the county) through generation and transmission networks and the burning of fossil fuels, economic impacts (through power restrictions in weak grid areas), and social impacts (fuel poverty and associated health concerns for off-grid areas).

A more sustainable approach to infrastructure

Impacts of conventional, 'business as usual' ways of delivering infrastructure can be assessed against those of new, innovative approaches. While infrastructure planning operates within an extensive legal and policy framework, this does not preclude new ways of working, and the challenges of growth bring opportunities for more 'localist' approaches. This could mean increased community/business self-sufficiency through decentralised services delivered closer to the point of use. As an example:

- Businesses could potentially link part of their waste arisings with their need for electricity and heat through symbiotic processes, such as anaerobic digestion. This is currently the exception, rather than the rule, but with a supportive policy framework, this sort of innovation could become more commonplace.
- Treatment of waste water could be through methods that minimise the need for conventional disposal. Embracing new technologies offers environmental enhancements, and can reduce the stress on the mains sewerage network.

New ways of planning and delivering infrastructure could help to change people's perception of the services they need and the way they receive them. By embracing greater self-containment, which could involve adopting methods common in other countries, people can be re-connected to their services. Community perception will be critical, as bringing previously 'hidden' infrastructure closer to people's homes and workplaces (for example local heat and power generation), must be carefully managed to avoid mistrust and misunderstanding. Future methods may involve engaging communities and businesses to take control of their own infrastructure (for example through inclusion of local projects in Neighbourhood Plans), allowing a greater degree of ownership and improving individual and collective responsibility. Such approaches also allow for greater local customisation; instead of the one size fits all approach to infrastructure, facilities planned locally may be better able to respond to local needs and constraints.

This local control could also involve new mechanisms for funding, drawing on models that move away from the idea of public authorities and statutory undertakers being the only agencies capable of delivery. Examples exist of businesses in Worcestershire developing their own infrastructure, and can pave the way for further such developments. Such models extend not only to technologies, but also to different funding methods and models, with the potential for communities to be more actively engaged through share options, or more restricted local ownership schemes.

The examples overleaf provide an illustration of some of the ways that infrastructure is being delivered differently.

Worcestershire Capital and Asset Partnership

Under the Total Place and Capital & Assets Pathfinder, the Worcestershire Partnership developed closer working relationships with public sector organisations in the area in the use of property and collaborative service development. Outcomes so far include:

- A comprehensive map of all public sector property in the county, highlighting opportunities for property rationalisation.
- A number of joint property rationalisation projects where organisations share premises, saving on running costs.
- Shared back office support in jointly used premises.
- Joint land disposals with better redevelopment and better capital receipt than could have been achieved individually.
- Improved engagement with the voluntary sector and communities around the delivery of services.
- Property rationalisation used as catalyst for service transformation and sustainable service delivery models.
- A shared 10 year strategic asset management plan has been adopted by most of the partner organisations.
-

Worcestershire's diverse communities call for local responses, e.g:

- Droitwich CAB/Worcs. Hub/Library co-location: improved footfall/availability/costs and released 2 buildings for disposal.
- Pershore Town Council buying Library, enabling co-location of TIC and voluntary groups, improving service at lower cost.
- In Broadway options to co-locate Police, Library, Parish Council and a voluntary organisation are under consideration.
-

Though all outcomes are different, common themes are:

- No more single-use buildings
- A shared approach to service delivery
- Single back office/support infrastructure for all services
- Flexibility in terms of space usage
- All projects based on financially-sustainable business case
-

Aspirations include further collaborative projects, closer working with the voluntary sector, themed projects (e.g. shared vehicle workshops, training facilities, etc.) and capitalising on the Partnership's unique position to consider public infrastructure issues (e.g. providing broad perspective on CIL opportunities, ensuring funding for prioritised, sustainable assets and service models).

CONSULTATION QUESTIONS

- ✔ Should we focus on improving the standard of infrastructure, advocating more sustainable and self-sufficient infrastructure (e.g. provision and treatment at the point of demand), rather than taking a business as usual approach?

Sustainability and Climate Change

Climate change is already being observed and further changes are inevitable. However, it need not be inevitable that we should suffer from such changes if we take proactive measures. The effects of future climate change will mean more extreme weather events. In Worcestershire this is likely to include, for example, more frequent floods of greater magnitude. Although particular events cannot be singled out as being caused by our changing climate, in recent years Worcestershire has experienced quite regular extreme weather events, particularly in the form of flooding, but also drought-like conditions (e.g. 2003, 2006 and Easter 2007) which in turn have contributed to wild fires.

Central Government has published information and guidance on adapting our national infrastructure for climate change and stress that a resilient infrastructure network is crucial to developing the UK economy.

In developing the Infrastructure Strategy it is vital to consider climate risks to infrastructure, to ensure structures remain fit for purpose throughout their lifespan as the climate alters.

Worcestershire County Council was commissioned by Sustainability West Midlands to develop and test a methodology to help planners incorporate climate issues when planning new infrastructure. The project involved producing vulnerability maps and risk profiles. From completing the risk profiles and mapping it is clear that infrastructure across the County is already at risk from current conditions. As the climate alters, so will the risks to our infrastructure. An increase in short bursts of heavy rainfall could put more of our infrastructure at risk of flash flooding. A level of resilience can be built in to infrastructure through being aware of the potential risks.

Electricity infrastructure is vital to the functioning of other services across the county. If electricity infrastructure fails, this can have impacts on homes, businesses and the delivery of other services. Being prepared for these risks can help keep the county open for business.

The table below provides a basic summary of the ways in which infrastructure in the county may be affected by our changing climate and how we may wish to respond. This table is not exhaustive, but serves to highlight some of the implications of a changing climate.

Infrastructure Type	Weather Event				Effect on Worcestershire
	Intense rainfall and flooding	Strong winds and storms	Drought	Heatwave	
Energy	Flooding of substations; Exposure of cables; Fuel deliveries may be affected (coal/oil/biomass); Potential damage to energy crops;	Damage to power lines; Wind turbines shut down if wind speeds exceed operating maximum;	Potential decrease in renewable generation capacity from hydro-power	Air con increases demand pressures on energy supply	Damage to buildings Toppling of power lines from subsistence Power shortages Failure to deliver other services dependent on energy
Transport	Routes and bridges damaged/unusable Landslips Increased demand for aggregate Blocked drains Rights of way network closed and damaged.	Obstruction on rail and road routes Obstructions on rights of way network.	Ground heave due to drying out of soils particularly in clay sub soils. Impact on water level on canal & river network	Road and rail structures prone to contract, move, split or melt Fire along rail routes Fire on rights of way network i.e. Malvern Hills.	Road closure Subsistence on roads & railways
Schools	Schools could be overwhelmed; Transport could be interrupted.	Health and safety hazards (closure of playgrounds, etc). Impact on built infrastructure including temporary classrooms.	Subject to design specification potential damage to species used on green roofs.	Overheating classrooms resulting in health risk and schools closures	Interruption of education; Repairs to school buildings.
Health	Isolation of health infrastructure due to flood events i.e. Evesham Community Hospital 2007. Added pressure on health facilities.	Damage to health infrastructure increased number of patients due to injury.	Lack of drinking water	Overheating of facilities increased need for air conditioning.	Closure of facilities; additional pressures.

Infrastructure Type	Weather Event				Effect on Worcestershire
	Intense rainfall and flooding	Strong winds and storms	Drought	Heatwave	
Social Care	More difficulty moving frail during flood evacuation	Potential damage to buildings. Use of Community Infrastructure to provide temporary rescues centres/shelter	Lack of drinking water	Suffer ill health	Death of elderly Strain on emergency services during flood evacuation
Community	More difficulty moving frail during flood evacuation. Use of Community Infrastructure to provide temporary rescues centres/shelter in times of emergency.	Potential damage to community buildings. Use of Community Infrastructure to provide temporary rescues centres/shelter	Lack of drinking water	Overheating of facilities increased need for air conditioning.	
Emergency	Emergency vehicles not being able to reach incidents due to flooding. More demand on rescue services if flooding occurs to rescue stranded people. Emergency providers buildings becoming flooding. People not being able to access emergency services due to flooding.	More demand on rescue services.		Overheating of facilities increased need for air conditioning. More demand on rescue services to treat people suffering heat exposure.	Increased demand on Emergency Services.

Infrastructure Type	Weather Event				Effect on Worcestershire
	Intense rainfall and flooding	Strong winds and storms	Drought	Heatwave	
Green Infrastructure	Potential obstruction of SUDS with debris. Damage to habitats. Erosion of soils from surface water flooding. Rights of Way and areas of recreation may be closed or damaged due to flooding.	Trees could be blown over. Closure or obstruction of rights of way.	Drying out of wetland habitats. Impact on flora and fauna from lack of water. Soil heave may cause trees to fall or become unstable. Low flows in rivers, canals and other blue infrastructure.	Vegetation will suffer from lack of water. Potential for fire on heathland i.e. Malvern or Hartlebury common.	Impact on SUDS.
Water and sewage	Flooding and failure of water supply plants and sewerage stations and associated networks Network damaged by subsistence/landslip.		Lack of drinking water Demand for new sources. Cost importing water from elsewhere.	Excess demand for drinking water	Shortfall in water supply Pollution of water courses Flooding of property and businesses with sewage
Waste	Unknown at present	Unknown at present	Unknown at present	Unknown at present	Unknown at present
Tele-comms	Loss of communication Toppling of overhead cables due to landslip	Damage to equipment			Loss of communications and reliability

Infrastructure Type	Weather Event				Effect on Worcestershire
	Intense rainfall and flooding	Strong winds and storms	Drought	Heatwave	
Response	Map who, what and where is at flood risk today Use climate projections to understand how climate change will affect future floods Work with the emergency services, utilities companies and other partners to make the most critical services flood-resilient Use greenspaces and plants to absorb floodwater Raise public awareness of flooding and individual and community capacity to cope and recover from a flood to improve resilience to flood events		Continue to work with water companies to ensure that delicate balance between water supply and demand is maintained Encourage more residents to be aware of water efficiency by installing water meters in homes	'Green' urban areas by using vegetation and green-spaces to provide shading, cooling and insulation. Provide 'cool rooms' in homes for the elderly, schools, public buildings Improve the understanding of overheating risk by identifying who and what is affected and where is most at risk	

4. Infrastructure Requirements

Introduction

Infrastructure needs have been identified through continuous dialogue with our partners and stakeholders. The following pages summarise the infrastructure requirements that have been identified to date, which are outlined in more detail in the accompanying Needs and Issues paper.

These pages present a picture of our current understanding of infrastructure requirements. The picture will change over time as, for example, new issues arise and new funding sources become available. We will continue to work with infrastructure providers to fill the gaps in our understanding.

Each topic chapter identifies the existing assets within the county and outlines the key issues and trends influencing the provision of that infrastructure type. Investment requirements are presented (where known), including the costs of provision, the amount of funding secured, and the potential funding gap.

We are seeking the views of our stakeholders and partners:

- ✔ Have we identified all existing assets?
- ✔ Have we identified all relevant issues and trends?
- ✔ Have we identified all infrastructure requirements?
- ✔ What are the triggers for delivery of new infrastructure?
- ✔ Have we identified all costs correctly?
- ✔ Have we identified all secured funding?
- ✔ Is the funding gap correct?
- ✔ Have we identified all options for delivery?
- ✔ Is there anything else relevant that we have not yet taken into account?

Total Infrastructure Need

Topic Area	Cost	Funding Secured	Funding Gap
Transport	TBC At least £325m	TBC c. £92m	TBC At least £240m
Energy	TBC	TBC	TBC
Flood Risk	TBC	£13.3m	TBC
Water Supply and Waste Water Treatment	TBC At least £11.8m	£7.5m	TBC £4.3m
Communications	TBC £20 to £25m	£11.85	TBC £8.15 to £13.15m
Waste Management	TBC £190m to £230m	TBC	None Expected
Education	£147.4m	Up to £73.7m	At least £73.7m
Health and Social Care	TBC	TBC	TBC
Libraries	TBC	TBC	TBC
Built Leisure	TBC £46.1 to £50.1	At least £2.5m	£34.6m to £35.6m
Emergency Services	£32.271m	£10.5m	£21.771m
Green Infrastructure	TBC	TBC	TBC
TOTAL	£772.571m to £8821.571m	£211.35m	£382.521 to £388.521m

It is important to note that while this table suggests there is a large funding gap, there are many funding sources likely to come forward that have not been taken into account at this stage. For example, Worcestershire has a revolving Growing Places Fund of £5.54 million, which will be used to invest in infrastructure to kick-start projects. Additionally, all six Worcestershire districts are currently preparing evidence to assess the viability of charging the Community Infrastructure Levy. This could provide a significant income stream over the period of the strategy and, along with other funding sources identified throughout the document, could help to fill the gap identified.

Included in this document at *Chapter 3* is an assessment of the variety of

sources that could be utilised. The consultation seeks views on which sources should be investigated in more detail.

Please note that many of the costs and funding mechanisms for the schemes/packages of measures are too complex to include in the table in detail. There are therefore discrepancies between individual scheme costs/funding sources and the total costs included in the right hand columns.

Transport

Scope

- Highways
- Rail
- Bus
- Walk and Cycle

Main Participants

- WCC Highways
- Highway Agency
- National Rail
- Train Operating Companies
- Bus Operating Companies
- Sustrans

Links to other plans and strategies

- Worcestershire Local Transport Plan
- Worcester Transport Strategy

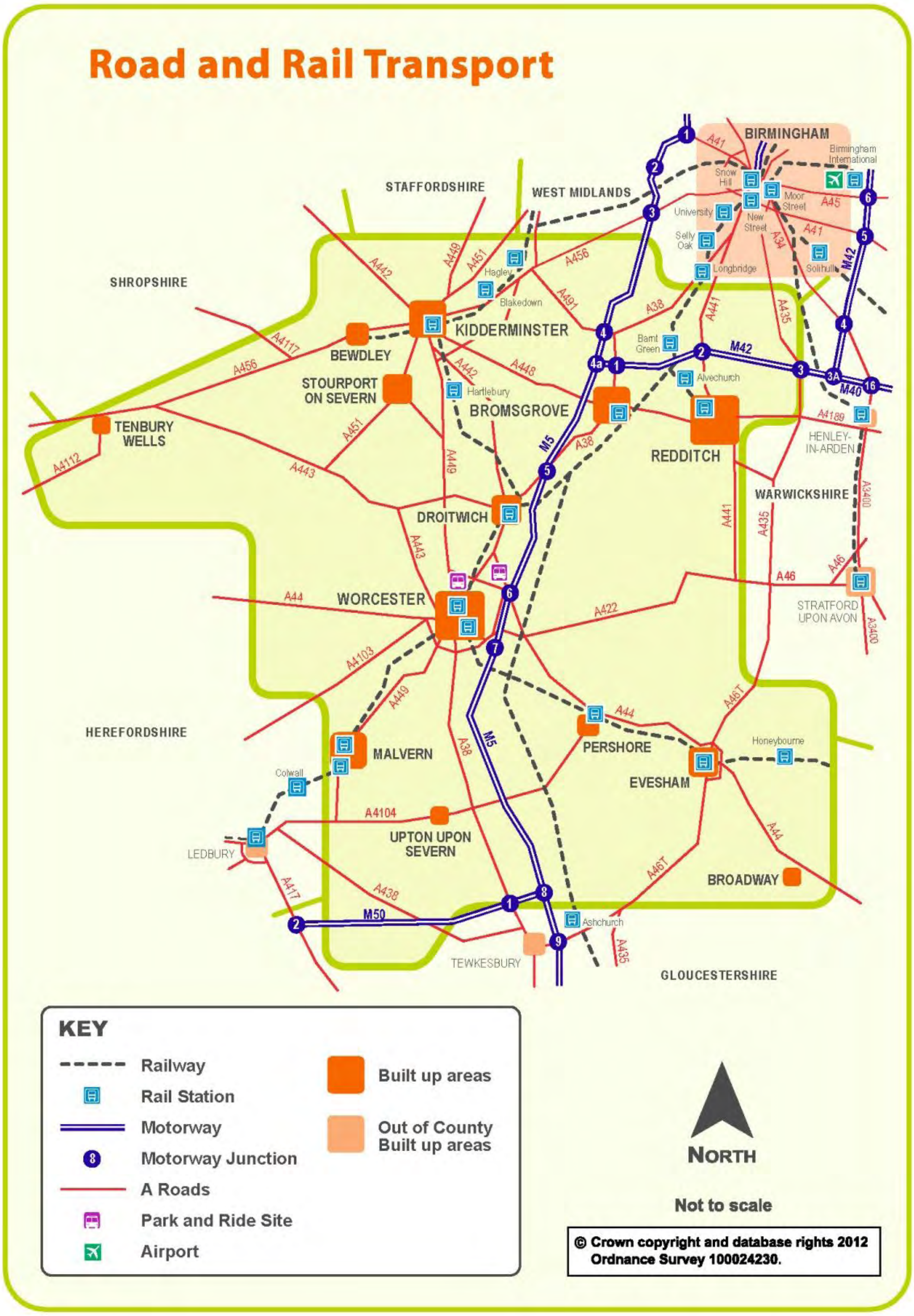
Existing Assets

The multi-modal transport network secures connectivity between different parts of Worcestershire and between the county and the wider West Midlands, and the rest of the world (via international hubs such as Birmingham International and London Heathrow Airports and High Speed Line 1). The network links people to jobs; delivers products to markets; underpins supply chains and logistics; and supports domestic and international trade. Transport networks which are accessible to all and which deliver fast and reliable journey times for people and goods will support the economy.

The network is made up of a variety of different modes including rail, road, local public transport, cycling and walking, and is thus complex in terms of the interaction between modes and its relationship with land uses.

Worcestershire has a well-established transport network where connectivity between economic centres is already in place. Key infrastructure includes:

- Local, regional and inter-city network of rail infrastructure and services linking Worcestershire's main urban areas with each other and with key regional and national destinations (and via key hubs such as BIA, London Heathrow, London St Pancras etc. international destinations).
- Approximately 160 registered bus services providing transport choice for shorter journeys within and between Worcestershire's urban areas
- Over 8,000 km of dedicated and off-road cycle routes, footpaths and Rights of Way
- National road network (including M5, M42 and M50, A46) managed by the Highways Agency
- Strategic road network (including A38, A449, A44, A4440 etc) managed by Worcestershire County Council
- Local road network (A422, A4184 and other A, B and C roads) managed by Worcestershire County Council



Road and Rail Transport
BIRMINGHAM
STAFFORDSHIRE
WEST MIDLANDS
SHROPSHIRE
KIDDERMINSTER
BEWDLEY
STOURPORT ON SEVERN
TENBURY WELLS
BROMSGROVE
REDDITCH
HENLEY-IN-ARDEN
WARWICKSHIRE
DROITWICH
WORCESTER
STRATFORD UPON AVON
HEREFORDSHIRE
MALVERN
PERSHORE
EVESHAM
UPTON UPON SEVERN
LEDBURY
BROADWAY
TEWKESBURY
GLOUCESTERSHIRE
KEY
Railway
Rail Station
Motorway
Motorway Junction
A Roads
Park and Ride Site
Airport
Built up areas
Out of County Built up areas
NORTH
Not to scale
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Trends and Issues

The quality and efficiency of transport infrastructure and services, and how comprehensive the transport network is, will influence the role transport plays and its contribution to the functioning of a successful economy.

New commercial and residential development in Worcestershire will add pressure to the local and regional (motorway and rail) transport network across all modes of transport, but in particular road, rail and local passenger transport. This pressure is expected to be greatest in and around the urban areas and along key inter-urban links where most service and employment opportunities are located and demands for travel are likely to be greatest, even with a dispersed pattern of growth.

The capacity and reliability of the transport network is already a major concern in parts of Worcestershire. There are significant sections of the transport network, which are at, or approaching capacity at present.

Mode	Demand Trend	Key Changes	Key Issues
Rail		Passenger growth of 57% between 2004/05 and 2010/11 Bromsgrove station has seen 169% growth over the same period.	• Whilst there has been growth in rail demand, this is now being constrained by inadequate infrastructure and levels of service • Lack of direct access to Cross Country InterCity Services • Capacity constraints at key locations on the network, including: Worcester, Evesham – Worcester – Malvern and on the Worcester to Birmingham New Street line north of Kings Norton • Poor level of service between South Worcestershire and London and the South East and also between South Worcestershire and Bristol, the South West and South Wales • Inadequate parking at key locations, constraining access to rail services

Mode	Demand Trend	Key Changes	Key Issues
Bus		Passenger growth of 17% between 2006/07 and 2010/11 Redditch and Worcester have greatest demand	• Poor reliability and delays due to congestion and infrastructure constraints (which impose additional costs on users and operators and reduce the commercial viability of the network) • Infrequent services • Limited integration with rail and other modes • High fares on commercial services (due in part to costs imposed by inadequate infrastructure) • Variable standards of infrastructure in particular at interchanges and bus stops • Variable quality of information • Insufficient provision for local public transport in new residential and commercial developments
Road		A small decline in road traffic during the period 2004 – 2010, heavily influenced by the economic environment and rising fuel prices. Some sections of the network recorded increases (e.g. A44 Wyre Piddle Bypass)	• Demand exceeding capacity in some parts of network • Congestion leading to variable and extended journey times and increased transport costs • Air quality issues due to congestion
Walk & Cycle		Improving network of cycle facilities, and improved environment for continuous walking. Increased uptake of Bikeability cycle training schools. Worcester City currently has more of a cycling culture than other parts of Worcestershire and has seen greatest increases in walking and cycling demand, particularly associated with recently introduced dedicated facilities , such the Diglis Bridge and Riverside, where walking and cycling levels increased by significantly between 2009-2011.	• Gaps in walk and cycle networks in urban areas • Poor integration with other modes, e.g. rail and bus interchanges • Severance in particular locations; lack of crossing/bridging points on main roads/corridors and natural barriers • Varied quality of public realm in town centres, make walking and cycling unattractive • Potential to increase walking and cycling with Adult Bikeability training to improve confidence and skills,, promotion of Active Travel health benefits, and improve confidence and reduce intimidating behaviour with road safety education and enforcement.

Investment Requirements

As the highways authority, Worcestershire County Council has a key role to play in identifying the investment in the transport network needed to accommodate the growth and changes in travel demand in a sustainable way without adversely impacting on the performance of the network, the economy and the local environment. As such, WCC prepares Local Transport Plans and Strategies and works closely with the six district councils to consider how transport issues associated with new development can be addressed.

Worcestershire's third Local Transport Plan (LTP3) seeks to ensure that transport is able to play a full role in supporting sustainable economic growth, managing transport related carbon emissions and minimising transports impact on the local environment, including air quality, noise and severance. The LTP3 provides the policy and strategy context for major transport projects and enable WCC to bid for additional Government (and other) funding over the next 15 years. The LTP3 identifies the following packages of transport infrastructure and service schemes:

- Bromsgrove Urban Package
- Redditch Urban Package
- Kidderminster Urban Package
- Stourport-on-Severn Urban Package
- Bewdley Urban Package
- Worcester Transport Package (Worcester Transport Strategy)
- Upton-upon-Severn Urban Package
- Droitwich Spa Urban Package
- Great Malvern Urban Package
- Tenbury Wells Package
- The North-East Worcestershire Rural Package
- The Wyre Forest Rural Package
- South Worcestershire Rural Package

These packages are at various stages of development and delivery. For example, the initial phase of the Worcester Transport Strategy has gained funding from Central Government and will be delivered during the period to March 2015. Other packages are being developed in conjunction with the District Core Strategies such that the transport infrastructure and services will support economic growth in a sustainable way.

In addition to the schemes identified in the LTP3, additional assessment and appraisal is being undertaken to identify the transport implications of the development proposals within the Local Plans being drawn up by the local planning authorities in Worcestershire. The transport modelling and scheme development work is advanced for the South Worcestershire Authorities, but

less so for the other three local authorities. This work will refine and provide additional understanding of the longer term implications of growth on the transport network and will identify amended or new solutions to those identified in the LTP3.

The table below identifies the current understanding of the investment required in the transport network.

Please note that many of the costs and funding mechanisms for the schemes/packages of measures are too complex to include in the table in detail. Therefore there are discrepancies between individual scheme costs and funding sources, and the total costs included in the right hand columns.

Mode	Major Schemes	Responsible Bodies	Funding Sources	Total Cost	Funding Secured	Funding Gap
Rail	Bromsgrove Station (£14 million) Redditch Branch Line (£16million) Worcestershire Parkway (£20 million) Cross City Line extension (£TBC) Upgrades to main stations (£TBC) Kidderminster Interchange (£3.5 million) A451 Parkway, Kidderminster (£TBC) Worcester Shrub Hill/Tunnel Junction - Henwick capacity enhancements (£TBC)	Network Rail Train Operating Companies Freight Operating Companies Department for Transport Worcestershire County Council	DfT (Rail) National Station Improvement Programme Major Scheme Funding Local Sustainable Transport Fund Regional Growth Fund LTP3 Private Sector (including operators and land developers)	Total Cost TBC At least £100 million	LTP3 IT Block: £5 million (including development costs) Worcester Foregate Street and Malvern Link stations phase 1 upgrade: £1 million (Source: WTS MSB) Redditch Branch Line: £16 million (Source Network Rail) Cross City Line fully funded (Source: Network Rail)	Total Gap TBC At least £50 million

Mode	Major Schemes	Responsible Bodies	Funding Sources	Total Cost	Funding Secured	Funding Gap
Bus	Bus Elements of LTP3 Transport Strategies (£TBC) Worcester Transport Strategy: c£20 million (Excl. Rail stations & PT elements of key corridors) South Worcestershire local PT improvements (required to support delivery of Draft SWDP):c £6.5million Bromsgrove Urban Package: £TBC, but will include key corridor and bus station/interchange improvements Kidderminster Urban Package: £TBC, but will include key corridor and town centre interchange enhancements Redditch Urban Package: £TBC, but will include key corridor and town centre enhancements	Worcestershire County Council Bus Operators Local Authorities	Major Scheme Funding (DfT) Local Sustainable Transport Fund Regional Growth Fund LTP3 Private Sector (including operators and land developers)	Total Cost TBC At least £45 million	LTP3 IT Block:£1million (including development costs) Initial phase of Worcester Transport Strategy and Redditch CHYM Project: £4 million (Source: WTS MSB, LSTF, LTP3 IT Block)	Total Gap TBC At least £35 million

Mode	Major Schemes	Responsible Bodies	Funding Sources	Total Cost	Funding Secured	Funding Gap
Road	Highway Elements of LTP3 Transport Strategies (£TBC) Including: Worcester Transport Strategy: c£106 million A38 improvements (required to support delivery of Draft SWDP): c£4.6 million A44 improvements (required to support delivery of Draft SWDP): c£4.75million A449 improvements (required to support delivery of Draft SWDP): c£2.5million A46 £TBC by Highways Agency M5 Junctions £TBC by Highways Agency South Worcestershire local highway improvements (required to support delivery of Draft SWDP):c £9.8million Bromsgrove Urban Package: £TBC, but will include A38 Junction improvements Kidderminster Urban Package: £TBC, but will include Hoo Brook Link Road (c£20million), improvements to Inner Ring Road, Comberton Hill, Stourport Road and town centre public realm, Worcester Road	Worcestershire County Council Highways Agency	Major Scheme Funding Local Sustainable Transport Fund Regional Growth Fund LTP3 Private Sector	Total Cost TBC At least £150 million	LTP3 IT Block: £3.7million (including development costs, but excluding WTS costs – see below) Initial phase of Worcester Transport Strategy: £13million (Source: WTS MSB & NGP Funding)	Total Gap TBC At least £140 million

Mode	Major Schemes	Responsible Bodies	Funding Sources	Total Cost	Funding Secured	Funding Gap
Walk & Cycle	Improvements in main towns and Worcester City to cycle and pedestrian routes (£TBC) Worcester Transport Strategy: c£7.5million South Worcestershire walk and cycle infrastructure improvements (required to support delivery of Draft SWDP):c £12million Bromsgrove Urban Package: £TBC, but will include key corridor and public realm improvements Kidderminster Urban Package: £TBC, but will include key corridor and public realm improvements Redditch Urban Package: £TBC, but will include key corridor and public realm improvements	Worcestershire County Council City, Borough & District Councils	Major Scheme Funding Local Sustainable Transport Fund Regional Growth Fund LTP3 Private Sector	Total Cost TBC At least £30million	LTP3 IT Block: £1million (including development costs, but excluding Redditch CHYM – see below) Initial phase of Redditch CHYM: £0.6million	Total Gap TBC At least £15.75 million

Delivering Transport Infrastructure

Transport will be a significant contributor to the overall funding requirement for infrastructure. Despite the costs of a number of packages yet being confirmed there is already an identified funding gap of £240m. Although there are still many costs to be confirmed as further modelling and design workj is undertaken, costs include a sizeable allowance for risk/contingency/optimism bias. Therefore as the deigns are added to in detail the out turn costs are likely to reduce.

WCC has an excellent history and reputation at being successful in bidding for funding successfully receiving £48.28 million Check Worcester Technology Park (£) and Newtown Road (source) over the last 5 years towards investments in Worcestershire's transport network. This has funded the following schemes:

- Worcester Transport Strategy Phase 1 (WTSMSB) (Department for Transport)
- Evesham Abbey Bridge (MSB) (Department for Transport)
- Bromyard Road - Key Corridor of Improvement (Homes and Communities Agency - Community Infrastructure Fund)
- Choose how you move: Reddtich (LSTF) (Department for Transport)
- Sixways Interchange (Advantage West Midlands)
- Whittington Roundabout Improvement Scheme (Department for Communities and Local Government - Growth Fund Grant)
- Diglis Bridge - Connect 2 (Big Lottery Fund's 'Living Landmarks: The People's Millions.')
- Evesham High Street Enhancement Works (Advantage West Midlands)
- Alvechurch and Barnt Green Rail Stations Real Time Information systems (Department for Transport)
- Newtown Road - Key Corridor of Improvement (Department for Transport)
- Worcester Technology Park (Regional Growth Fund)

However, the funding regime for transport schemes is complex and continually changing as new funds become available. Government funds are generally available through competitive bidding processes and as such the LTP3 has a clear objective of prioritising the spending of limited funds towards those schemes which will deliver the greatest benefits. The LTP3 includes a Transport Scheme Appraisal Framework which has been weighted by Worcestershire County Council's elected members. Priority is given to those schemes which:

- deliver best value for money
- support economic growth
- are deliverable and which
- reduce carbon emissions

Service providers (such as Network Rail, Bus and Train Operating Companies and the Highways Agency) also have access to internal funding sources which need to be considered when developing the evidence base further.

Energy

Scope

- Electricity
- Gas
- Renewable Energy

Main participants

- Western Power Distribution
- National Grid Gas
- Wales and West Utilities
- Providers of renewable solutions

Links to other plans and strategies

Existing Assets

The electricity and gas network provides a source of heat and power to the residents and businesses of Worcestershire.

Electricity

The electricity network is split up into three sections:

- Generation – owned and operated by a number of different companies
- Transmission System(400kV to 275kV) – owned by National Grid
- Distribution System (132kV to 230kV)– country split into 14 areas managed by distribution network operators (Western Power Distribution covers Worcestershire)

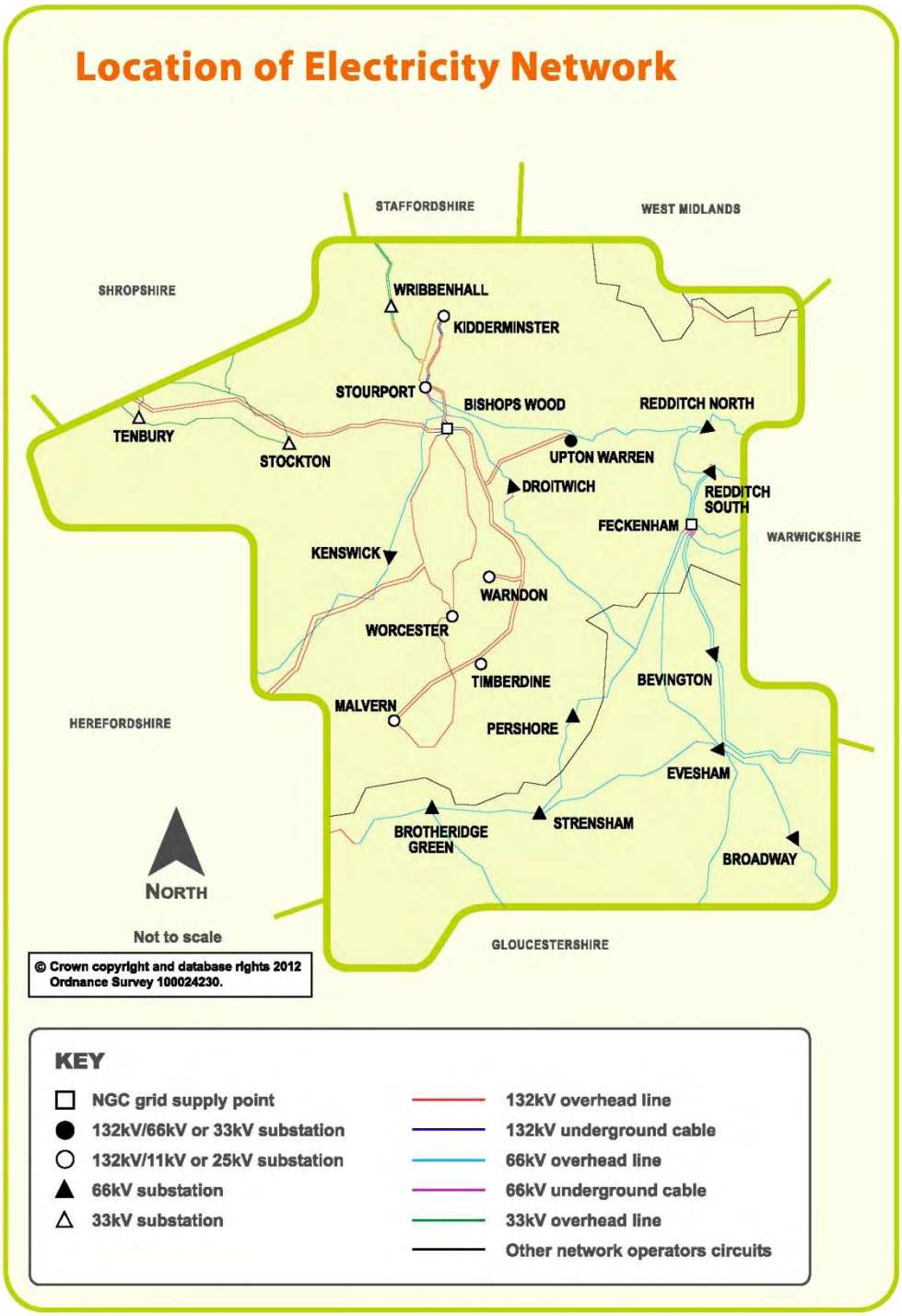
There are no conventional large-scale power stations in the county, but power is generated from landfill gas at the Sandy Lane, Waresley, and Hill & Moor landfill sites. A small number of wind turbines and a growing number of micro-renewable installations also contribute to electricity generation, but the vast majority of Worcestershire's electricity is supplied from outside the county.

Within Worcestershire there are 22 primary substations: Bishop's Wood; Broadway; Brotheridge Green; Droitwich; Evesham; Feckenham; Ipsley; Kenswick; Kidderminster; Malvern; Pershore; Redditch North; Redditch South; Stockton; Stourport; Strensham; Tenbury; Timberdine; Upton Warren; Warndon; Worcester; Wribbenhall. There are also numerous 'local' substations.

Gas

The National Grid operates the national gas transmission network in England. The High Pressure Gas Pipe skirts the south of the county around the M50/A46. National Grid Gas is also the distribution network operator for 'central' England, which includes most of Worcestershire. Wales and West Utilities is the distribution network operator for a small proportion of the south east of the county.

A meeting has been scheduled with National Grid Gas to discuss the specific issues and identify any constraints to growth. Discussions will inform the future development of the Infrastructure Strategy.


Location of Electricity Network
STAFFORDSHIRE
WEST MIDLANDS
SHROPSHIRE
WRIBBENHALL
KIDDERMINSTER
STOURPORT
BISHOPS WOOD
REDDITCH NORTH
TENBURY
STOCKTON
UPTON WARREN
DROITWICH
REDDITCH SOUTH
FECKENHAM
WARWICKSHIRE
KENSWICK
WARNDON
WORCESTER
TIMBERDINE
BEVINGTON
MALVERN
PERSHORE
HEREFORDSHIRE
EVESHAM
STRENSHAM
BROTHERIDGE GREEN
BROADWAY
NORTH
Not to scale
GLOUCESTERSHIRE
© Crown copyright and database rights 2012 Ordnance Survey 100024230.
KEY
NGC grid supply point
132kV/66kV or 33kV substation
132kV/11kV or 25kV substation
66kV substation
33kV substation
132kV overhead line
132kV underground cable
66kV overhead line
66kV underground cable
33kV overhead line
Other network operators circuits

Trends and Issues

Historically, Western Power Distribution (WPD) have tended to base their growth expectations on past trends. Requests are submitted to OFGEM at 5-yearly intervals (moving to 8-yearly intervals from 2015) for funding to deliver the necessary improvements/upgrades to the distribution network to accommodate forecast 'organic load growth'.

Rural areas are typically served by long 11kV overhead lines, and have a low capacity from the substation.

Proximity to the local 11kV network cannot be relied upon as an indication of ease of connectivity; there will often be a power line close by, but no capacity within the network to accommodate the generation.

Resilience is a major issue for WPD. Flood risk is being considered, and part of the design process of new primary substations takes flooding into account. Funds for ensuring flood protection are provided by OFGEM. OFGEM also consider measures necessary for protection against terrorism, based on a 'High Impact Low Probability' assessment.

Area	Demand Trend	Key Changes	Key Issues
Electricity		Consumption has fallen since 2005, rising marginally between 2009 and 2010 as a result of the cold weather	Bid submitted to OFGEM for organic growth
Gas		Domestic demand is linked to weather conditions. Fell between 2010 and 2011 due to the colder weather conditions in 2010.	TBC

Investment Requirements

WPD require a high level of certainty over the likelihood of developments coming forward to timescale if they are to include them within their evidence base to inform bids for funding. The next submission to OFGEM will be made in June 2012, and relevant data on likely growth levels and trajectories in Worcestershire has been provided to WPD to inform this process.

Assessment of infrastructure need in Worcestershire

A request has been submitted to WPD for a 'budget' and high-level feasibility on the likely works needed and connection costs to accommodate strategic development sites in development plans. This assessment is being carried out by the local WPD planners based in Worcester and will inform subsequent stages of this infrastructure work.

The table below will be completed once Western Power Distribution have assessed development sites.

Mode	Major Schemes	Responsible Bodies	Funding Sources	Total Cost	Funding Secured	Funding Gap
Electricity	TBC	Western Power Distribution National Grid	Private Sector	TBC		TBC
Gas	TBC	National Grid Wales and West Utilities	Private Sector	TBC		TBC
Renewable Energy	TBC	Private Developers	Private Sector	TBC		TBC

Delivering Energy Infrastructure

When development proposals not planned for within WPD's growth scenarios come forward, WPD assess whether the development can be accommodated through an addition to the local 11kV network. If there is capacity at the substation, there is no cost to the developer for improvement works. The costs of the addition to the loop are borne by the developer and are typically £35-£40 per metre for open land; £60 per metre where footpaths are involved; £100 per metre where road works are necessary.

If a development not anticipated by WPD comes forward, requiring capacity upgrades to a primary sub-station, this could take up to 2 years to accommodate. The cost of this upgrade would be borne by the developer based on the proportion of the upgraded capacity they would use. If there is potential for additional growth at the same time (or in the near future) close to proposed development, WPD will consider a bigger increase in capacity, with the first developer paying the proportional costs for their 'share' of the added capacity.

If there are any particular supply problems in an area, causing frequent power outages, WPD will investigate how these issues could be resolved (if notified). If new development is planned in such weak areas, or an existing business seeks to expand, the costs of any improvements to the network would be borne by the developments/expansions.

The ability of the network to accommodate renewable generation will depend on the scale and type of generation and the nature/capacity of the network. The addition of renewables increases the voltage to the network, and accommodating this may require additional work. The cost of connecting renewables is borne by the developer, and will be prohibitively expensive in some areas (each case would need to be considered on its merits, according to the local capacity).

Flood Risk Management

Existing Assets

Flood defence assets include traditional engineered flood defence measures as well as SUDS and water course and drainage management.

South Worcestershire

River Severn downstream of Worcester: permanent earth embankments, also provide attenuation when overtopped. Protect Upton upon Severn, Tewkesbury and Gloucester

Upton upon Severn and Hylton Road in Worcester: temporary demountable defences.

North Worcestershire

Kidderminster: concrete culvert which limits the flow of the River Stour through a dam structure, causing flood water to back up on the Puxton Marshes.

A number of major flood defence schemes, led by the EA and supported by WCC and the district councils, have been started, continued or completed in 2011 including:

- Pershore – complete
- Upton-upon Severn – New Street complete, Waterside underway
- Powick – complete
- Kempsey – underway
- Riddings Brook – complete
- Badsey Brook – outstanding
- Uckinghall – complete

Local flood defence/alleviation schemes

- Puxton Marshes
- Harvington
- Barbourne Brook
- Wilden Marsh
- Bishampton
- Snuff Mill

Scope

- Fluvial, surface and ground-water flooding

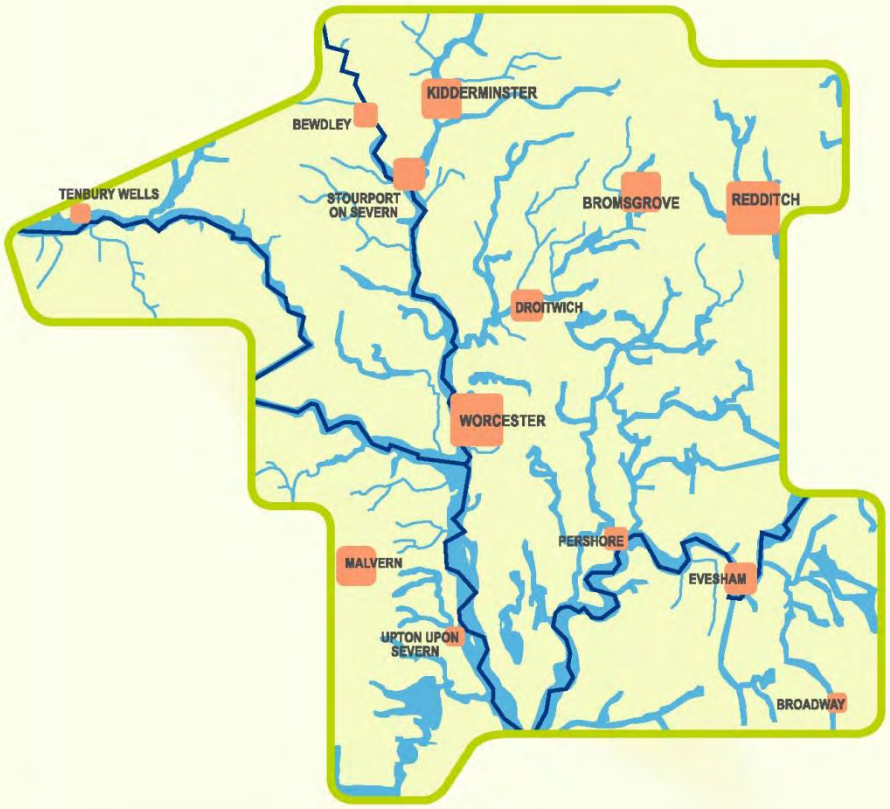
Main Participants

- Severn Trent Water Limited
- The Environment Agency
- Worcestershire County Council
- District/Borough Councils
- Regional Flood and Coastal Committee

Links to other plans and strategies

- Severn Trent Water's AMP 5 & Water Resource Management Plan
- Severn Catchment Flood Management Plan
- Emerging Local Flood Risk Management Strategy

Floodplains and River Network



KEY

Rivers and Flood Plains

- Rivers
- Principal Flood Plains
- Built up areas

The map illustrates only the risk of flood from fluvial flooding. A key consideration in Worcestershire is the risk of surface water flooding and this will be subject to individual site characteristics. It should be recognised that the Flood and Water Management Act will require applicants to seek SUDS approval prior to commencing on works.

NORTH

Not to scale

Trends and Issues

When planning for new development, local planning authorities direct development away from those areas that are of greatest risk of flooding. However, there are existing areas of population that are currently at risk of both surface water and/or fluvial flooding. Around 11% of domestic and commercial addresses are currently at risk.

The number of properties and commercial premises flooded by run-off from natural springs and the increase in the water table was significant during the in the 2007 floods. There was also a significant impact on the agricultural community.

Many areas of Worcestershire have been defended against flood risk however there are areas that are not currently defended to a satisfactory standard[4].

The Flood and Water Management Act (2010) gives Worcestershire County Council as Lead Local Flood Authority (LLFA) a new role in flood leadership with the statutory requirement to develop, maintain and apply local flood risk management strategy (LFRMS).

Work is underway to investigate locations which might be susceptible to future surface water flooding but which have not experienced flooding in the past. This forms a key part of the ongoing Surface Water Management Plan project.

SUDS will play an increasingly important role in the management of surface water run-off with the automatic right for new developments to connect to the drainage system due to be removed and LLFAs to take on the role of the SUDS Approval Body (SAB) following commencement of the relevant parts of the FWMA. This role is also due to extend to LLFAs adopting any SUDS which are approved and satisfactorily developed.

Investment Requirements

Neither the LLFA nor local authorities currently have a comprehensive understanding of future flood need, projects or funding requirements. Ongoing work by the LLFA and partners (e.g. development of Surface Water Management Plans) will attempt to address this but it will be another 12 months before implications and costs are some way to being understood.

In addition the implications of SUDS requirements and the costs will only truly be understood once development proposals come forward.

[4] A full list of areas is included within the Needs and Issues paper.

Scheme	Total cost of the scheme	Current Funding Allocation	Funding Gap	Funding Sources	Current RFCC Allocation
Pershore	£TBC	0.933m	£TBC	Local Levy & Local Contributions	Complete
Powick	£TBC	0.861m	£TBC	Local Levy & Local Contributions	Complete
Kempsey	£TBC	1.743m	£TBC	Local Levy & Local Contributions	Ongoing
Riddings Brook (Wribbenhall)	£TBC	0.413m	£TBC	Local Levy & Local Contributions	Complete
Wick Flood Reduction	£TBC	0.030m	£TBC	FDGiA	Complete
Hylton Road	£TBC	0.905m	£TBC	Local Levy	Complete
Upton	£TBC	4.480m	£TBC	FDGiA	Ongoing
Upton IPP	£TBC	0.025m	£TBC	Defra Scheme	Complete
Tenbury IPP 1	£TBC	0.125m	£TBC	Defra Scheme	Complete
Tenbury IPP 2	£TBC	0.205m	£TBC	Local Levy & Local Contributions	Ongoing
Pershore IPP	£TBC	0.011m	£TBC	Defra Scheme	Ongoing
Barbourne Brook	£TBC	1.156m	£TBC	Local Levy, FDGiA & Local Contributions	Ongoing
Hurcott & Podmore SSSI, Kidderminster	£TBC	0.010m	£TBC	FDGiA	Ongoing
Puxton Marshes SSSI, Kidderminster	£TBC	0.010m	£TBC	FDGiA	Ongoing
Wilden Marsh SSSI, Kidderminster	£TBC	0.010m	£TBC	FDGiA	Ongoing
Charlton	£TBC	0.342m	£TBC	Local Levy	Ongoing
Uckinghall	£TBC	1.086m	£TBC	Local Levy & Local Contributions	Complete
Wickhamford	£TBC	0.399m	£TBC	Local Levy & Local Contributions	Ongoing
Broadway	£TBC	0.578m	£TBC	Local Levy, FDGiA & Local Contributions	Ongoing

Note: It should be noted that the funding identified comes with the caveat that some of the funding is for future years and has been allocated using the best available information using the partnership funding tools (calculator etc) and principles - if better information is derived as part of the project then the figures could change for some of the projects.

Delivering Flood Risk Infrastructure

Flood Defences

A new Defra approach to funding flood and coastal risk management has been introduced for projects starting from 2012/13. This is called 'Flood and Coastal Resilience Partnership Funding'. This will entail a new partnership approach to funding flood and coastal resilience, to apply from now.

Instead of meeting the full costs, funding levels for each scheme will relate directly to the number of households protected, the damages being prevented, plus the other benefits a scheme and significant community contributions are sought, would deliver.

For the first time, grants for surface water management and property-level protection are available from Defra alongside funding for other risks and approaches.

Three aspects of a project will influence the amount of national funding available:

- The value of benefits for householders especially in deprived areas and where risks are significant;
- The value of other benefits achieved, such as the benefits to businesses, agricultural productivity and protection for national and local infrastructure, across the whole-life of the scheme.
- The environmental benefits of the scheme, needed to maintain healthy ecosystems as well as offset any habitats lost when defences are built to protect people and property.

The new system will apply from now for projects seeking funding approval from the Environment Agency. Through to the end of March 2013 will be treated as a transitional period, allowing lessons to be learned and refinements made to the approach before being confirmed for the 2013/14 financial year onwards.

SUDS

The Flood and Water Management Act makes considerable changes to the role of upper tier local authorities in planning and development control. In brief, the legislation makes lead local flood authorities the SUDS Approving Body (SAB), with the role of approving, adopting and maintaining SUDS connecting more than one property. The SAB is also responsible for providing approval before connection to the public sewerage system can be made. SUDS consent must be provided before construction can begin and will be a parallel process to planning permission.

It is likely that the provisions of the Flood and Water Management Act 2010 relating to sustainable drainage systems will be commenced from April 2013

although this remains to be confirmed. Suds will need to be designed and built in accordance with National SUDS standards. Publication of National SUDS standards is currently awaited, together with a sustainable scheme for funding their maintenance.

It is currently envisaged that local authorities will have powers to hold a 'bond' (of up to 100% of the value of a SUDS) to be retained until satisfactory sign off of that scheme.

When costing SUDs it is important to take into consideration the whole life span of the scheme and not just the construction costs. The costs to maintain the SUDs are mainly due to labour, equipment and material costs, replacement of or additional plants and the disposal of vegetation or sediment. As with construction costs, the cost of maintenance can vary depending on factors such as location, ease of access and design e.g. sediment management system design.

Local Levy

Local authorities raise a levy from households (included in Council Tax calculation). It can be used to help fund local flood risk and coastal protection projects which do not qualify for full central government funding. Local Levy can also contribute to flood and coastal defence schemes which are part funded by Flood Defence Grant in Aid. This levy funding is allocated by the Regional Flood and Coastal Committees (RFCC) to local priority projects.

Local Levy funding can be spent on building or maintaining flood risk management assets. Local Levy funds can be saved and carried forward from one year to the next and used to fund high cost schemes. This is different to Flood Defence Grant in Aid which must be spent within the financial year that it is allocated.

Water Supply and Waste Water Treatment

Scope
- Water Supply
- Waste Water Treatment

Main Participants
- Severn Trent Water Limited
- The Environment Agency
- Worcestershire County Council
- District/Borough Councils
- Regional Flood and Coastal Committee

Links to other plans and strategies
- Severn Trent Water Ltd: AMP 5 and Water Resource Management Plan
- Severn Catchment Flood Management Plan
- Emerging Local Flood Risk Management Strategy

Existing Assets

Water Supply

Severn Trent Water Limited (STWL) provide the majority of clean potable water to Worcestershire, except of a small are of Bromsgrove supplied by South Staffordshire Water (SSW).

Over half of the public water supply in Worcestershire is provided by groundwater. Water is abstracted at Whitbourne, Cookley, Hagley and Hampton Loade.

Waste Water Treatment

Redditch - Priest Bridge and Redditch (Spernal)

Bromsgrove – Main works: Fringe Green and Alvechurch. Smaller works: Stoke Prior and Belbroughton. Some waste is treated beyond Bromsgrove's boarder at Roundhill, Lower Gornal, Minworth, or Spernal.

South Worcestershire:
- Worcester (Bromwich Road)
- Powick
- Droitwich (Ladywood)
- Malvern Works (Mill Lane)
- Pershore
- Evesham

Wyre Forest – Main works: Kidderminster (Oldington) Smaller works (within and outside of the district boundary):
- Rectory Lane, Rock
- Fox Lane, Chaddesley Corbett
- Blakedown
- Upper Arley
- Belbroughton
- Horton Lane
- Roundhill

Trends and Issues

Water Supply

Across the Severn Zone, it is predicted that there will be a supply-demand deficit over the longer term (to 2034/35) unless additional investment is made in water supply infrastructure.

In some areas groundwater is currently being over abstracted because demand is outstripping supply. Presently, aquifers are under pressure in Kidderminster and Bromsgrove, which also see a number of low flow water courses. Additional abstraction from the River Severn (which is currently a major source of water) will have potential impacts on the Severn Estuary.

Additional water supplies for Wyre Forest will have to be brought in from outside the district as there is no additional water available for abstraction due to the potential impact on rivers and wetlands. However, the ability to move this water into the district is reliant upon existing infrastructure, such as pump capacities and pipe size.

The STWL Water Resource Management Plan also indicates that increasing nitrate concentration in groundwater sources will mean that they will become unsuitable for drinking water supply without further investment in treatment or blending. In some areas abstraction ceased due to increasing nitrate concentration.

Assets relating to historical private abstraction, whilst still in place, are not commissioned.

Waste Water Treatment

Present capacity within STWs varies across the County with some STWs able to accommodate some development (Priest Bridge, Redditch and STWs in South Worcestershire), while others are at capacity or under pressure (Alvechurch, Fridge Green, Roundhill and Minworth).

	Demand Trend	Key Changes	Key Issues
Water Supply		Deficit by 2010 2019/20 100 Ml/d 2034/35 145Ml/d	Demand greater than supply Over abstraction of groundwater Climate change uncertainty Water quality (including increasing nitrate concentration)

Waste Water Treatment	Status	Trigger/Capacity	Key Issues
Priest Bridge		3,053 dwellings	Limitation in Biological treatment processes. Will require upgrade
Redditch (Spernal)		16,912 dwellings	Limitation in Biological treatment processes. Will require upgrade
Dark Lane		None	None identified recently improved
Fringe Green		None	At high risk
Alvechurch		None	Under Pressure
Belbroughton		None	None identified
Stoke Prior		None	Struggling to cope
Roundhill		None	Upgrade already programmed
Minworth		None	Upgrade already programmed
Malvern (Mill Lane)		Some	Mothballed filters may be able to provide additional capacity
Evesham		Some	Additional assessment to determine how much can be accepted prior to triggering investment will be necessary
Droitwich (Ladywood)		Some	Capacity for initial phases
Pershore (Tiddesley Wood)		Some	Some hydraulic capacity, buy additional investment will be required to meet quality standards
Powick		None	Significant improvements required to inlet pumping and provision of additional primary, secondary and new tertiary treatment
Worcester (Bromwich Road)		Some	Capacity for initial phases as discharges directly into the River Severn. But may require upgrade to treatment processes
Oldington		None	Improvement and/or extension of existing works required
Rectory Lane (Rock)		None	Improvement and/or extension of existing works required
Chaddesley Corbett		None	Improvement and/or extension of existing works required
Blakedown		None	Improvement and/or extension of existing works required
Upper Arley		None	Improvement and/or extension of existing works required
Horton Lane		None	Improvement and/or extension of existing works required

Investment Requirements

Extension to the water supply network will be required as a result of the development of greenfield sites and adjustments for brownfield sites. The calculation of these costs are generally not undertaken until application by developers, who will then be required to pay an infrastructure charge.

STWL have previously stated that it is not feasible to undertake detailed analysis to determine the infrastructure requirements and associated capital costs, due to the long term phasing of developments and the uncertainty presented by the preparation of development of plans.

Employment allocations across Worcestershire are generally flexible in terms of suitable use, which presents a risk to calculating infrastructure requirements. Therefore, to assist with long term planning of capacity improvements early clarification will be required concerning the size, type and timing of developments bring proposed (both housing and employment).

However, it is important to note that there is no direct correlation between housing numbers (or business) and the actual level in demand.

Extension to the water resources network will be required as a result of the development of greenfield sites and adjustments for brownfield sites, the exact locations, timing and size of development will need to be submitted to the water companies at the earliest possible stage to enable calculation of costs and design to be factored into their next AMP an to be submitted to OFWAT. The costs for serving specific developments are not determined until application by developers when costs are calculated on a site by site basis.

Private individuals/companies are now looking at the feasibility of re-commissioning historical assets for commercial abstraction.

Water Supply

The current AMP5 includes no new schemes for supply/demand balance purposes. STWL are undertaking feasibility work on the creation of six new sources which will prevent supply/demand deficits occurring (for potential delivery in AMP6). Those that could benefit the Seven Zone are:

- Highters Heath Aquifer Storage and Recovery[5] (ASR)
- Minworth ASR
- Norton ASR
- Whitacre ASR
- Edgbaston borehole

[5] This is where treated water is pumped into an aquifer during times when there is surplus water and re-abstracted during high demand periods

Waste Water Treatment

In all areas additional development will lead to a requirement for upgrades to sewage treatment works (STWs). However, some treatment works will be able to accommodate early phases of development within existing capacity. These infrastructure improvements will be progressed as and when development sites start to come forward.

	Major Scheme	Responsible Bodies	Funding Sources	Total Cost	Funding Secured	Funding Gap
Water Resource	Upgrades to pump capacity and pipe size Import to Wyre Forest	Severn Trent Water Ltd Welsh Water South Staffordshire Water	Customers Developers	**TBC** (At least £7.3m)	£3m	**TBC** (At least 4.3m)
Waste Treatment	Upgrades to STWs across Worcestershire Roundhill and Minworth (already programmed) Lower Wick (£4.5m)	Severn Trent Water Ltd	Customers Developers	**TBC** (At least £4.5m)	£4.5m	**TBC**

Delivering Water Infrastructure

Severn Trent Water Limited is currently in the early stages of undertaking a periodic review to inform their asset management plan for 2015-2020. However, infrastructure investment is unlikely to be identified in the next 12 months.

The delivery of capacity improvements, these will be undertaken by and wholly funded by Severn Trent Water as part of customer bills. For new development the only recoverable costs for Water and Sewerage Companies (WASCs) from developers apply to connections to the WASC's existing water mains and sewers, and a contribution for on-site works.

Capital expenditure to water and wastewater treatment works has to be approved by Ofwat. STWL is planning for future population growth and at this strategic stage it is considered that suitable infrastructure will be provided. STWL does not anticipate any major barriers in terms of funding to providing the necessary infrastructure/supply for water or sewerage. The greatest issue will be phasing of improvements, including any lead in times.

The funding for sewerage capacity has in the past been provided by developers at a cost commuted to reflect the anticipated income from the new development. However, developers have the right to connect to existing sewers irrespective of whether capacity is available as such a greater proportion of the funding will be provided by STWL. This will require a closer understanding of where and when development will occur and raise capacity issues at the planning stage.

Communications

Scope
- Broadband

Main Participants
- District & Borough authorities
- Private Sector

Links to other plans and strategies
- Local Broadband Plan

Existing Assets

For the vast majority of residents and businesses in Worcestershire, broadband is supplied via terrestrial, fixed line networks. Two national infrastructure providers have competing networks in the county.

BT has enabled broadband services in all 70 telephone exchanges located within the county boundaries. All BT networks are made available on an open and equal access basis to all internet service providers (ISP) and communications providers (CP) in the UK who might wish to access their customers with broadband services in Worcestershire.

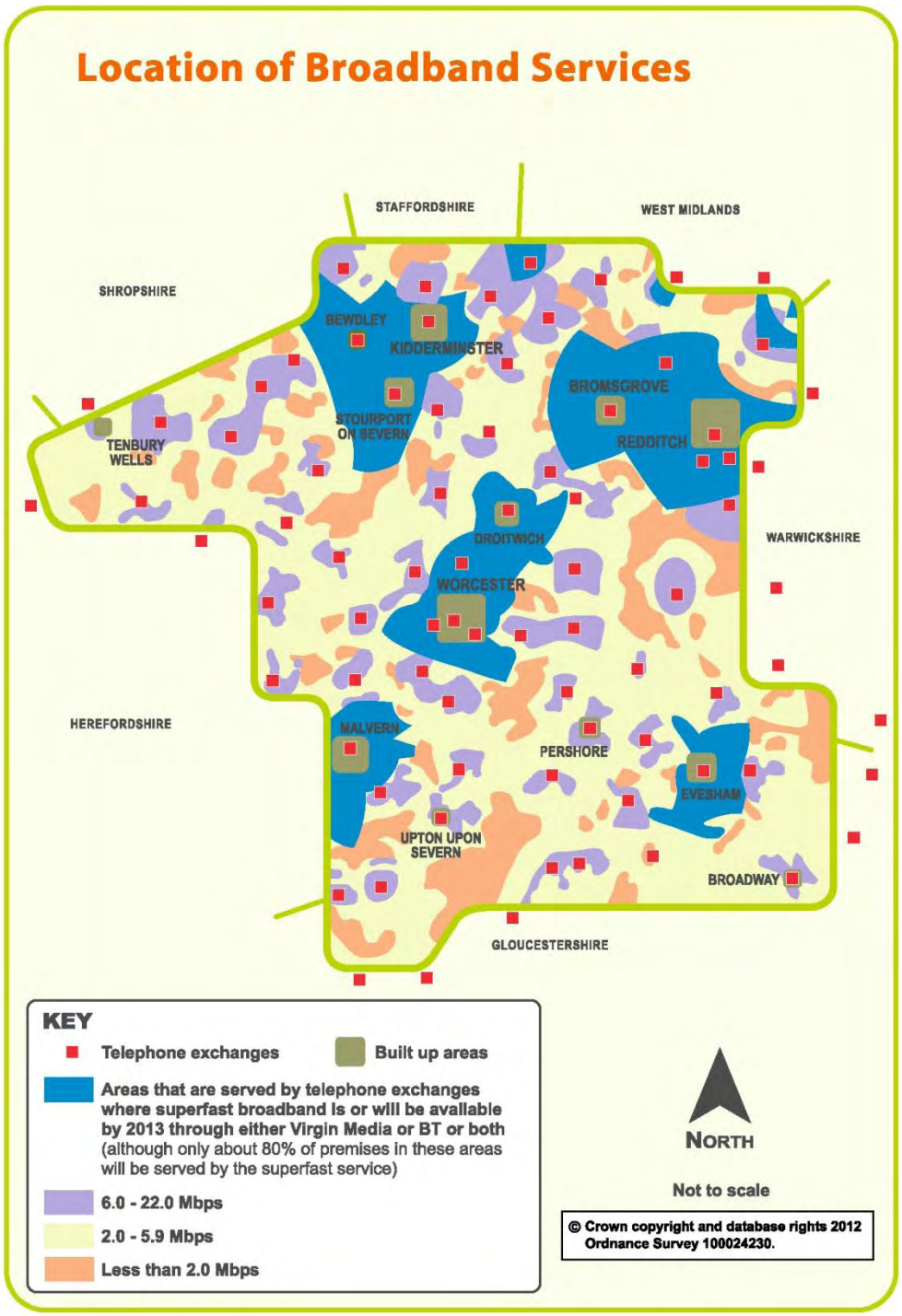
At a minimum, all exchanges can deliver an 'up to 8Mbps' service. BT have also enabled 25 exchanges with a technology that can deliver an 'up to 20Mbps' service, making faster speeds available to in excess of 80% of Worcestershire's residential and business premises.

A further network investment by BT is bringing 'superfast' broadband to the county. Some 15 county exchanges have been enabled with 'fibre to the cabinet' technology which can deliver download speeds of up to 76Mbps and upload speeds of up to 20Mbps to around 60% of premises in the County. This investment by BT is based upon a commercial investment model and is targeted to reach around two thirds of the UK residential and business premises.

BT is also investing in Ethernet technology in the county. Some 12 enabled exchanges bring Ethernet quality connectivity to around 14,000 business premises within the county. Ethernet offers 'point to point', uncontended, high quality internet connectivity. There are at least 22 exchanges across the County that are enabled with one or more of the BT services.

Virgin Media also operate a terrestrial TV and broadband network in Worcestershire and is present in parts of Kidderminster, Bromsgrove and Redditch.

National mobile networks operators such as Vodafone, o2, Orange, T-Mobile and 3 also manage networks within the county through which citizens can purchase internet access


Location of Broadband Services
STAFFORDSHIRE
WEST MIDLANDS
SHROPSHIRE
BEWDLEY
KIDDERMINSTER
BROMSGROVE
STOURPORT ON SEVERN
REDDITCH
TENBURY WELLS
DROITWICH
WARWICKSHIRE
WORCESTER
HEREFORDSHIRE
MALVERN
PERSHORE
EVESHAM
UPTON UPON SEVERN
BROADWAY
GLOUCESTERSHIRE
KEY
Telephone exchanges
Built up areas
Areas that are served by telephone exchanges where superfast broadband is or will be available by 2013 through either Virgin Media or BT or both (although only about 80% of premises in these areas will be served by the superfast service)
6.0 - 22.0 Mbps
2.0 - 5.9 Mbps
Less than 2.0 Mbps
NORTH
Not to scale
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Issues and Trends

The Government is committed to securing a world-class communications system, and currently the main barrier to this is the availability of super-fast broadband.

The Coalition Government's aim to create the best broadband network in Europe is echoed by the County's Corporate Plan for which Open for Business is a priority and broadband a key enabler. This is fully supported by the business community and the Worcestershire Local Enterprise Partnership (LEP).

The vision for Worcestershire is to deliver faster broadband for all by 2015 – namely:

- 90% of businesses in Worcestershire to have access to the Superfast Broadband
- Minimum 2Mbps speed for everyone in the county
- 90% of the county with access to the superfast broadband

Urban areas generally enjoy better fixed-line broadband and 3G (mobile) coverage than rural areas, primarily because they have better communications infrastructure. However, there is increasing evidence that suggests that this is causing the rural economy and rural areas to fall behind their urban counterparts.

For investors, rural communities (like much of Worcestershire) will always be less attractive investment propositions compared to urban areas because their infrastructure costs are much higher and potential revenues far smaller.

A much more holistic approach to communications infrastructure is required, and this required network operators, rural communities and the government to collaborate to identify present and future needs and forge joint solutions.

Investment Requirements

Distance of premises from exchange is a major barrier to providing superfast broadband. ASDL is only able to travel up to 5km, with available speed reducing the further from the exchange the premises is. Provision of at least FTTC (fibre to the cabinet), preferably FTTP (fibre to the premises), would increase speed available to premises.

BT is currently rolling out superfast broadband to 2/3 of the population by 2015. 12 Exchanges in Worcestershire have been upgraded to date and are already accepting orders (according to BT openreach). However, not all cabinets on an exchange will be enabled. Those that won't be enabled may be those which have few premises linked to them, or which are further from an enabled exchange. BT's experience to date shows that around 80 - 90% of street cabinets on an enabled exchange will be upgraded with fibre. There is a rolling programme of upgrades, with quarterly announcements of those

exchanges which will be upgraded. As recently as April 2012, both parts of Stourport and area of Redditch were also announced for inclusion in the programme.

There remains other more densely populated urban areas in the county which could well meet the enablement criteria in the future as the business case and cost for upgrading exchanges changes after every new upgrade to an exchange, as it can bring isolated communities closer to an enabled exchange.

Area	Major Scheme	Responsible Bodies	Funding Sources	Cost	Funding Secured	Funding Gap
Broad-band	TBC	WCC Private Sector	WCC BDUK Private Sector	**TBC** Estimated £20-£25m	£11.85m (BDUK £3.35m WCC £8.5m)	**TBC** Estimated £8.15-£13.15m

Delivering Communications Infrastructure

The Worcestershire Local Broadband Plan will facilitate a drive in economic growth and improve the quality of life for all residents and local businesses. As part of the Broadband Programme WCC have been actively engaged with local communities and commercial suppliers. Through such engagement we aim to raise broadband awareness, educate communities as to the potential use of broadband and stimulate demand which will then maximise opportunities for private sector investment, thus reducing the need for public sector investment.

Work has already commenced in some parts of Worcestershire. Allocated grant funding (Green Infrastructure Fund and Sustainable Transport Fund) is available for improvements to broadband in rural areas which is outside of the Local Broadband Plan (LBP). The communities which will receive this funding have been selected through an Expressions of Interest (EoI) and Business Case process. The Parish of Little Witley, The Redditch Travel Consortium (Redditch Arc) and North West Malvern Consortium have been awarded funding through this process.

Waste Management Infrastructure

Scope
- Waste Management Infrastructure.

Main Participants
- WCC Waste Planning
- WCC Waste management
- Private Sector (e.g. Mercia Waste Management)

Links to other plans and strategies
- Waste Core Strategy
- Joint Municipal Waste Management Strategy
- City, District and Borough Development Plan Documents

Existing Assets

At present there are 79 waste management facilities in the County.

This includes:

Treatment and recovery

- 4 Composting sites
- 6 Physical treatment sites
- 15 Metal recycling sites (10 of which manage End of Life Vehicles)
- 3 Thermal treatment sites

Sorting and transfer

- 2 Material reclamation facilities
- 26 Waste transfer stations

Household recycling centres

- 11 Household recycling centres

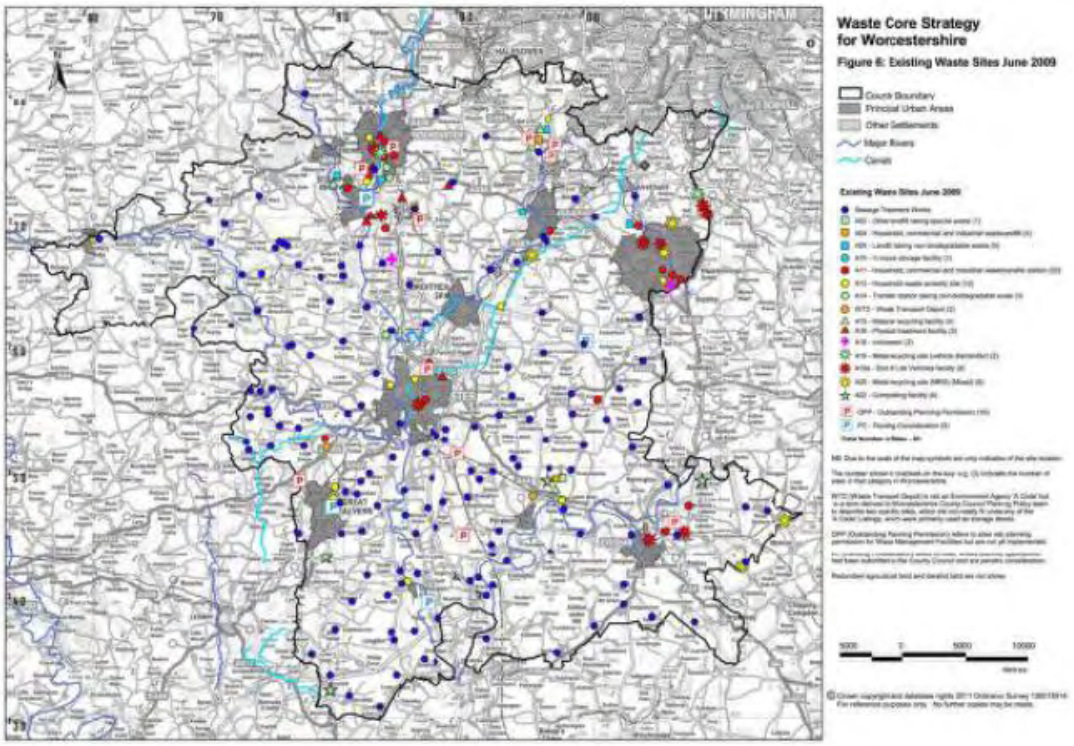
Disposal

- 12 Landfill sites or infilling operations

Waste Water

There are also about 155 sewage treatment works, mostly under the control of Severn Trent Water. These are not usually considered part of conventional waste management infrastructure and are considered separately under the Water Management Chapter of this report.

Waste infrastructure is usually provided and operated by the public or private sector, however the 'third sector' can have a role to play. The particular infrastructure and nature of the operation largely reflect the waste stream.



Issues and Trends

Worcestershire County Council has a responsibility for the provision of waste management facilities for local authority collected waste (LACW – previously known as municipal waste). Most other waste management capacity is provided by the private sector.

The European Waste Framework Directive requires the management of waste in accordance with the waste hierarchy. This means reducing waste produced and recycling as much of the waste that is produced as possible. Where waste cannot be recycled value should be recovered through other means such as energy recovery and waste should only be disposed of it where this is not possible. At present recycling capacity in the County is much lower than need. The Council has a duty to prepare a plan which addresses these issues and has done so in the form of the Waste Core Strategy which is anticipated to be adopted in late 2012/early 2013.

	Capacity	Key Issues
Reuse and Recycling		Requirement is greater than capacity (capacity gap c.400,000 tonnes per annum)
Other Recovery		Requirement is greater than capacity (capacity gap c.230,000 tonnes per annum)
Sorting and Transfer		Current capacity sufficient for current requirement
Landfill and Disposal		Current landfill space is sufficient for requirement until at least 2027

It is also anticipated that the amount of waste produced in the County will continue to grow in the future. Additional waste management capacity will therefore be required.

Waste Type	Demand Trend	Key Changes	Key Issues
Hazardous (inc clinical and radioactive)		0.27% increase by 2031 0% growth in hazardous waste arisings	
Local Authority Collected Waste		16.47% increase by 2031 No increase in waste produced per household, but an increase in the number of households	Meeting National Targets for recovery and recycling (by 2015): 45% recycling, 78% recovery
Construction and Demolition		17.83% decrease by 2031 Predicted to drop to 2011 then to remain static	Increasing on-site recycling of construction and demolition waste
Commercial and Industrial (inc agricultural)		34.39% increase by 2031 no growth in industrial waste but 2.6% increase in commercial waste per annum	There is a need to decouple growth in waste arisings from economic growth

Requirements

The County Council needs to plan for waste management capacity which is equivalent to the amount of waste that is produced in the County. This need is calculated based on what will be required to meet European, national and local recycling targets. The anticipated additional capacity requirements are set out below:

	2010/11	2015/16	2020/21	2025/26	2030/31	2035/36
Re-use and recycling capacity gap	**391,000**	**400,500**	**460,000**	**498,500**	**541,500**	**586,500**
C&I (inc Agricultural waste)	58,000	81,000	107,500	137,500	172,000	210,500
C&D	127,500	105,000	105,000	105,000	105,000	105,000
LACW	165,500	174,000	207,000	215,500	224,000	230,500
Hazardous (inc Clinical and radioactive)	40,000	40,500	40,500	40,500	40,500	40,500
'Other recovery' capacity gap	**240,500**	**253,500**	**268,000**	**283,500**	**300,500**	**318,500**
C&I (inc Agricultural waste)	120,500	129,000	138,500	149,500	162,000	176,000
LACW	113,500	118,000	123,000	127,500	132,000	136,000
Hazardous (inc Clinical and radioactive)	6,500	6,500	6,500	6,500	6,500	6,500
Sorting and transfer capacity gap	**0**	**0**	**0**	**0**	**0**	**0**
C&I (inc Agricultural waste) and C&D	0	0	0	0	0	0
LACW	0	0	0	0	0	0
Hazardous (inc Clinical and radioactive)	0	0	0	0	0	0

In order to meet these capacity requirements the following schemes have been identified:

	Major Scheme	Responsible Bodies	Funding Sources	Total Cost	Funding Secured	Funding Gap
LACW	Hartlebury Energy from Waste 5 HWRCs	Mercia Waste Management Worcestershire County Council District Councils	PFI and PFI Credits	£120 - £160 million	**£TBC**	None anticipated
Private Sector[6]	TBC	TBC	Private Sector Funding	c£70 million to 2025/26 and an estimated £210m to 2035	Unknown	None anticipated

Delivering Waste Management Infrastructure

The provision of Waste Management Capacity for LACW is the responsibility of the County Council in its role as a Waste Disposal Authority. Waste Management capacity for other waste streams will be delivered by the private sector.

A key issue in ensuring sufficient waste management capacity is to ensure the provision of sufficient land. This is about 30Ha by 2025.6 and 35 Ha by 2035. This will predominantly be on new employment land. It may be worth checking if your ELRs took this into account, as I seem to remember reading that the ELR specifically excluded the land needs of waste management – but I could be wrong/it could have been updated.

Worcestershire County Council: Waste Disposal Authority

In order to develop sufficient capacity to manage LACW in the period to 2023, part of this contract is the proposal to develop an Energy from Waste facility at

[6] These are however private sector developments, undertaken for profit. Therefore it is not possible to say at present that finance has been committed as it will be solely private sector spending. However, any failure in the market to achieve this scale of development will mean considerably greater costs falling on the Worcestershire ecoomy. AWM identified that if not addressed waste management would cost 5.7% - 6.2% of business turnover by 2010/11 and 7.5% - 8.4% by 2019-20. This is therefore a strategy business infrastructure. (Figures taken from: Advantage West Midlands (March 2008), *Waste A Future Resource for Business*).

Hartlebury, Worcestershire. This facility would manage LACW from the counties of Herefordshire and Worcestershire. Members of Worcestershire County Council Planning and Regulatory Committee were minded to approve planning permission for this facility. However, the application was 'called in' by the Secretary of State for his own determination. A Public Inquiry into the 'called in' planning application was held in November 2011 and the result of a public inquiry is anticipated in July.

If permitted this facility will provide capacity for the treatment of 200,000 tonnes per annum of residual LACW. It might also manage some Commercial and Industrial Waste.

Failure to deliver sufficient municipal waste management infrastructure in the County could lead to failure to meet landfill diversion targets, resulting for fines for the County; or waste will have to be diverted to facilities out of the County which will incur increased transportation costs.

All infrastructure providers

Waste can be treated in large facilities, supported by smaller transfer stations or in smaller facilities across the County and treated closer to source. There are benefits and drawbacks with both of these options, and may depend on the economies of scale required to treat particular types of waste. Waste management facilities could also be developed in conjunction with other types of development to benefit from treating wastes where they arise, or providing an end product from the waste management process to nearby development, such as recyclate to replace a primary resource in manufacturing or energy from a waste recovery facility to heat or power local homes or businesses.

In all waste streams it is essential to improve re-use, recycling recovery and recovery recycling rates in order to minimise the need for landfilling. It is significantly cheaper to recycle waste than landfill. Policy WCS 14 of the Waste Core Strategy will require provision to be made for waste in all new developments. This will help to improve the sorting, collection and storage of waste. However separate facilities will be required for its management.

Education

Scope
- Primary Education
- Secondary Education
- Early years
- Further/Higher education

Main Participants
- WCC Education
- Academy Trust

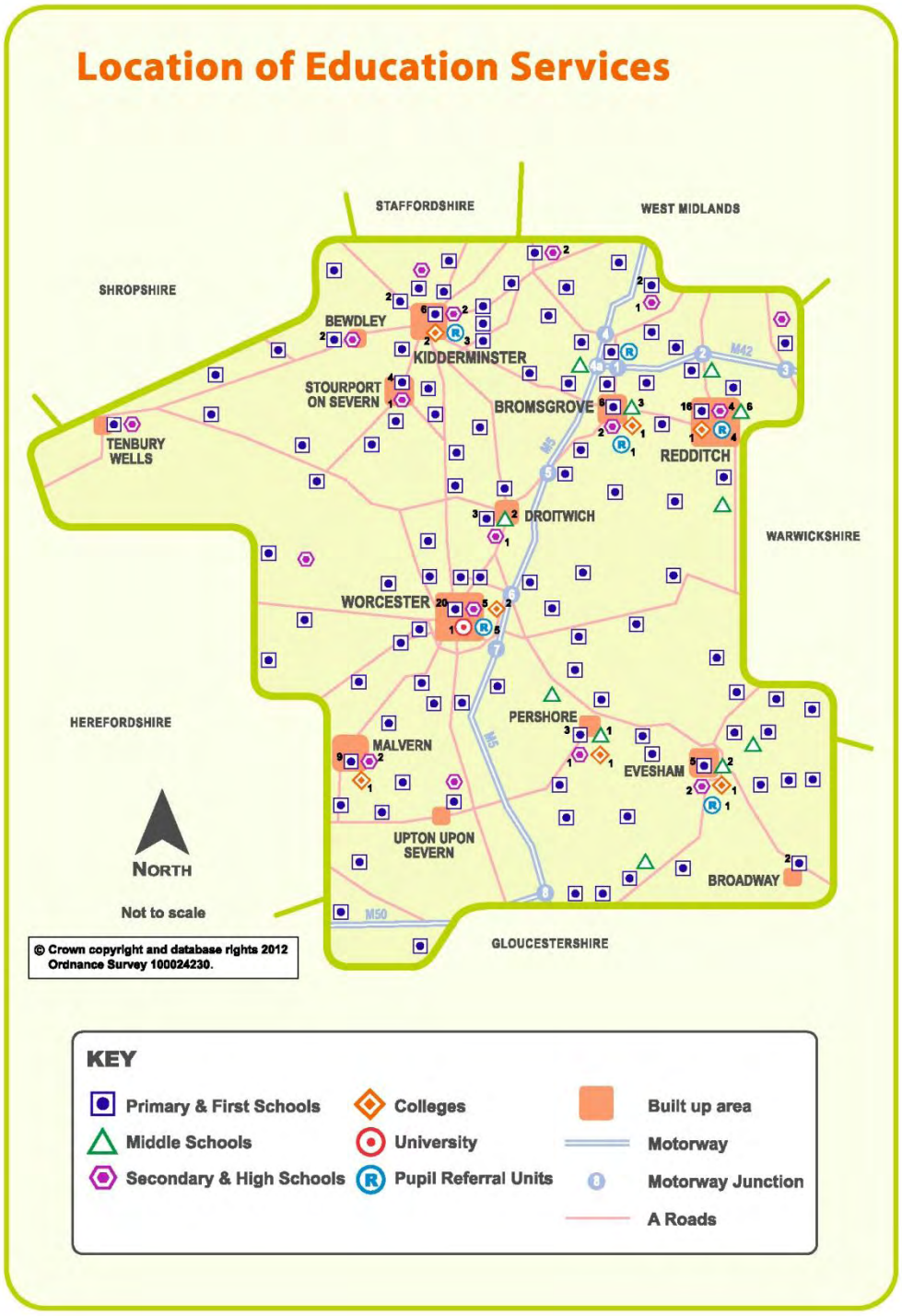
Links to other plans

Existing Assets

Worcestershire has areas of three-tier schooling (first, middle and high schools) and areas of two-tier (primary and secondary schools). For the purposes of infrastructure planning, this difference is accommodated through apportioning the three-tier places between primary and secondary schools to allow for simplified calculations. The scope of this chapter covers only primary and secondary education.

As at 1 May 2012 there were 218 Local Authority maintained schools in the county (i.e. not including independent schools or Academies). This total is made up of 1 nursery; 168 primary; 21 middle; 13 secondary; 9 special; and 6 PRU/short-stay schools.

There are 8 primary and 16 secondary Academies, with a number of schools currently undergoing conversion to Academy status. Academy schools are state funded schools but are outside Local Authority control, although they have links through services and through performance to differing degrees.


Location of Education Services
STAFFORDSHIRE
WEST MIDLANDS
SHROPSHIRE
BEWDLEY
KIDDERMINSTER
STOURPORT ON SEVERN
BROMSGROVE
REDDITCH
TENBURY WELLS
DROITWICH
WARWICKSHIRE
WORCESTER
HEREFORDSHIRE
PERSHORE
MALVERN
EVESHAM
UPTON UPON SEVERN
BROADWAY
GLOUCESTERSHIRE
M5
M42
M50
NORTH
Not to scale
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KEY
Primary & First Schools
Middle Schools
Secondary & High Schools
Colleges
University
Pupil Referral Units
Built up area
Motorway
Motorway Junction
A Roads

Issues and Trends

Worcestershire County Council (WCC) has a statutory duty to ensure there are sufficient school places for all children of statutory school age living in Worcestershire and whose parents/carers apply for a place at a state funded school. Future housing developments will lead to an increase in the 0–19 year old population in the area, resulting in a demand for additional school places for all types of education (early-years to post-16 and Specialist provision).

The number of school places expected to be required in a given year is estimated by WCC through accurate forecasting. Demand varies by location, with some currently seeing increases in pupil numbers with others seeing falls. Patterns at individual school level can be predicted but several factors can cause a sudden shift in behaviour (for example a good or bad Ofsted report or change of head teacher can suddenly make a school more or less popular) and this will impact on neighbouring schools.

Primary pupil numbers are increasing in urban areas where the rising birth rate is felt most keenly. Secondary schools are currently experiencing more of a dip in numbers but will feel the impact of the higher primary numbers in due course.

Each year pupil numbers are forecast and demand is matched to the current supply of school places. This can lead to a school being asked to increase or decrease its published admission number. An increase can only be implemented if there is sufficient capacity at the school to take extra pupils. Where ever possible, additional pupils are accommodated within existing schools. If capacity prevents this, then extensions and alterations are favoured over new-build schools.

Although a number of schools have or will shortly be transferring to become academies it is not expected that this will have any adverse impact on the ability of WCC to manage school places across the County. Despite their more autonomous status, academies still form part of the provision of 'basic need' for school places which must be satisfied by WCC, and so contributions will be sought for academies where required, as with conventional schools.

Area	Demand Trend	Key Changes	Key Issues
Primary Education (Urban areas)		Hotspots in parts of Kidderminster, Worcester City and Redditch.	Increasing birth rate leading to increasing demand
Primary Education (Rural areas)		Falling numbers in Upton and Evesham	Lower pressure on places in most rural areas compared to urban.
Secondary Education		Current dip in numbers, anticipated to be temporary	Will increase as impact of higher birth rate moves through the system

Investment Requirements

District	Major Schemes	Responsible Bodies	Funding Sources	Total Cost	Max funding available*	Funding gap of at least
Worcester City	Increased capacity primary (£12.35m) Increased capacity secondary (£12.38m) (including 2FE Primary school + build cost for 1FE (£6m))	Worcestershire County Council	County Council Private Sector Developer Contributions	£24.73m	£12.37m	£12.37m
Malvern Hills	Increased capacity primary (£4.78m) Increased capacity secondary (£5.14m)	Worcestershire County Council	County Council Private Sector Developer Contributions	£9.92m	£4.96m	£4.96m
Wychavon	Increased capacity primary (£11.35m) Increased capacity secondary (£12.21m)	Worcestershire County Council	County Council Private Sector Developer Contributions	£23.56m	£11.78m	£11.78m
Redditch	Increased capacity primary (£9.40m) Increased capacity secondary (£6.97m) (including site and build cost for 1FE first (£4m))	Worcestershire County Council	County Council Private Sector Developer Contributions	£16.36m	£8.18m	£8.18m
Bromsgrove	Increased capacity primary (£6.64m) Increased capacity secondary (£7.14m)	Worcestershire County Council	County Council Private Sector Developer Contributions	£13.78m	£6.89m	£6.89m
Wyre Forest	Increased capacity primary (£5.28m) Increased capacity secondary (£5.70m)	Worcestershire County Council	County Council Private Sector Developer Contributions	£10.98m	£5.49m	£5.49m

Delivering Education Infrastructure

Based on average pupil yield figures (the expected number of school-age children per dwelling), a new 1-form entry (FE) primary school might be 'triggered' by a development of around 1,100 dwellings. The 'trigger' for a new secondary school would be a very significant development (e.g. a new town or very large development, where expansion of existing schools would not be possible).

The lead-in time to establish, design, and build a new school is approximately three and a half years and costs are typically around £6.5 million for a 2FE primary school and £35 million for an 8FE secondary school.

Most Worcestershire districts have adopted Supplementary Planning Documents which set out a formula for calculating developer contributions for education facilities. The SPDs provide information on existing capacities and the costs, per dwelling type, towards providing school places on developments of up to 100 dwellings. Large-scale new developments of 100 or more dwellings are negotiated individually.

WCC would prefer to receive contributions for increased school places via CIL as this would allow flexibility in targeting funds effectively to meet needs. Both locally-maintained schools and academies would be eligible to receive CIL funding for extra school places.

It should be noted that until recently it could be assumed that traditional funding sources could provide around 50% of the costs of education provision, but this economic picture is changing. It is likely that local authority resources will be only be able to meet a reduced proportion of overall costs going forward.

Health and Social Care

Scope
- Acute and Community Health Centres

Main Participants
- Acute Hospitals Trust
- Health and Care Trust (WHCT)
- Clinical Commissioning Groups

Links to other plans and strategies
- Joint Services Review (forthcoming)
- WHCT Estates Strategy (draft)

Existing Assets

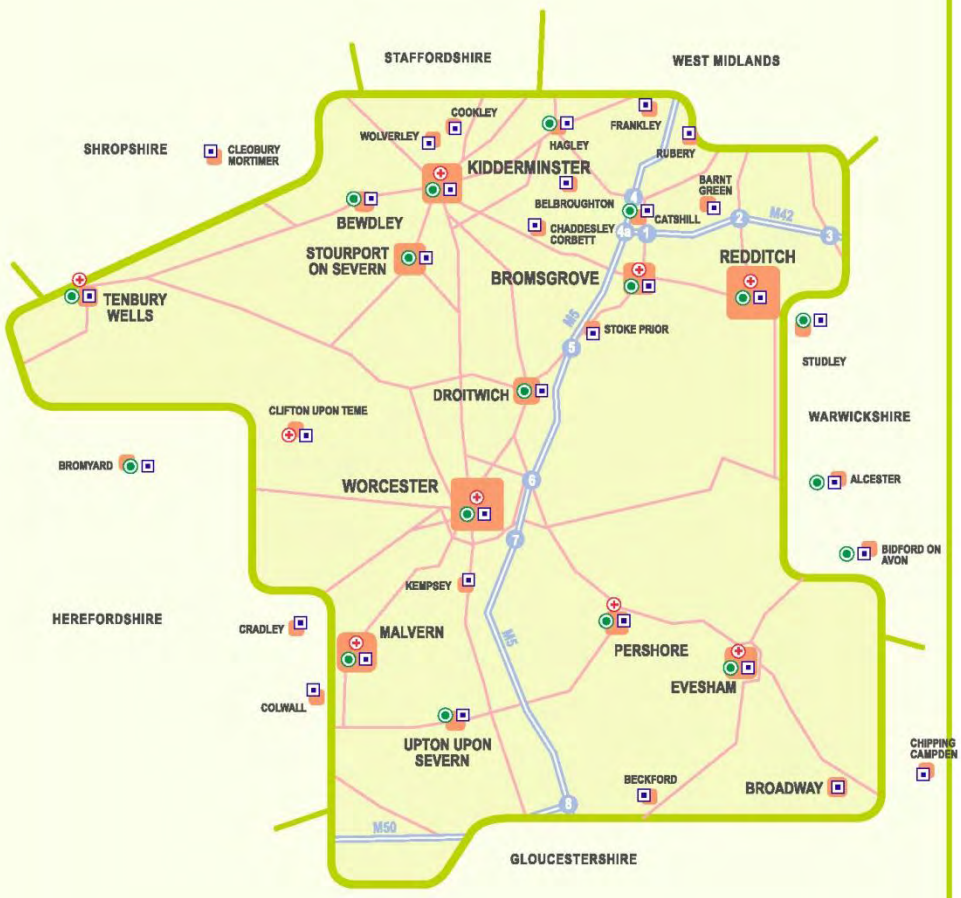
The Worcestershire Acute Hospitals NHS Trust provides hospital-based services from three main sites:

- Worcestershire Royal Hospital
- The Alexandra Hospital (Redditch)
- Kidderminster Hospital and Treatment Centre

The Worcestershire Health and Care Trust manage the Community Health Care Estate, operating 150 buildings spread across more than 120 sites. The estate includes 5 community hospitals with around 60-70 satellite clinics. The community hospitals act as hubs for the clinics and are located at:

- Malvern
- Tenbury
- Evesham
- Bromsgrove
- Pershore

Location of Health Services



Issues and Trends

Changing needs of the population (e.g. the ageing population) and changing nature of delivery (e.g. improvements in medical procedures, the move to independent living, the move to personalised budgets) have meant there is a move away from the need for larger facilities and this will increase in the future. Instead, there is an increasing drive to deliver services closer to patients, in community facilities or in the patient's home. Changes to service delivery and disability standards could results in different requirements for property: making some properties redundant and need for more buildings/facilities in different locations as services move.

A number of other impacts on housing could flow from the demographic change and the shifting pattern to more localised independent living solutions, an increase in adaptive technology and the increase in care in the community.

- Increased need for a percentage of adapted housing stock
- A move to flexible life time housing allowing easy adaptation from single to married to family to single occupation
- A reduction in churn of the housing stock where there is a concentration of older residents

The impact of the Welfare Bill changes in terms of maximum rents and reduction in benefits leading to a shift from market housing to affordable housing have yet to emerge.

Health Estate Changes

Both the Acute Hospital Trust (AHT) and the Worcestershire Health and Care Trust (HACT) are in the process of developing new estates strategies as a result of the changing needs of the population and a need to make efficiency savings (of around 20%).

While the HACT has a clear vision for the future, developing a hub and spoke model to ensure that they operate from high quality, fit-for-purpose buildings located in the right place; future service delivery within the AHT will be determined by the outcome of the ongoing countywide Joint Services Review

Requirements

NHS Worcestershire has been through a programme of investment in community health facilities with the aim of achieving modern, fit for purpose premises able to meet patient expectations and clinical standards. The strategy is to ensure optimal and flexible use of all available estate. New facilities include community hospitals in Pershore and Malvern and GP premises in Malvern and Worcester.

Initial discussions with NHS representatives have suggested that there is unlikely to be any new capital investment in new health infrastructure in the short term. The focus is likely to be on refurbishment or expansion of the

existing estate in part driven by sustainability considerations and the need to reduce the estates carbon footprint. It is likely that services will be consolidated with the disposal of unsustainable locations funding the improvement of the remaining estate.

Delivering Health and Social Care Infrastructure

Currently where there is a business case for a new facility, the Trusts bid for funding from Central Government to deliver the service. Additionally, rationalisation of the estate will release capital, which can be recycled internally. However, Government can call in the surplus estate and indeed has done so with some of the administrative buildings that made up the Primary Care Trust's Estate.

The Trusts currently don't get any funding from development towards new facilities, and don't anticipate that they will require it in future. Although, this may change in future depending on the scale and location of new growth.

Area	Major Scheme	Responsible Bodies	Funding Sources	Cost	Funding Secured	Funding Gap
Health	TBC	Unknown	Unknown	TBC	TBC	TBC
Social Care	TBC	Unknown	Unknown	TBC	TBC	TBC

Libraries

Scope
- Libraries

Main Participants
- Worcestershire County Council
- District & Borough Councils
- Town & Parish Councils
- University of Worcester
- Local Communities

Links to other plans and strategies
- Public Libraries and Museums Act 1964
- Public Sector Equality Duty 2011

Existing Assets

Bromsgrove: Alvechurch, Bromsgrove, Catshill, Hagley, Rubery & Wythall

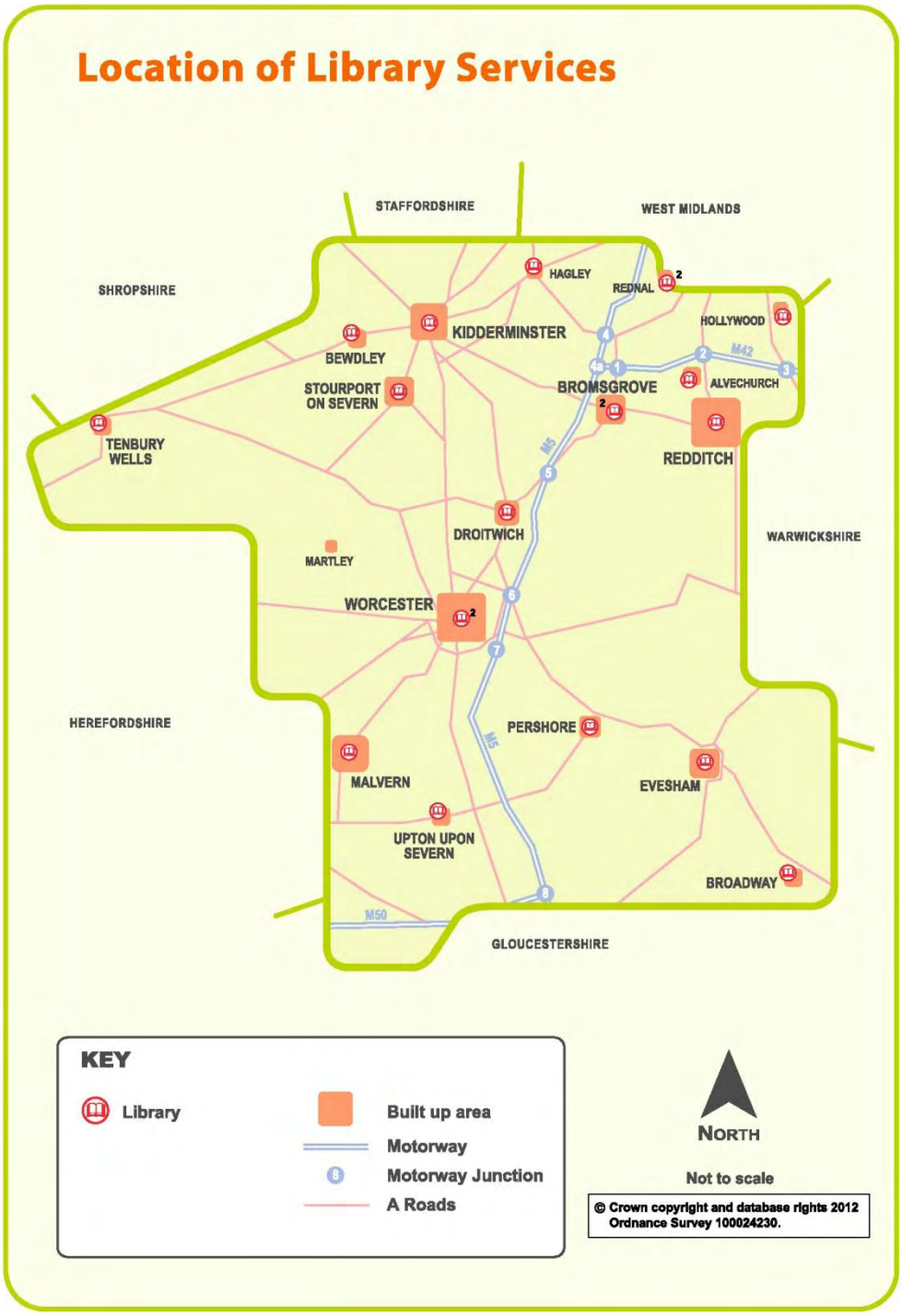
Malvern Hills: Malvern, Martley, Tenbury Wells, Welland & Upton-upon-Severn

Redditch Borough: Redditch & Woodrow

Worcester City: St Johns, Warndon and Worcester

Wychavon: Broadway, Droitwich Spa, Evesham & Pershore

Wyre Forest: Bewdley, Kidderminster & Stourport-On-Severn


Location of Library Services
STAFFORDSHIRE
WEST MIDLANDS
SHROPSHIRE
HAGLEY
REDNAL
HOLLYWOOD
KIDDERMINSTER
BEWDLEY
M42
STOURPORT ON SEVERN
BROMSGROVE
ALVECHURCH
TENBURY WELLS
M5
REDDITCH
DROITWICH
WARWICKSHIRE
MARTLEY
WORCESTER
HEREFORDSHIRE
PERSHORE
M5
MALVERN
EVESHAM
UPTON UPON SEVERN
BROADWAY
M50
GLOUCESTERSHIRE
KEY
Library
Built up area
Motorway
Motorway Junction
A Roads
NORTH
Not to scale
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Trends and Issues

Under the Public Libraries and Museums Act 1964, the Council has a legal duty to provide a comprehensive and efficient library service to Worcestershire residents (and full-time students and workers within the county) wishing to make use of it

This is a period of great change for the Library Service in Worcestershire. The gross library budget 2010/11 is £6.2m, however the budget is being reduced by £1.8million (28%). Libraries are to be assessed individually over a 3 year period. The County Councils aspiration is to seek community-led solutions, devolving responsibility for local delivery where appropriate.

Each library has been tested against four potential outcomes. These are:

i. That an existing library in the future would be a catalyst and gateway to other public agencies and voluntary services, that was where other services were integrated and located into an existing library;
ii. That an existing library was integrated into services delivered and run by or with other public, voluntary and private sector partners;
iii. That an existing library alongside other services were run in partnership or wholly by the local community;
iv. iv. That the current library provision was replaced. It could be replaced by a community approach including greater use of technology e.g. e-books, using mobile services, the introduction of new community library collection points based in other local public or private buildings and/or the use of other community libraries.

Investment Requirements

Library Service is currently reviewing its service delivery and so far £191,000 of savings has been achieved and another £767,000 savings are planned for the next financial year. Cost saving measures has included the co-location of local authority and partners' services. For example Droitwich Library accommodation has been altered to accommodate Jobcentre Plus and Age Concern. The next three years will see a radical re-defining of the County's library service and the exact costs are as yet unknown.

Library	Key Issues
Alvechurch	Linked to First and Middle school (PFI). Opportunity to draw in further services and get greater community involvement.
Bewdley	Opportunity to re-define service and to relocate and integrate with other local services e.g. Police/Health and District Council Hub. Also scope to involve local community in delivery of service. Subject to consultation.
Broadway	Opportunity for greater local community involvement in delivery of services. Is currently in standalone facility next to Police Station. Subject to consultation.
Bromsgrove	Hub Library. Opportunity to re-define service and to relocate and integrate with other local services as part of town centre regeneration. Opportunity for local community to take greater role in delivery. Subject to consultation.
Catshill	Small library. Opportunity for local community to deliver service. Subject to local consultation.
Droitwich	Opportunity to draw in further services – District Council hub, CAB, Job Centre Plus, Probation, Children's Centre. Opportunity to explore links with voluntary sector, local community and private sector.
Evesham	Hub Library. Well used library, co-located with Registration Service. Opportunity to draw in further services. Opportunity to explore further links with voluntary sector and local community.
Hagley	Small stand alone building. Opportunity for local community to deliver service. Will be subject to local consultation.
Kidderminster	Hub Library. Large building with spare capacity. Opportunity to draw in further services. Opportunity to integrate with local college, Wyre Forest District Council.
Malvern	Hub Library. Very busy co-located library. Opportunity to draw in further services. Opportunity to explore further links with voluntary sector and local community. Opportunity to investigate further co-location with Town council, Tourist Information and Adult Social Care.
Pershore	Linked to Capital Asset Pathfinder project. Option to re-locate to Civic centre and integrate with other services, Health, Adult Social Care, Children's and others. Option to work with Town Council on a localism solution at the present site. Subject to local consultation.
Redditch	Hub Library, recently refurbished building, some spare capacity Opportunity to draw in further services. .
Rubery	Potential to bring other services on site e.g. Youth and Police. Opportunity for greater involvement of Local Community. Subject to local consultation.
St Johns	Recently refurbished. Tied into National Lottery agreement. Opportunity to draw in further services and link to City Council and University.

Stourport	Building in poor condition. Is part of major town centre review (Stourport forward). Opportunity to relocate and integrate with other local services. Opportunity for local community for greater role in delivery. Subject to local consultation.
Tenbury	Already a co-located library – HUB and Registration Service. Highest usage in borough in terms of catchment due to isolation. Opportunity to draw in other services and have greater community involvement in delivery of service.
Upton	Small Library but is linked to HUB. Look to involve local community in running Library. Will be subject to local consultation.
Warndon	Multi use site – Children's Centre, School, Health Centre, Nursery, Adult Learning Disadvantaged community. Opportunity to draw in further services Opportunity to explore further links with Worcester Trust.
Woodrow	Opportunity to draw in further services e.g. Hub next door, community cafe. Opportunity to explore further links with voluntary sector and local community.
Worcester (Foregate Street)	Opportunity to explore further links with voluntary sector and local community. Will close in 2012 and re-locate to the HIVE. Future proposals for the use of Foregate Street are unknown.
Worcester (The Hive)	Hub Library. New PFI facility – joint University/Public Library, History Centre, Hub and Archaeology Service. Will act as a key hub for overall library service. Opportunity to explore further links with voluntary sector and local community.
Wythall	Shares site with redundant health centre owned by PCT. Potential for re-provision developing a volunteer ran service from adjoining newly developed parish rooms. Will be subject to local consultation.

	Major Schemes	Responsible Bodies	Funding Sources	Total Cost	Funding Secured	Funding Gap
Library	TBC	Worcestershire County Council	Capital Receipts	TBC	TBC	TBC

Delivering Library Infrastructure

Worcestershire County Council is participating in Capital and Asset Pathfinder (CAP) Pilot by the Department of Communities and Local Government (DCLG). One strand of this programme is to look at a community asset (Buildings) model this approach has been applied to the community libraries.

Work is taking place in Droitwich, Pershore and Broadway on piloting the joint use of library assets with other public services and the local community whilst reducing the number of buildings and on-going revenue costs.

The flexibility of the community model is such that engagement with the local community may see new opportunities emerge that deliver better outcomes locally, deliver the savings required and increase the potential for making savings across a number of public services in the future.

Decisions will have to reflect the statutory duty on the County Council as to the provision of a library service. The underlying duty as to provision of a comprehensive service remains with the County Council although it can fulfil or supplement what it identifies as such a service by way of direct or external provision.

Built Leisure

Scope
- Leisure Centres
- Swimming

Main Participants
- District & Borough authorities
- University, Schools and Colleges
- Private Sector

Links to other plans and strategies
- South Worcestershire Sports Facilities Framework
- District & Borough PPG17 Audits

Existing Assets

Across the County built leisure facilities are provided by both the public and pri

The facilities outlined below are those managed or commissioned by local authorities and not those provided by the commercial sector.

Bromsgrove: 3 centres

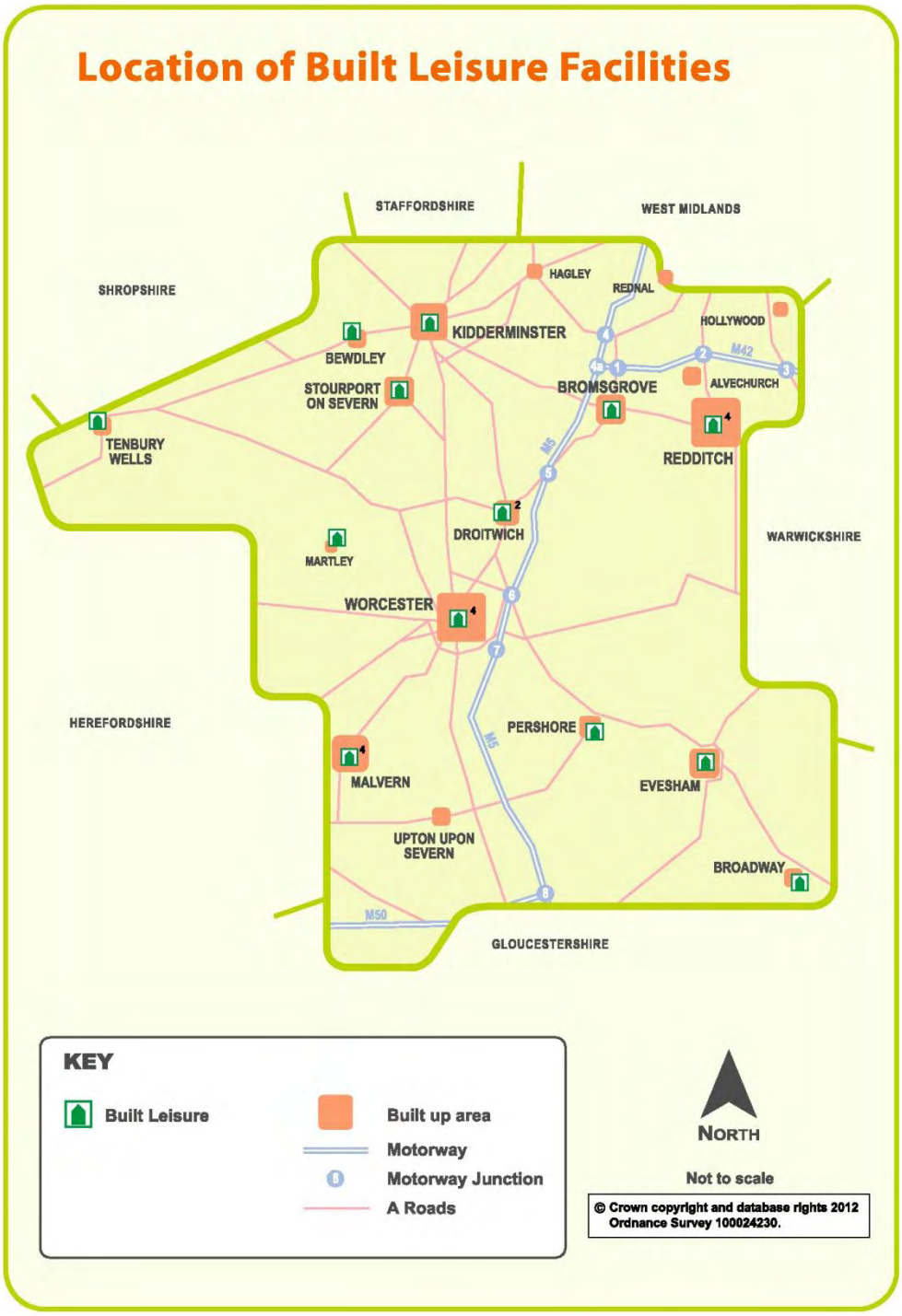
Redditch: 4 centres

Malvern Hills: 11 centres

Worcester City: 6 centres

Wychavon District: 4 centres

Wyre Forest: 3 centres


Location of Built Leisure Facilities
STAFFORDSHIRE
WEST MIDLANDS
SHROPSHIRE
HAGLEY
REDNAL
HOLLYWOOD
KIDDERMINSTER
BEWDLEY
M42
STOURPORT ON SEVERN
BROMSGROVE
ALVECHURCH
TENBURY WELLS
REDDITCH
M5
DROITWICH
WARWICKSHIRE
MARTLEY
WORCESTER
HEREFORDSHIRE
PERSHORE
MALVERN
EVESHAM
UPTON UPON SEVERN
BROADWAY
M50
GLOUCESTERSHIRE
KEY
Built Leisure
Built up area
Motorway
Motorway Junction
A Roads
NORTH
Not to scale
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Trends and Issues

The National Planning Policy Framework requires planning policies *"to be based on robust and up-to-date assessments of the needs for open space, sports and recreation facilities and opportunities for new provision*" and that *"assessments should identify specific needs and quantitative or qualitative deficits or surpluses of open space, sports and recreational facilities in the local area. Information gained from the assessments should be used to determine what open space, sports and recreational provision required".*

The Regional Sports Facilities Framework for the West Midlands set out the priorities for investment. The Framework identified the key issue for Worcestershire as being the age of existing Facilities.

The expected trend is for people to live longer and to be active longer in a wider range of sports. The trend is being supported by national and local promotions including NHS/PCT's preventative health schemes and other sports development initiatives.

In some areas of Worcestershire the population will be ageing and net increases in population may be low up to 2026 despite new housing growth. In other areas, however, the population will not only increase but typically have a younger profile and so a higher level of need for sports facilities.

There is a trend toward a growing number of private sector sports facilities within Worcestershire (e.g. Nuffield Health, Worcester & David Lloyd Bromsgrove already provided and new facilities being built at Worcester Rugby Club and proposed for the St Martin's development in Lowesmoor, Worcester).

Investment Requirements

South Worcestershire

The appropriate provision standard for sports facilities, including playing fields, is identified in the South Worcestershire Sports Facilities Framework[7] and related South Worcestershire authorities playing pitch strategies. Generally, sports facilities and playing pitch needs have been identified by a local standard of provision (for example the number of facilities needed per 1000 population in new housing).

Priorities for spending on sports facilities, playing pitch and other leisure facilities' enhancements (including refurbishments, extensions or replacements) will be based on the local authority's approved Programme of

[7] Sports Facilities Framework, Programme of Development and Developers Contributions Report. http:// www.swdevelopmentplan.org/wp-content/uploads/2011/09/1Prog_of_Dev_and_Dev_Conts_Report.pdf

Development (POD) and Programme of Works (POW), see table below.

Wyre Forest

Wyre Forest District Council (WFDC) has reviewed leisure centre provision in the district. Maintenance of existing centres has been excluded due to high costs (an additional £200,000 p.a.). WFDC has now decided to progress with plans to build a new centre for the district.

The plan is for a new leisure centre with a sports hall (6 badminton court size), a 25 metre swimming pool with separate learner pool, a fitness suite and five a side pitches. The new centre will cost approximately £10.1 million and it is estimated to cost the Council £7.5m less over the next 30 years than maintaining the existing facilities.

Redditch

A Supply & Demand analysis using Sport England's Sports Facility Calculator (SFC) has been undertaken by consultants. The key findings are:

- The Borough is well provided for in terms of Health & Fitness facilities although there is a lack of accessible facilities; by 2018 this is projected to increase to a theoretical deficiency of 130 stations
- The Borough is underprovided for in terms of water space; by 2018 this will be equivalent to a 25m 4 lane pool
- By 2018 the Borough will be deficient in the supply of accessible sports hall provision relative to one 4 court sports hall.

Bromsgrove

In quantitative terms, existing indoor sports facilities are sufficient to meet demand and facilities are well distributed across the district. However, the facility stock is ageing and it is considered that future focus should be on improving the quality and access to existing facilities.

Area	Major Schemes	Responsible Bodies	Funding Sources	Total Cost	Funding Secured	Funding Gap
Wyre Forest	Leisure Centre	Wyre Forest DC	Recycling capital receipts and cost savings	£10.1m	£TBC	At least £10.1m
Bromsgrove	Replacement of Leisure Centre	Bromsgrove DC	Recycling capital receipts and cost savings	£9m-£12m	£TBC	None expected
Worcester	University of Worcester Sports Arena	University of Worcester	Sport England £1.5m Trustees of the Foundation for Sport and the Arts £250k England Basketball £375k England Badminton £200k Private Donations £95k	£15m	c. £2.5m	At least £12.5m
Worcester	New Swimming Pool	Worcester City	Developer Contributions	c. £12-13m	£TBC	At least £12-13m

Delivering Built Leisure Infrastructure

South Worcestershire

A hierarchy of sports facilities has informed the process of identifying levels of developer contributions, and is fully explained and justified in the Herefordshire and Worcestershire Sports Facilities Framework.

The contributions sought are based on the capital costs of providing a typical facility. For sports facilities, costs have been calculated using a combination of Sport England's regularly updated Sports Facilities Kitbag Quarterly Costs publications and other appropriate examples of recent facility comparable costs.

Where appropriate, the local authorities will require the transfer of a site which is appropriately accessible, located, serviced and of appropriate quality, to the authority at a peppercorn cost.

In some cases, new residential developments will not generate the need for a new sports facility. However where developments are located in areas where additional pressure will be placed on existing sports facilities by the development, the local authorities will seek contributions at the standard rate, for the enhancement and extension of existing sports in the vicinity of the development.

Where larger developments can generate a need for and/or locate suitable playing pitches/fields then these will be located on-site. Otherwise, off-site contributions will be sought to support nearby existing or new sites, and/or for identified, more strategic sites (such as larger, high quality, multi-pitch sites serving more than the local need).

North Worcestershire

Districts have existing guidance with regard to developer contributions and authorities may require contributions toward the provision and enhancement of facilities.

Emergency Services

Scope

- Police
- Fire and Rescue Service
- Ambulance

Main Participants

- West Mercia Police (WMP)
- Hereford & Worcester Fire and Rescue Service (HWFRS)
- West Midlands Ambulance Service (WMAS)

Links to other plans and strategies

- Joint Policing Plan 2012-2015
- Fire Service Integrated Risk Management Plan 2009-12
- West Midlands Ambulance Service – Estates Strategy

Existing Assets

Police

North Worcestershire:

Territorial Policing Unit Headquarters - Kidderminster

8 Police Stations - Bewdley, Bromsgrove, Crabbs Cross, Hagley, Redditch, Rubery, Stourport-on-Severn and Wythall

11 Police Posts - Bromsgrove, Kidderminster, Redditch and Stourport on Severn.

South Worcestershire:

Territorial Policing Unit Headquarters - Worcester

10 Police Stations - Broadway, Dines Green, Droitwich, Evesham, Malvern, Pershore, Tenbury Wells, Upton-upon-Severn and Worcester; and 2 Police Posts – Worcester

Fire and Rescue Service

4 whole time stations - Worcester, Kidderminster, Bromsgrove and Redditch;

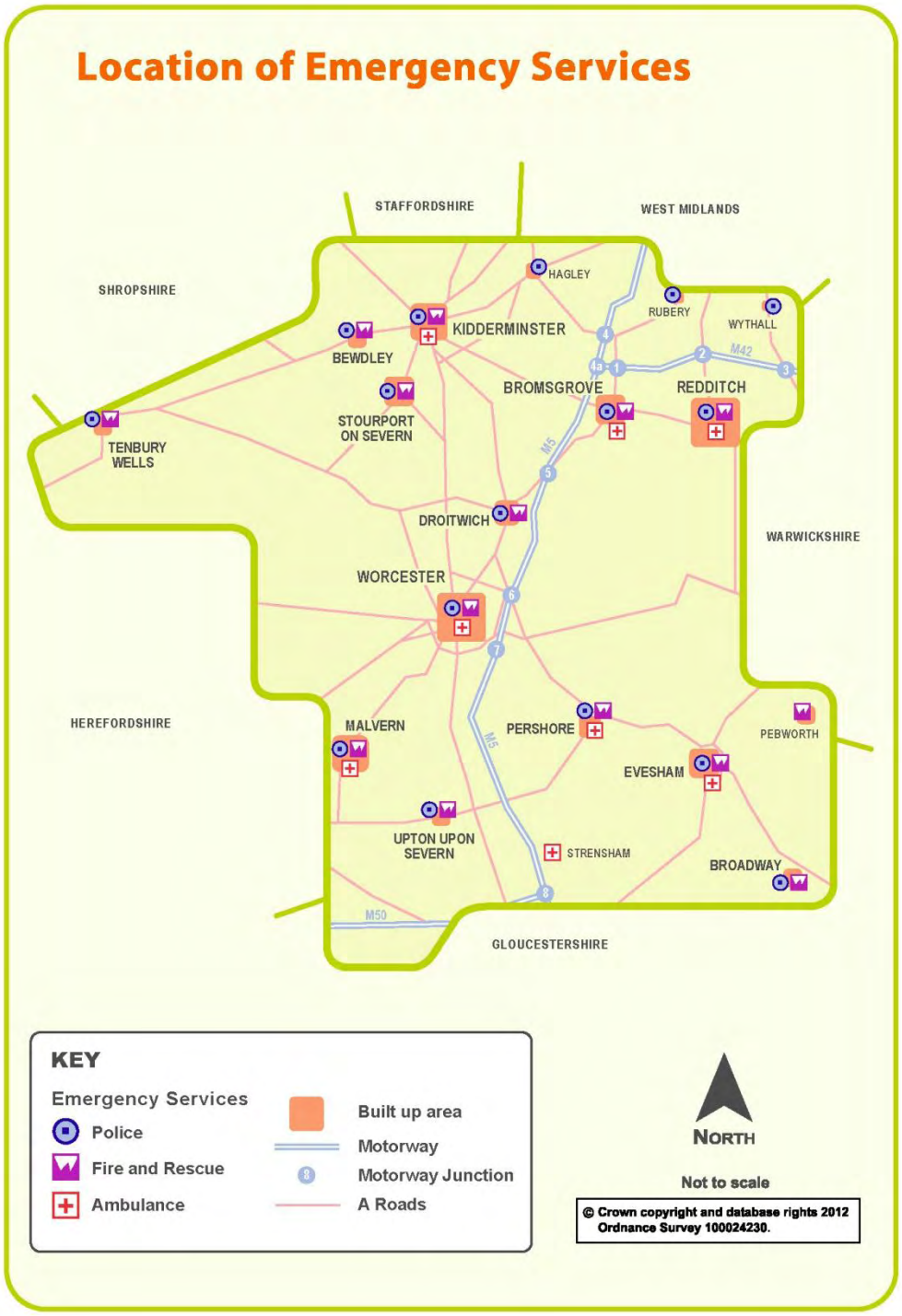
3 day-crewed stations - Malvern, Droitwich and Evesham; and

7 stations which operate the retained duty system - Pershore, Bewdley, Stourport, Upton, Tenbury, Broadway and Pebworth.

Ambulance Stations - Worcester, Pershore, Evesham, Malvern, Redditch and Kidderminster.

Ambulance Service

7 stations at Worcester, Pershore, Evesham, Malvern, Redditch and Kidderminster plus Air Ambulance at Strensham services station.


Location of Emergency Services
STAFFORDSHIRE
WEST MIDLANDS
SHROPSHIRE
HAGLEY
RUBERY
WYTHALL
KIDDERMINSTER
BEWDLEY
M42
BROMSGROVE
REDDITCH
STOURPORT ON SEVERN
TENBURY WELLS
M5
DROITWICH
WARWICKSHIRE
WORCESTER
HEREFORDSHIRE
MALVERN
PERSHORE
PEBWORTH
EVESHAM
UPTON UPON SEVERN
STRENSHAM
BROADWAY
M50
GLOUCESTERSHIRE
KEY
Emergency Services
Police
Fire and Rescue
Ambulance
Built up area
Motorway
Motorway Junction
A Roads
NORTH
Not to scale
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Trends and Issues

Emergency services infrastructure includes the requirements of the police, fire and rescue service and ambulance service. Increased development levels create new areas that will require emergency service coverage and new people who increase emergency incidents.

With all emergency services the impact of development relates to two main areas. Firstly, increased development and population leads to increased incidents which require an emergency response. Second are the response times, new development such as major urban extensions will provide new destinations to be serviced and therefore require infrastructure if response times can't be met. Infrastructure funding will need to be secured to provide an acceptable level of Police and Fire and Rescue resourcing commensurate with that growth.

Spending Review and efficiencies

As a result of the CSR, West Mercia Police (WMP) will need to save approximately £30 million over the next four years. Effectively, this is a 17% reduction in real terms. At the same time, the Government advised police authorities nationally not to increase the policing element of Council Tax. The CSR settlement comes into effect from April 2011 onwards. Estate changes need to be considered in the context of the trends highlighted above.

WMP has been adapting itself to this new fiscal context through its own internal 'Making the Difference' structural review and entering into a 'Strategic Alliance' with Warwickshire Police. The 'Strategic Alliance' was formally signed off by both Police Authorities on 28 and 29 June 2011. Although strategic proposals have since been agreed by the two forces, work is on-going on how these will be delivered in practice. It is however expected that the 'Strategic Alliance' will enable the fiscal gap between the efficiencies identified by the internal 'Making the Difference' structural review and the CSR settlement to be closed.

In common with the rest of local government, the Fire and Rescue Authority faces a period of significant uncertainty over future funding. It is known that the initial grant cuts were to be back loaded, but details are yet to emerge about how this will affect individual Authorities (and the past variation has been very large). In addition, there is the unknown effect on the Authority of the impact of the major reforms to the Business Rates and Council Tax Benefits.

The Fire and Rescue Authority has taken the best available information into consideration in preparing the medium term financial plan, which anticipates a need to save an additional £1m in each year for the next three years to 2015-16. The achievement of these savings will demand radical changes, and the Authority is, therefore, reviewing how it needs to adapt services, priorities and ways of working in order to sustain its standards of service delivery and performance improvement for the future.

Investment Requirements

Both WMP and HWFRS are currently engaged in comprehensive structural reviews, which involve reassessing operational and geographical priorities, in response to the Government's CSR. Currently no programme for capital expenditure on existing assets is envisaged.

Consultants WYG have been appointed by WMP to prepare Strategic Infrastructure Assessments (SIAs), which will identify and evidence the Force's infrastructure needs in Worcestershire in response to planned development growth.

An SIA was completed in November 2011 for South Worcestershire. WMP and WYG will shortly be commencing preparation of SIAs for each of the three North Worcestershire Districts, in response to anticipated Local Development Framework consultations. The information from the completed SIAs will supersede the presently available police infrastructure information for North Worcestershire.

HWFRS have established an internal research group to examine their infrastructure requirements.

The WMAS Estates Strategy aims to deliver a cost effective estate via a process of rationalisation by ensuring fit for purpose accommodation is located in the best locations to support its new operating model, termed 'Make Ready'.

The strategy aims to consolidate accommodation into centralised hubs overseeing a network of community response points; thus driving down costs by reducing the occupied floor area whilst maintaining service quality.

The table below sets out the current understanding of investment requirements for the emergency services.

Whilst WMP have positively engaged with the various planning policy teams throughout the County regarding infrastructure issues to date, it has become increasingly apparent that schemes are progressing well ahead of the adoption of new development plan documents.

This in turn means that limited contributions are being received by the emergency service infrastructure providers, as negotiation of contributions towards emergency service infrastructure requirements is taking place with reference to currently adopted local planning policies, which in the majority of cases did not include reference to contributions towards this type of infrastructure.

However, where revised development plan documents have been prepared, these have included planning policies that cover emergency service infrastructure requirements.

Service	Major Schemes	Responsible Bodies	Funding Sources	Total Cost	Funding Secured	Funding Gap
Police (South Worcs)	2 police stations (£3.25m) 5 police posts (£0.795m) Upgrade to Evesham & Pershore police stations (£2.22m) Expansion of Worcester Custody (2 cells) (£0.106m)	WMP	Prudential Borrowing Recycling capital receipts Developer contributions Worcestershire Capital and Asset Pathfinder Initiative	£6.371 m	£0.1[8]	£6.271m
Police (North Worcs)[9]	Upgrade to Kidderminster Police HQ (£0.5m-£1m) Replacement of Stourport-on-Severn police station (£3m)	WMP	Prudential Borrowing (some shared with HWFRS) Recycling capital receipts Developer contributions Worcestershire Capital and Asset Pathfinder Initiative	£5.5m	£0	£5.5m

[8] Potential capital receipt from disposal of Dines Green Police Station

[9] SIAs prepared by WYG on behalf of WMP will update this information. Preparation of SIAs will proceed as revised development growth figures become available from the three Councils.

Service	Major Schemes	Responsible Bodies	Funding Sources	Total Cost	Funding Secured	Funding Gap
Joint Police and Fire	Replacement of Bromsgrove and Redditch police and fire stations with two joint stations (£10m each)	WMP and HWFRS	Prudential Borrowing (shared by WMP and HWFRS) Recycling capital receipts[10] Developer contributions	£20m	£10[11]	£10m
Ambulance	Provision of Make Ready Hub in Worcester (£0.4m)	WMAS	Recycling capital receipts	£0.4m	£0.4	£0

[10] Raised from disposal of existing Police and Fire Stations in Bromsgrove.

[11] Forward funding provided by WMP and HWFRS via prudential borrowing.

Delivering Emergency Services Infrastructure

WMP, HWFRS and WMAS are all engaging in processes of service rationalisation to identify the most cost effective operating models to reduce costs and improve operational and fiscal efficency.

In addition to working jointly with HWFRS on joint stations, WMP are working with Warwickshire Police, as part of a Strategic Alliance, to identify the operational and fiscal efficiencies that can be achieved through joint working.

The WMAS surplus estate will be disposed of to enable maximum efficiency savings, which will be redeployed to provide enhanced patient care. The potential gross capital receipts following a comprehensive disposal programme will cover the cost of the new Make Ready Hub for Worcestershire.

Innovative measures of infrastructure delivery include the development of new joint police and fire stations in Bromsgrove and Redditch, costing approximately £10million each. This cost will be met up-front entirely through prudential borrowing shared between WMP and HWFRS. The capital receipts raised from the disposal of the existing police and fire stations in Bromsgrove and Redditch will also be put towards the cost of the new facilities.

However, this consequently results in WMP and HWFRS forward funding strategic facilities required to deliver police and fire services to new development growth. It is therefore reasonable to expect the new developments that will benefit from the delivery of police and fire services from the new facilities to contribute towards the cost of their provision i.e. through Section 106 or Community Infrastructure Levy payments.

WMP have successfully negotiated contributions from developers for a number of sites in South Worcestershire. However, these negotiations are taking place in a fluctuating context. An example of this is that following agreement to provide Police Posts in pre-application discussions, planning applications have been subsequently refused or withdrawn.

In addition, it has become increasingly apparent that developers are progressing schemes ahead of the adoption of new development plan documents. This in turn means that assessment of emergency service infrastructure requirements is taking place in some cases with reference to currently adopted local planning policies, which were never designed to take them into account, with a resultant inconsistency of approach across the County.

Green Infrastructure

Scope

- Natural assets that perform a strategic function (e.g. watersheds)

Main Participants

- WCC
- Natural England
- Environment Agency
- Forestry Commission
- Worcestershire Wildlife Trust
- District councils

Links to other plans and strategies

- Worcestershire Green Infrastructure Partnership Framework documents
- Worcestershire Green Infrastructure Strategy (2012)

Green infrastructure can be defined as:

"*Green Infrastructure is the network of green spaces and natural elements that intersperse and connect our cities, towns and villages. It is the open spaces, waterways, gardens, woodlands, green corridors, wildlife habitats, street trees, natural heritage and open countryside. Green Infrastructure provides multiple benefits for the economy, the environment and people.*"

Green infrastructure is as important as grey infrastructure to provide a range of functions within our towns, cities and villages, and can often compliment and support traditional grey infrastructure. Green infrastructure should be both multi-functional and interconnected to enable it to deliver a range of eco-system services.

Functions which GI can deliver include

- Drainage and water storage
- Access and recreation
- Urban cooling and shading
- Protection and enhancement of biodiversity

The delivery of green infrastructure is a step change from more traditional approaches to open space, ensuring that each space can perform a number of roles and deliver a number of functions in the wider environment and supporting or reducing the need for grey infrastructure where ever possible. For example a SUDS network will store water in ponds and swales and reduce the need for undergrounds pipes etc to carry water into the river system. By storing water and releasing it slowly, peak flood volumes can also be reduced, to the benefit of both people and property.

There are also a number of additional benefits to Green Infrastructure including which bring benefits to both society and the economy.

Fully functional green infrastructure cannot be delivered randomly. In the same way as the delivery of grey infrastructure is based on needs assessment and builds on existing provision, green infrastructure needs to be developed in a similar and complimentary way. The evidence base for green

infrastructure includes ecological habitats and species, historic environment, landscape character and sensitivity, flood and water management and access and recreation information. By combining different elements of data, the best locations for green infrastructure can be identified for it to deliver the greater number of functions.

Green Infrastructure can be provided at a variety of scales; both county and local depending on its function and scale. However, it will be predominantly provided at a local level through new development. The decision to deliver green infrastructure is however, a strategic decision as green infrastructure must be provided as a part of a wider network and can replace/compliment the delivery of grey infrastructure network.

Existing Assets

Existing GI assets can be considered both at a local and county level. County levels assets can be defined as those which provide a range of functions for the whole county or beyond and have a strategic function. These are supplemented by local assets and together combine to form the existing green infrastructure assets for the county.

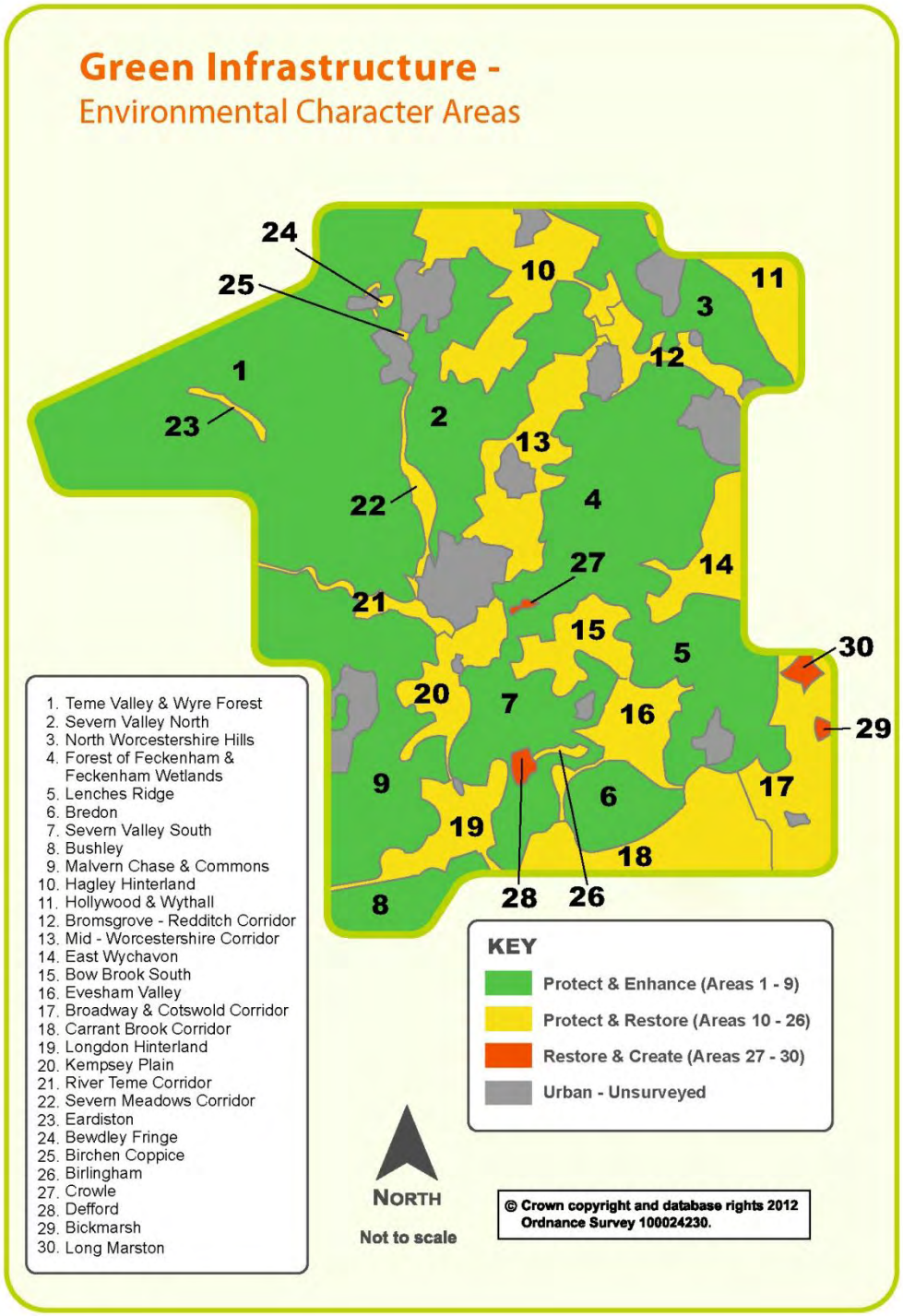
Based on evidence of the three key drivers for green infrastructure, environmental character areas have been identified for the county which are determined by the quality of existing assets:

- Biodiversity
- Landscape and
- Historic environment

Using these, a map of green infrastructure character areas in the county has been developed which identify appropriate green infrastructure actions and the overarching approach to green infrastructure delivery:

1. Protect and enhance (areas of existing high quality GI)
2. Protect and restore (areas of medium quality GI)
3. Restore and create (lower quality GI)

To support this approach a series of objective tables has also been developed which outlines the strategic approach to intervention within each of the GI character areas.


Green Infrastructure -
Environmental Character Areas
1. Teme Valley & Wyre Forest
2. Severn Valley North
3. North Worcestershire Hills
4. Forest of Feckenham & Feckenham Wetlands
5. Lenches Ridge
6. Bredon
7. Severn Valley South
8. Bushley
9. Malvern Chase & Commons
10. Hagley Hinterland
11. Hollywood & Wythall
12. Bromsgrove - Redditch Corridor
13. Mid - Worcestershire Corridor
14. East Wychavon
15. Bow Brook South
16. Evesham Valley
17. Broadway & Cotswold Corridor
18. Carrant Brook Corridor
19. Longdon Hinterland
20. Kempsey Plain
21. River Teme Corridor
22. Severn Meadows Corridor
23. Eardiston
24. Bewdley Fringe
25. Birchen Coppice
26. Birlingham
27. Crowle
28. Defford
29. Bickmarsh
30. Long Marston
KEY
Protect & Enhance (Areas 1 - 9)
Protect & Restore (Areas 10 - 26)
Restore & Create (Areas 27 - 30)
Urban - Unsurveyed
NORTH
Not to scale
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Trends and Issues

The GI environmental character areas map, has categorised the majority of the county into protect and enhance or protect and restore, with few poor quality areas. there was insufficient information on the urban areas for the analysis to be extended to them. This analysis was undertaken using county data sets, whereas there may be local areas of poor quality green infrastructure within this wider network.

The central Worcestershire corridor of medium quality GI includes significant areas identified for development within proposed and adopted local plans which should focus delivery through concept plans.

The 2011 study of sub-regional assets also undertook an analysis of their existing carrying capacity and the potential impact of future development.

The carrying capacity of GI assets is determined by a number of factors including:

- Recreational pressures and use
- Geology and soils
- Habitats

Capacity is a major concern in [arts of the county, with many of the significant recreational assets being at or near capacity especially during busy periods, such as weekends.

Trend	Direction of travel	Key changes	Key issues
Recreational growth		Increasing demand for informal recreation and increasing expectation on sites has resulted in increased use of both sites and the facilities that they offer and an expectation that facilities should be available.	Increasing demand on sites. Increasing expectation that sites should offer a range of facilities such as toilets and information. Increased demand for quality; judged by for example, Country Parks accreditation and Green Flag status.
Population growth in Worcestershire		Existing and emerging local plans identify substantial population growth within the county, including significant growth around Worcester City.	Increasing demand on sites which are already at capacity, increasing the desire to travel further for recreation.
Population growth in the neighbouring counties		Existing and emerging plans from neighbouring local planning authorities to the north and east identify housing development.	Worcestershire already experiences high demand for recreational tourism with strong flows from the north into the county to key assets such as Lickey Hills and Wyre Forest.
Recreational use	 (diversification)	The impact of recreation on a site is dependent on both numbers and the nature of the recreational activity. Recreational aspirations may diversity to encompass additional activities which are more intrusive in the landscape or are in conflict with other users.	Potential greater conflict between recreational users and also on the landscape and habitats reducing carrying capacity.

Investment Requirements

Investment in Green infrastructure is required both in sub-regional assets (strategic GI) and on development sites (district and neighbourhood GI)

The Worcestershire Green Infrastructure sub-regional partnership has developed a site based approach to inclusion of GI into development opportunities through concept planning or GI planning for the development based on evidence from the natural environment including blue infrastructure, biodiversity, landscape, historic environment and access and recreation.

However, the report into recreational access has also identified a need for new sub-regional recreational assets.

The new assets will:

- Support existing demand and alleviate pressure on existing sites which are at carrying capacity
- Provide additional facilitates in response to increasing demand for recreational facilities
- Provide additional facilities to cater for predicted growth in demand
- Provide increase choice and reduce the need to travel to recreational facilities

Potential geographical areas for new sub-regional facilities are:

- Wyre Forest Extension Area
- Lickey Hills Extension
- Sandford water Park
- North Worcester Option A (Worcester Droitwich park)
- North Worcester Option B (Hallow Riverside park)

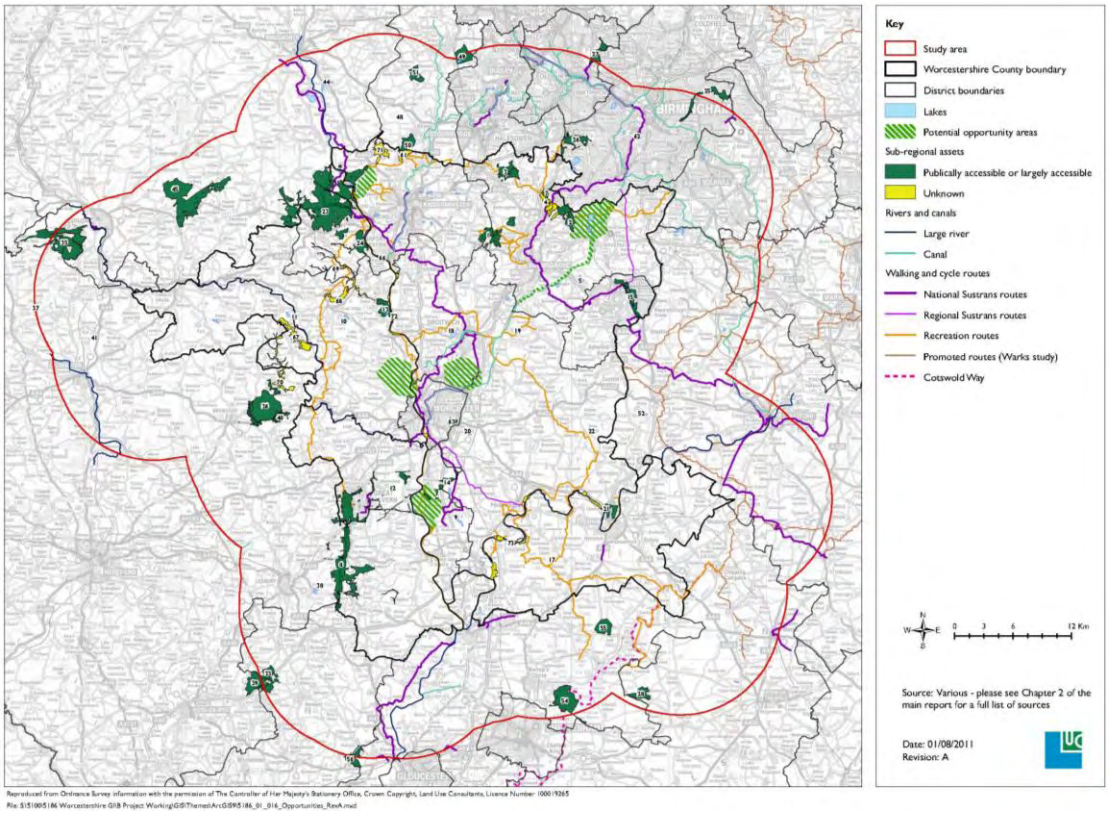
Green Infrastructure (parks and gardens, waterways, allotments, tree-lined streets and green roofs) can provide a network of green resources. Most grey infrastructure – such as roads or sewers – has a single function and is often expensive to construct and maintain.

The multifunctional nature of GI assets means that they can deliver a diverse range of benefits which are mutually reinforcing. Green infrastructure:

- Protects against flooding: This can involve placing sustainable drainage systems (SUDs) in developments to attenuate surface water runoff and enhance biodiversity and recreation. A catchment or landscape scale approach recognises the role that agricultural land and wetlands can play in storing flood water upstream in areas where there is no risk to homes and commercial buildings.

- Can store and recycle water for summer irrigation reducing the potential for drought;
- Well-designed and managed GI can encourage people to travel in a more sustainable way, such as cycling and walking providing spaces to encourage exercise;
- The GI approach to planning can also optimise the potential for efficient, decentralised, renewable energy, improving local energy security, providing space for ground source heating, hydroelectric power and biomass;
- Soft engineered schemes are cost-effective, and cheaper and sustainable, fulfilling many roles acting as a natural cleanser and improving water quality by storing and reducing diffuse pollutants. This can reduce the need for expensive new water treatments works required to improve water quality.
- Quality green space can have an impact on land and property markets by improving the image of places, creating settings for investment, boosting property prices, attracting investment and acting as a catalyst for wider economic regeneration.

Factoring GI into the design and commissioning of infrastructure could become the *modus operandi,* delivering multifunctional benefits and a win-win situation.



Delivering Green Infrastructure

Green infrastructure assets can be classified according to their hierarchy;

- Strategic
- District
- Local/neighbourhood

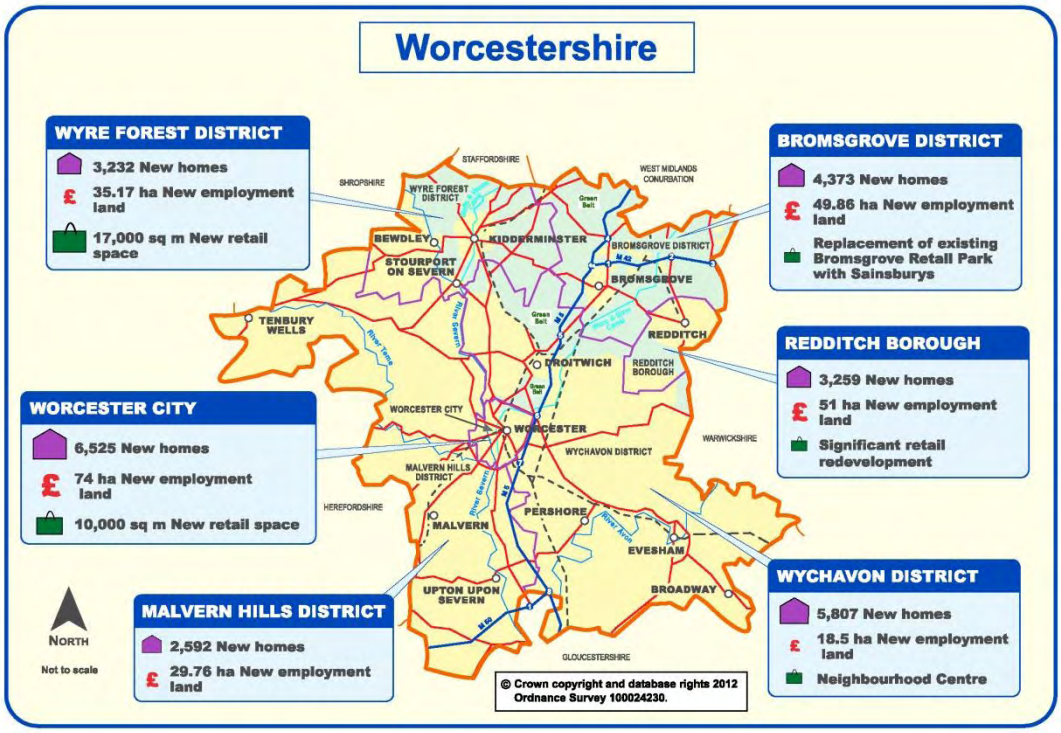
The mechanism for funding and maintaining GI does may vary according to the functions of the asset being created or enhanced, it functionality and place within the hierarchy.

GI assets	Responsible Bodies	Potential funding sources	Total Cost	Management costs
Additional sub-regional assets	GI sub regional partnership	Private sector Grants including National Lottery, EU. Local and Central Government Developer contributions Hypothecated taxes (national) RDPE	>£7,000 per ha (Informal greenspace excluding any buildings, land purchase)	£1250-2500 per hectare
Local GI assets	GI Sub regional partnership and district councils	Developer contributions Grants including National Lottery, EU. Local and Central Government Hypothecated taxes (local) RDPE	>£7,000 per ha (Informal greenspace, excluding any buildings, land purchase etc.) >£400000 per ha for formal park, excluding buildings and play equipment.	£600-700 per hectare

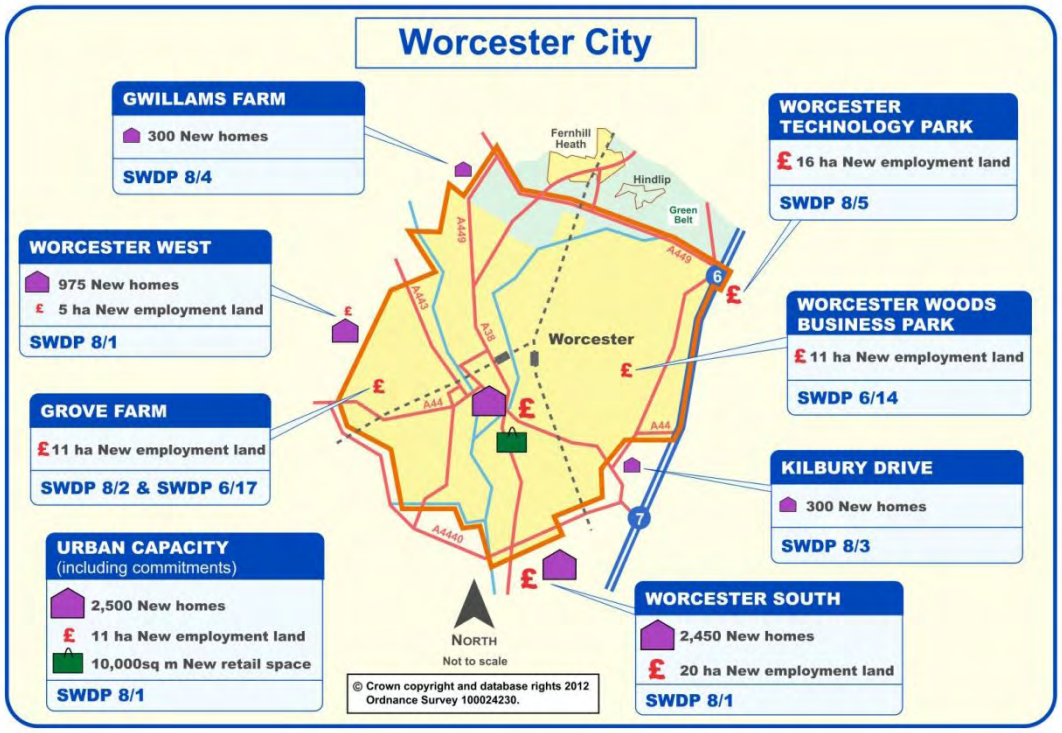
Costs derived from Worcestershire Green Infrastructure report, 2012 and Nene Regional Park.

5. Settlement Profiles

The following settlement profiles set out the key developments anticipated in each settlement along with the strategic infrastructure required to support the proposed growth.



Worcester City



Anticipated Housing Development

Site Description	Approximate Housing (units)
Urban Capacity Sites (inc. commitments & Wind Fall)	2,500
Worcester South	2,450
Worcester West	975
Gwillam's Farm	300
Kilbury Drive	300
Worcester Total	6,525

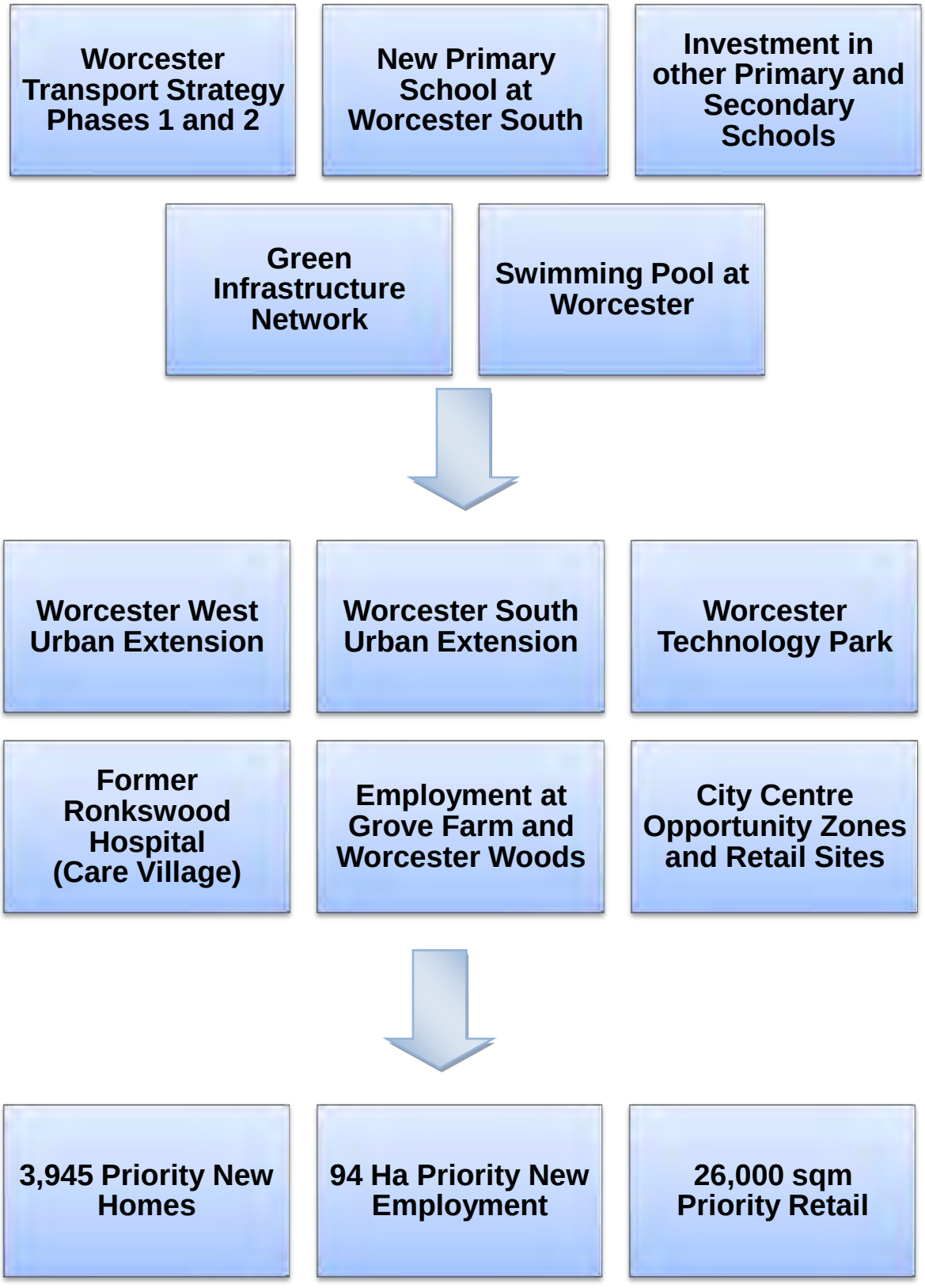
Anticipated Employment Development

Site Description	Total Employment Space
Worcester South	20 Ha
Worcester Technology Park	16 Ha
Worcester Woods Business Park	11 Ha
Worcester West	5 Ha
Urban Capacity Sites (inc. commitments & Wind Fall)	11 Ha
Worcester Total	63 Ha

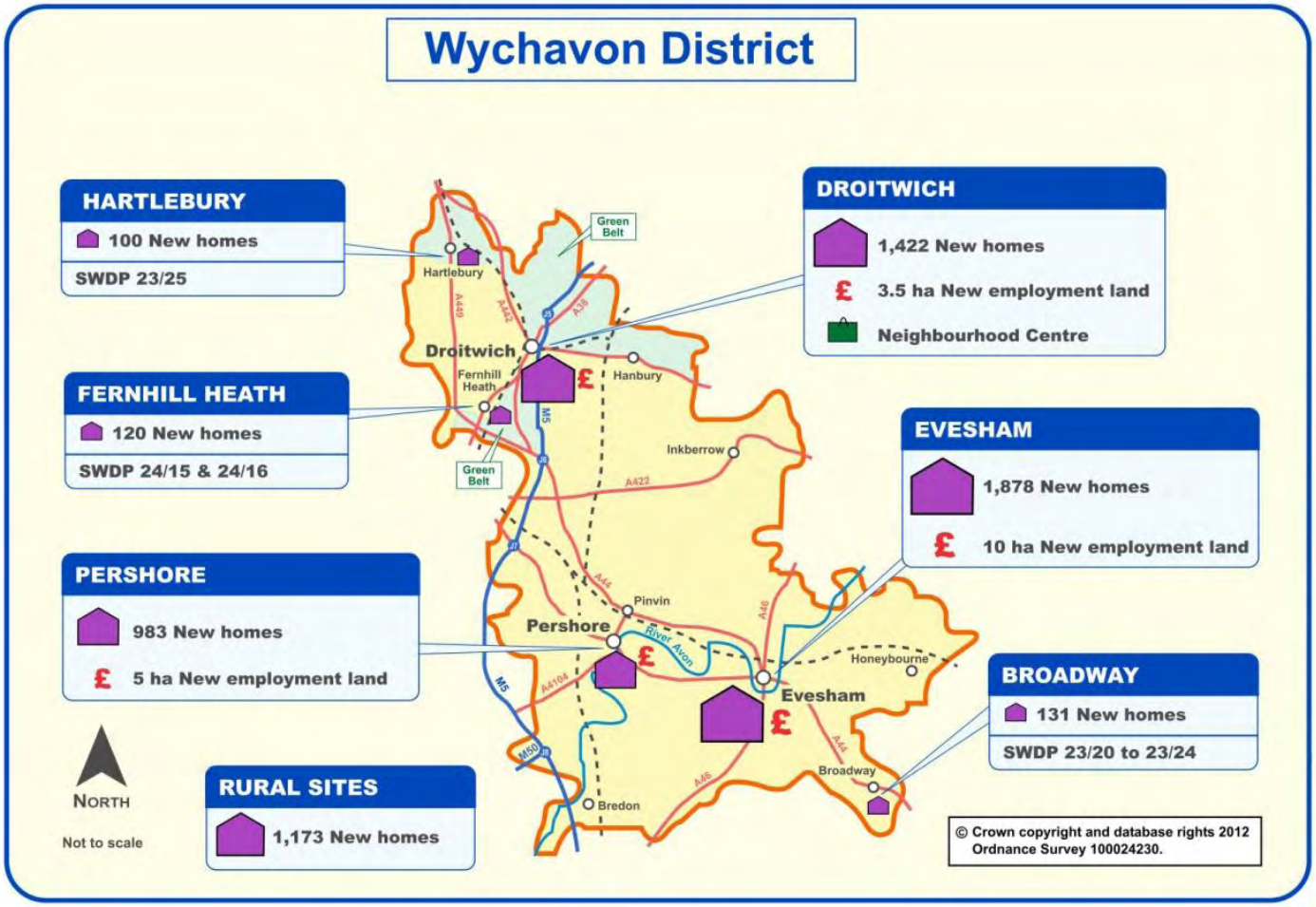
Anticipated Retail Development

Site Description	Development Description
Cathedral Plaza	Expansion of existing shopping centre and provide greater connectivity with the Cathedral
Fire Station/Crowngate/Angel Place/The Butts	Redevelopment, refurbishment, expansion of the existing shopping centre and provide greater connectivity with the riverside and University Campus
Former Co-op Building/Cornmarket	Redevelopment for retail purposes and the creation of an important open space giving improved connections to the Lowesmoor Development and Shrub Hill Station
Worcester South (Broomhall/Norton Barracks)	Neighbourhood Centre incorporating local shops
Worcester West (Temple Laughern)	Small local shops with enhancement of Dines Green Neighbourhood Centre

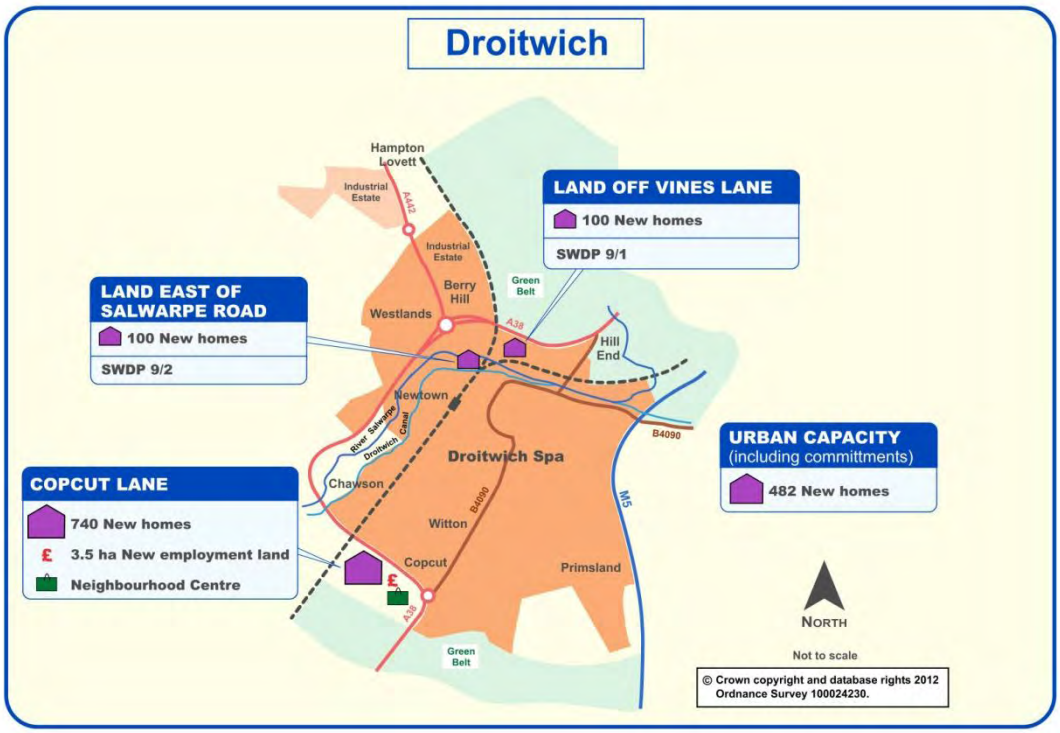
Strategic Infrastructure required to support development in and around Worcester



Wychavon District



Droitwich Spa



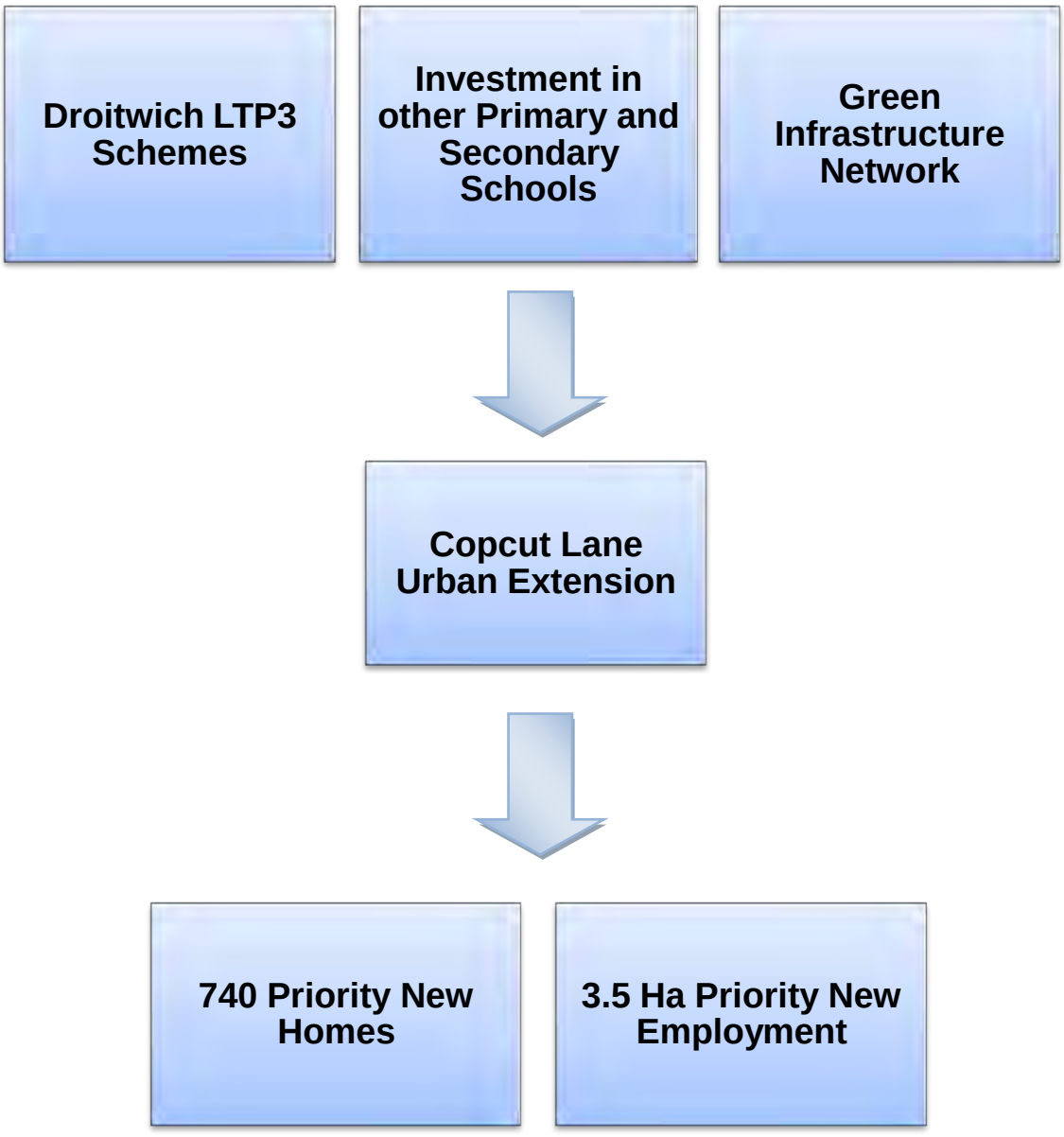
Anticipated Housing Development

Site Description	Approximate Housing (units)
Droitwich Spa Urban Capacity Sites	482
Copcut Lane	740
Land off Vines Lane	100
Land East of Salwarpe Road	100
Droitwich Spa Total	1,422

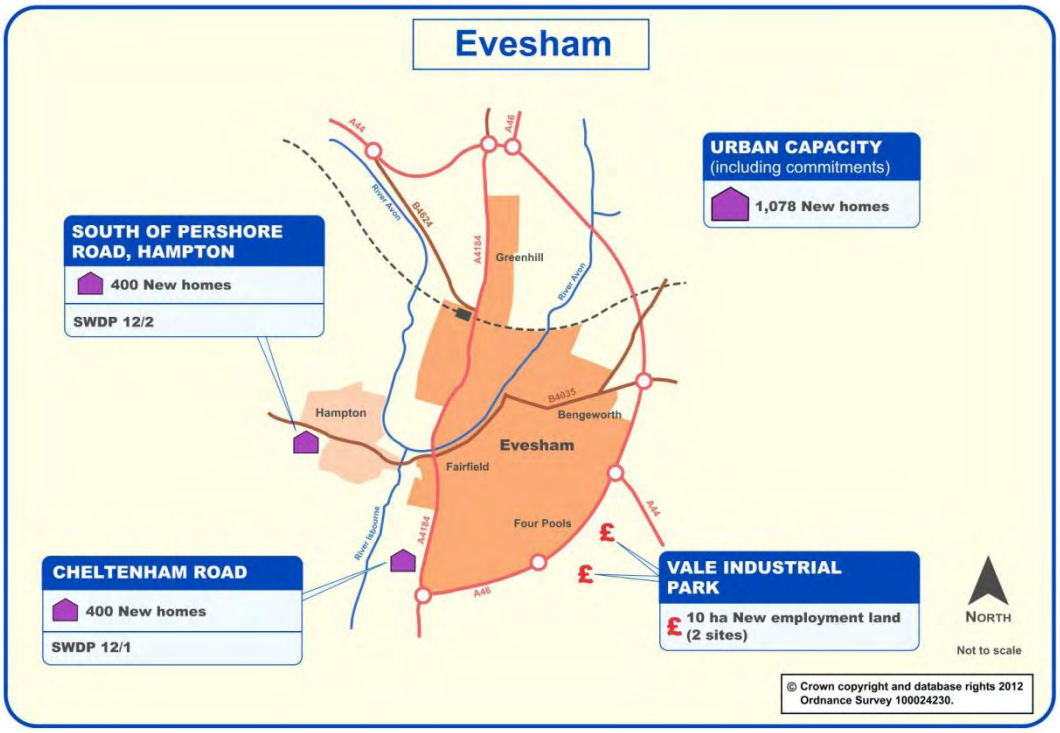
Anticipated Employment Development

Site Description	Total Employment Space
Copcut Lane	3.5 Ha
Droitwich Spa Total	3.5 Ha

Strategic Infrastructure required to support development in Droitwich Spa



Evesham



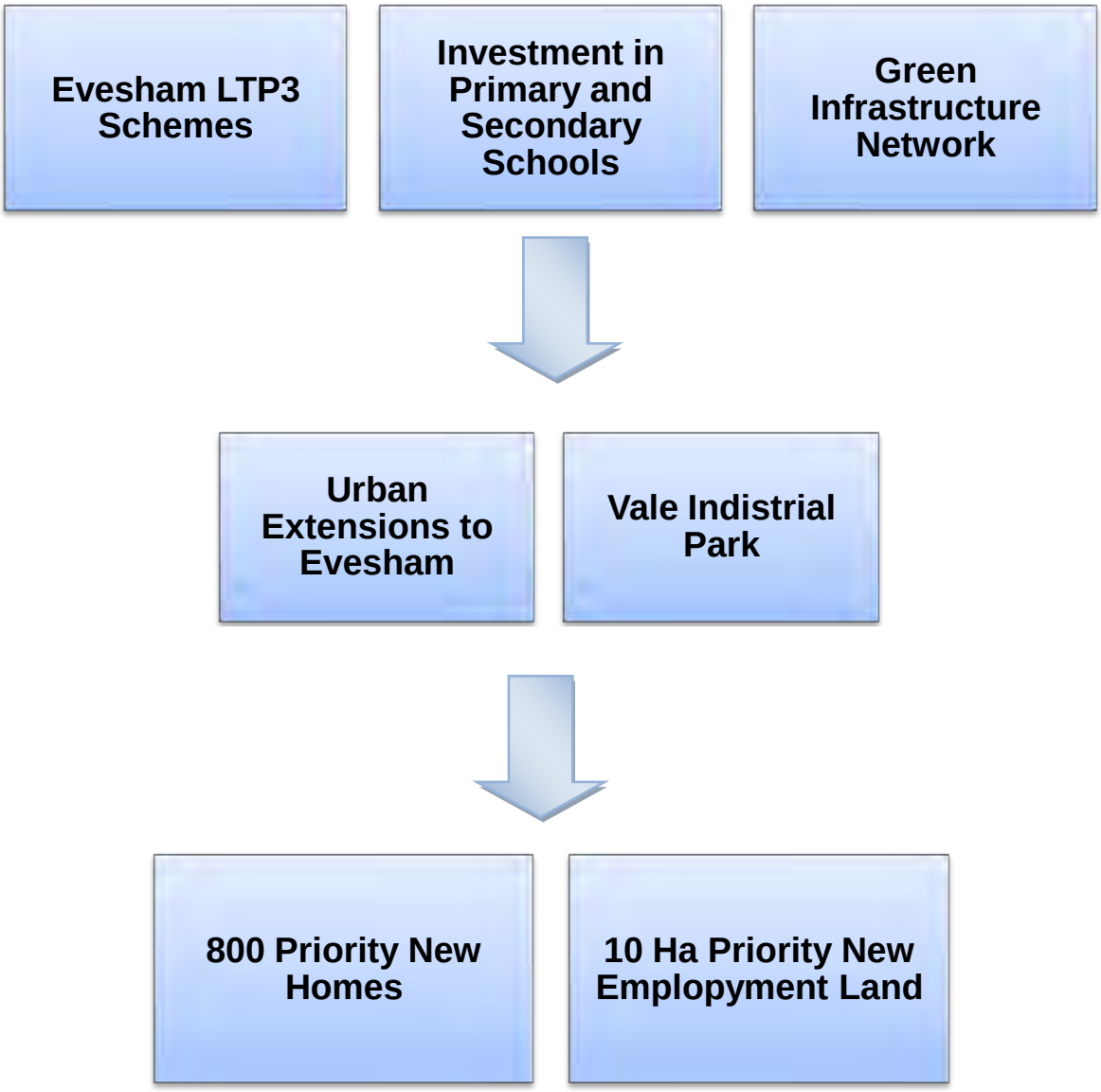
Anticipated Housing Development

Site Description	Approximate Housing (units)
Evesham Urban Capacity Sites	1,078
Cheltenham Road	400
South of Pershore Road, Hampton	400
Evesham Total	1,878

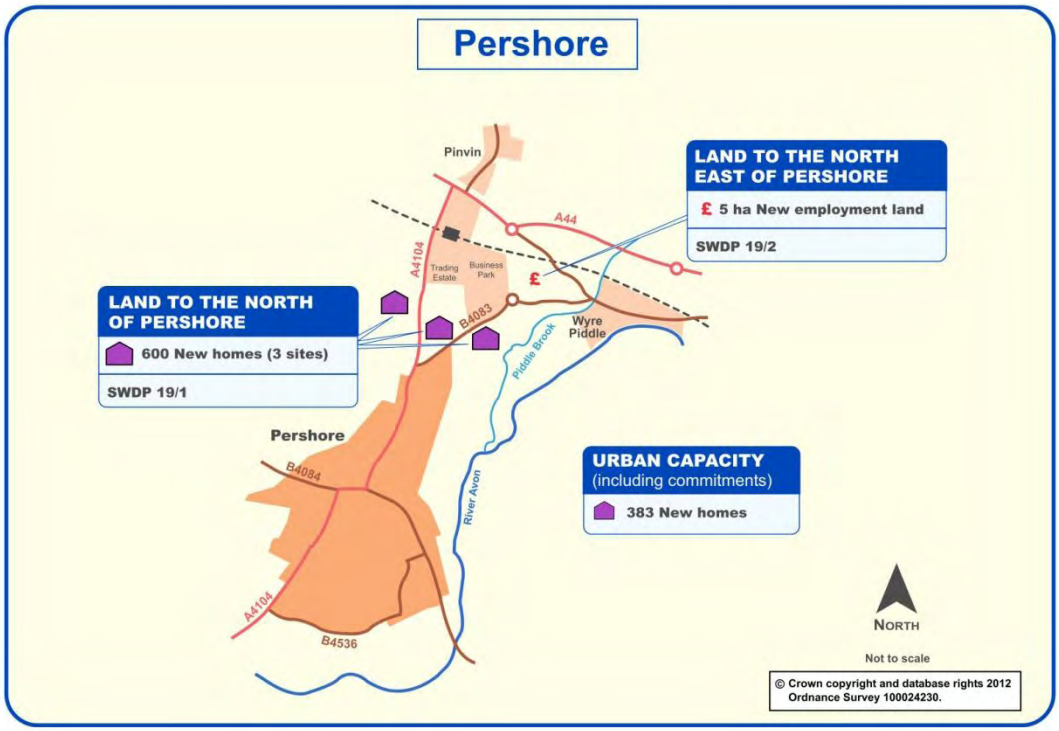
Anticipated Employment Development

Site Description	Total Employment Space
Vale Industrial Park	10 Ha
Evesham Total	10 Ha

Strategic Infrastructure required to support development in Evesham



Pershore



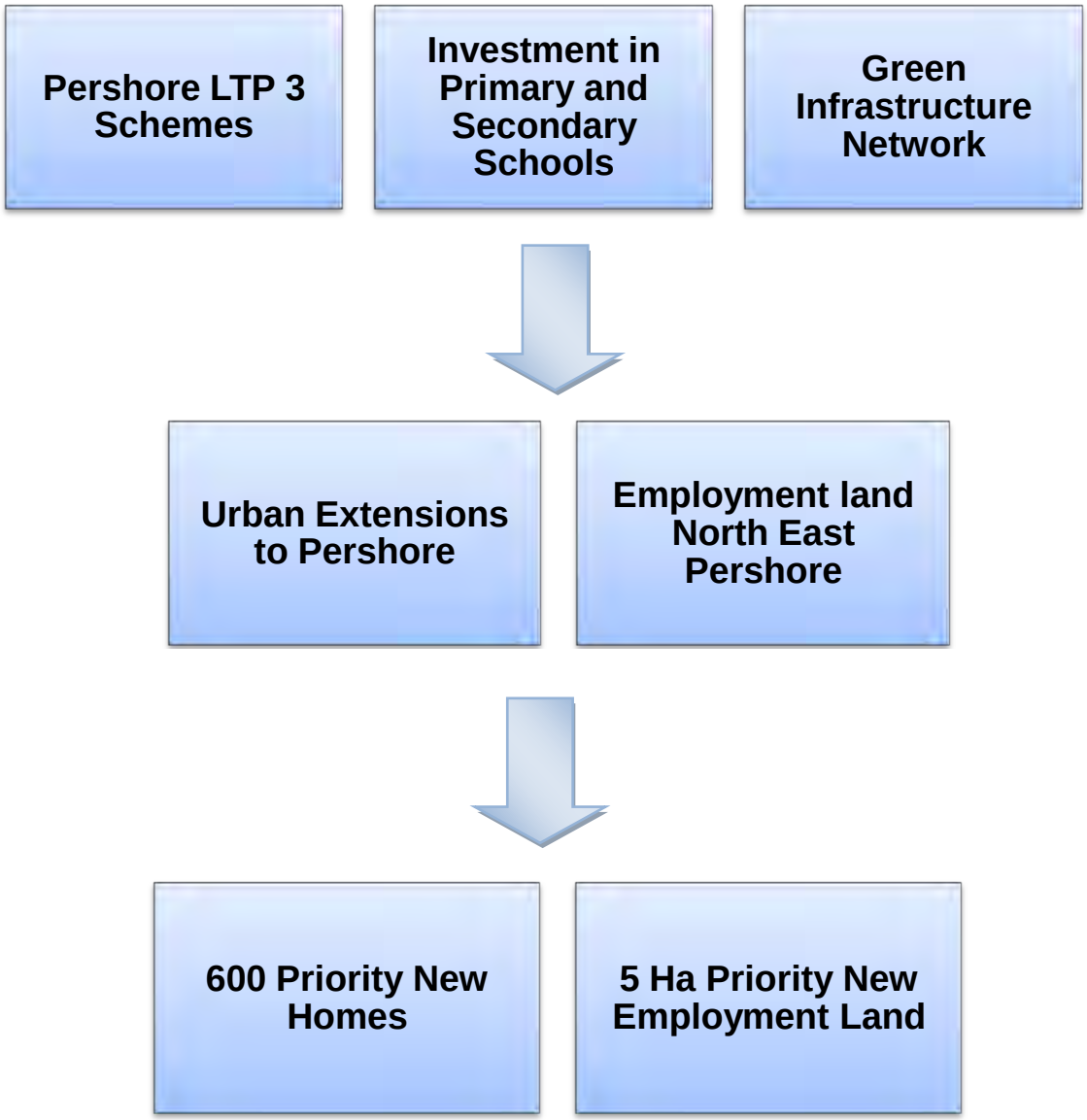
Anticipated Housing Development

Site Description	Approximate Housing (units)
Pershore Urban Capacity Sites	383
Land to the North of Pershore	600
Pershore Total	983

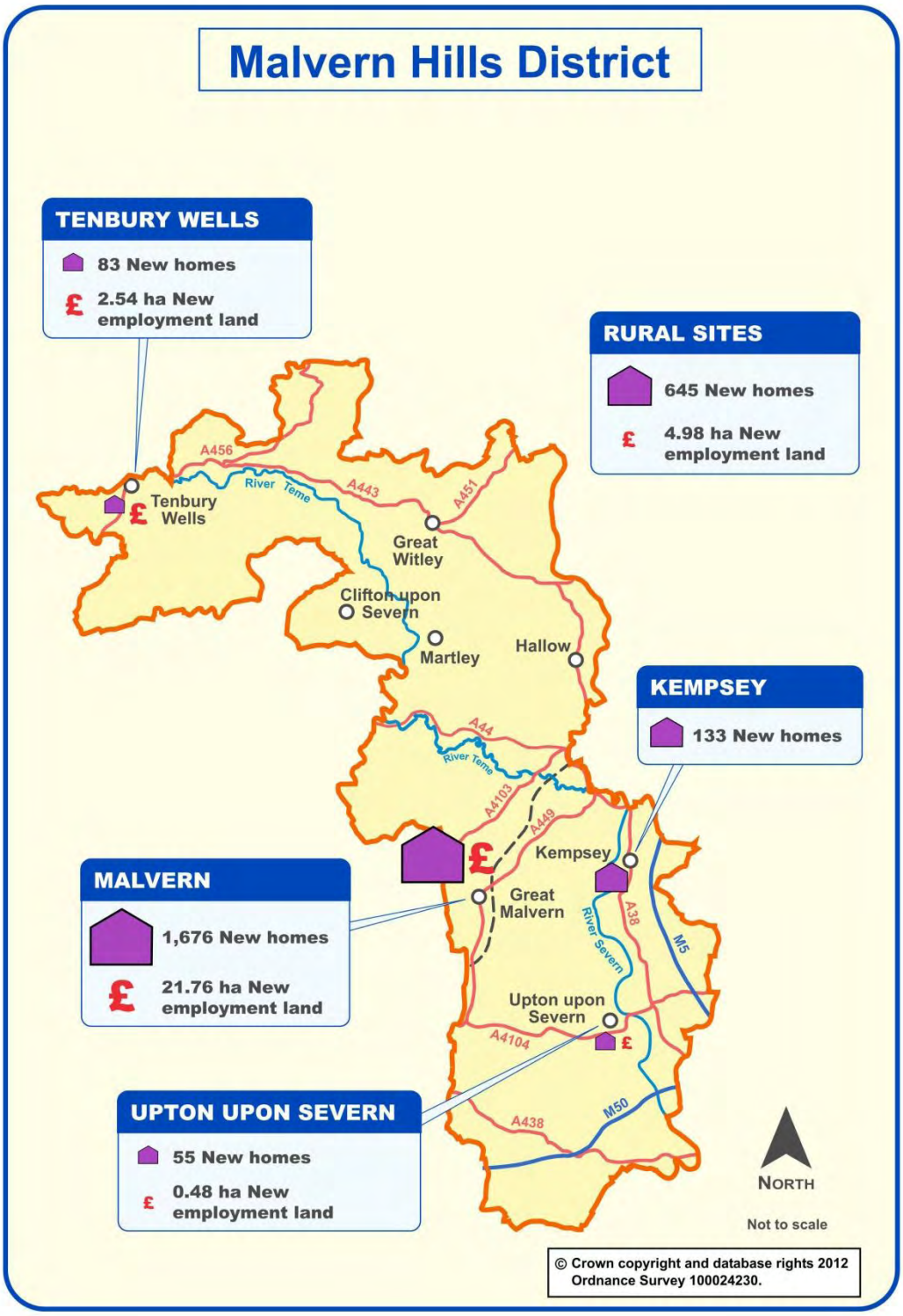
Anticipated Employment Development

Site Description	Total Employment Space
Land to the North East of Pershore	5 Ha
Pershore Total	5 Ha

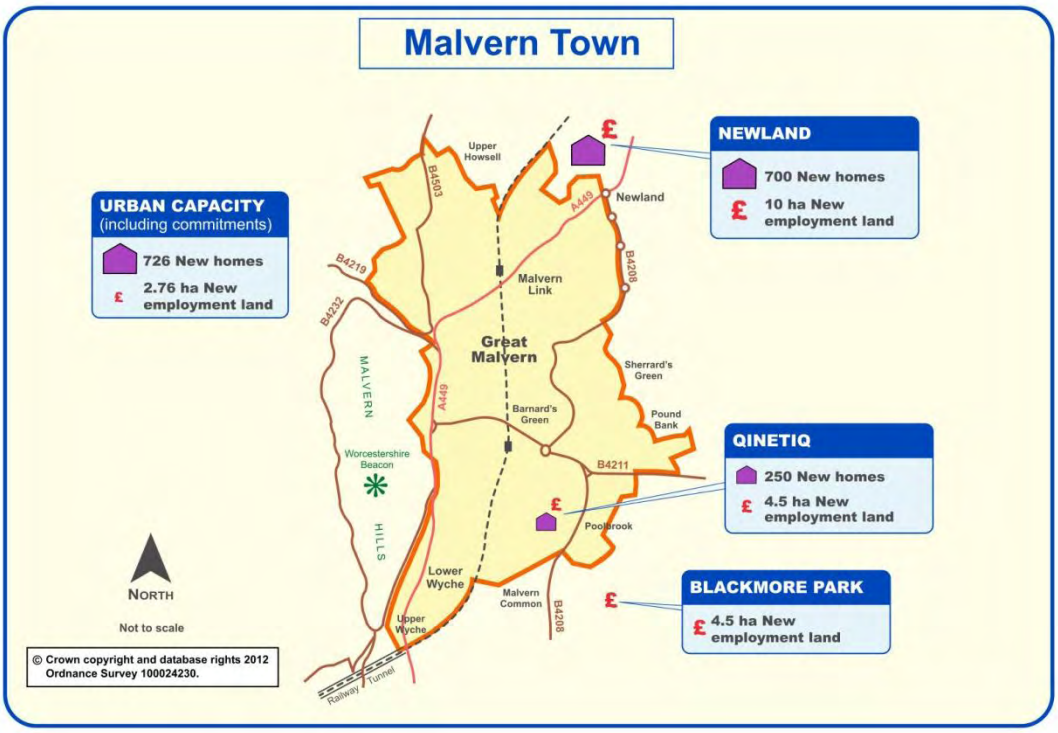
Strategic Infrastructure required to support development in Pershore



Malvern Hills District



Malvern



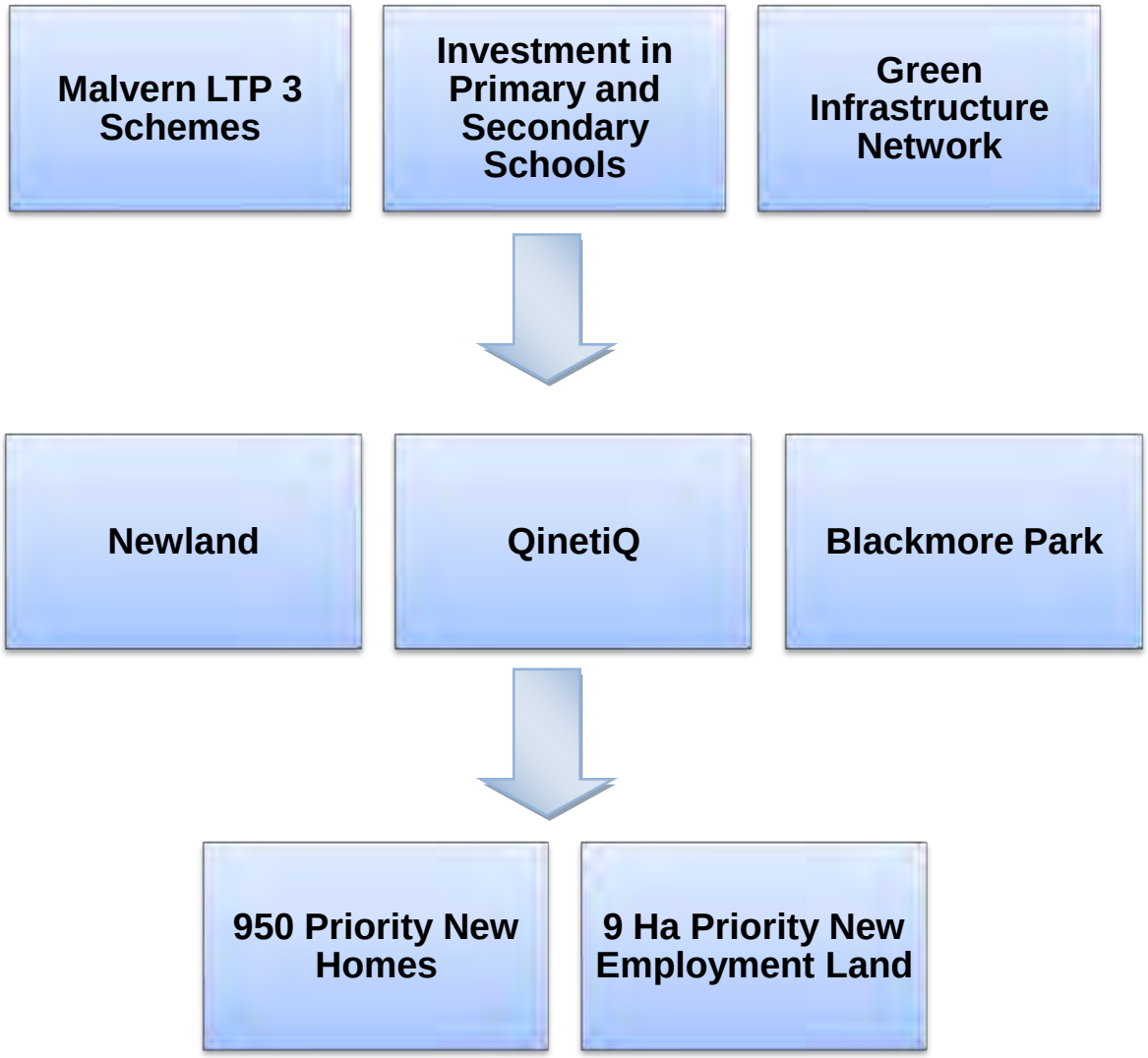
Anticipated Housing Development

Site Description	Approximate Housing (units)
Malvern Urban Capacity Sites	726
Newland	700
QinetiQ	250
Malvern Total	1676

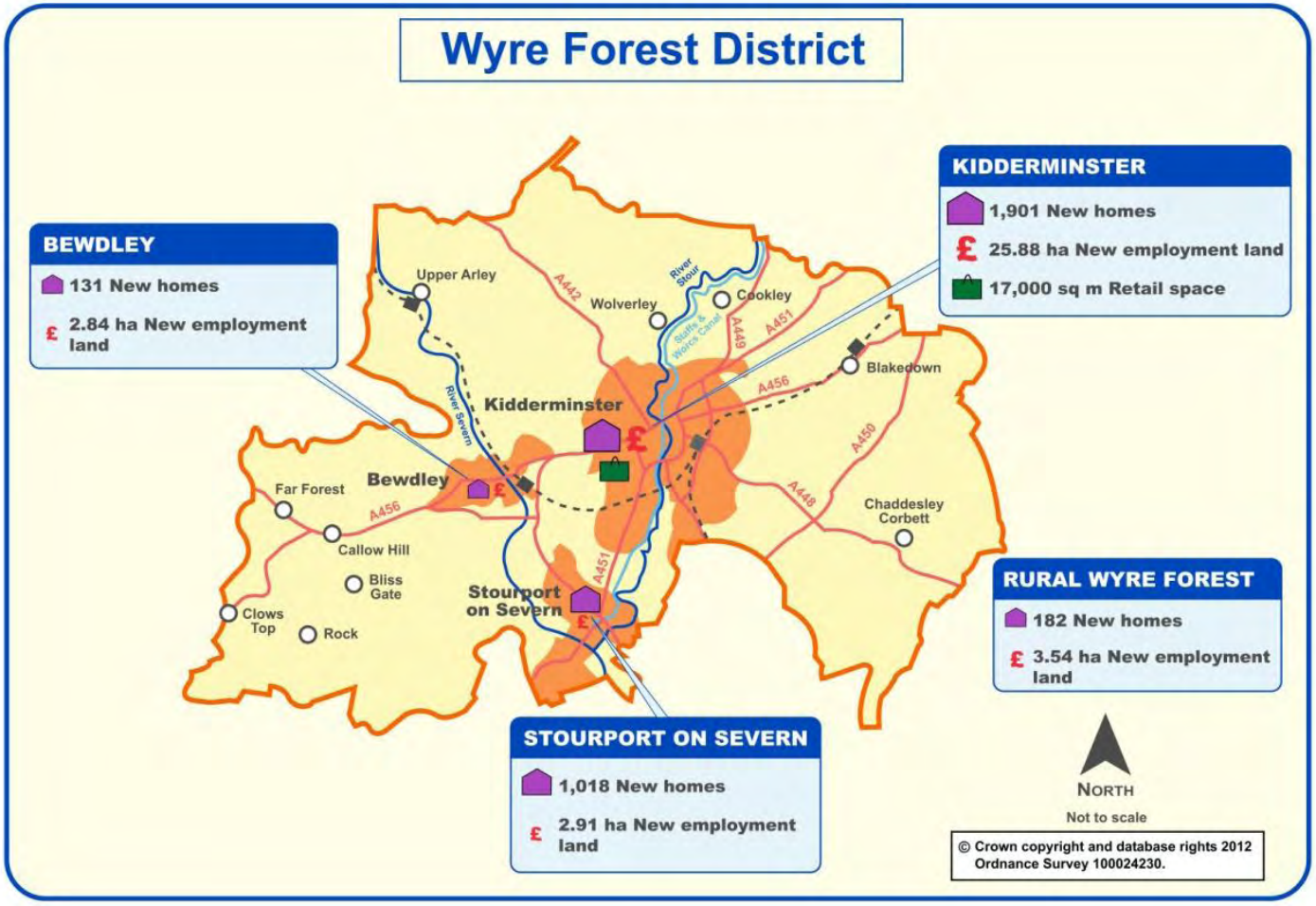
Anticipated Employment Development

Site Description	Total Employment Space
Existing Capacity Urban Sites	2.76 Ha
Newland	10 Ha
QinetiQ	4.5 Ha
Blackmore Park	4.5 Ha
Malvern Total	21.76 Ha

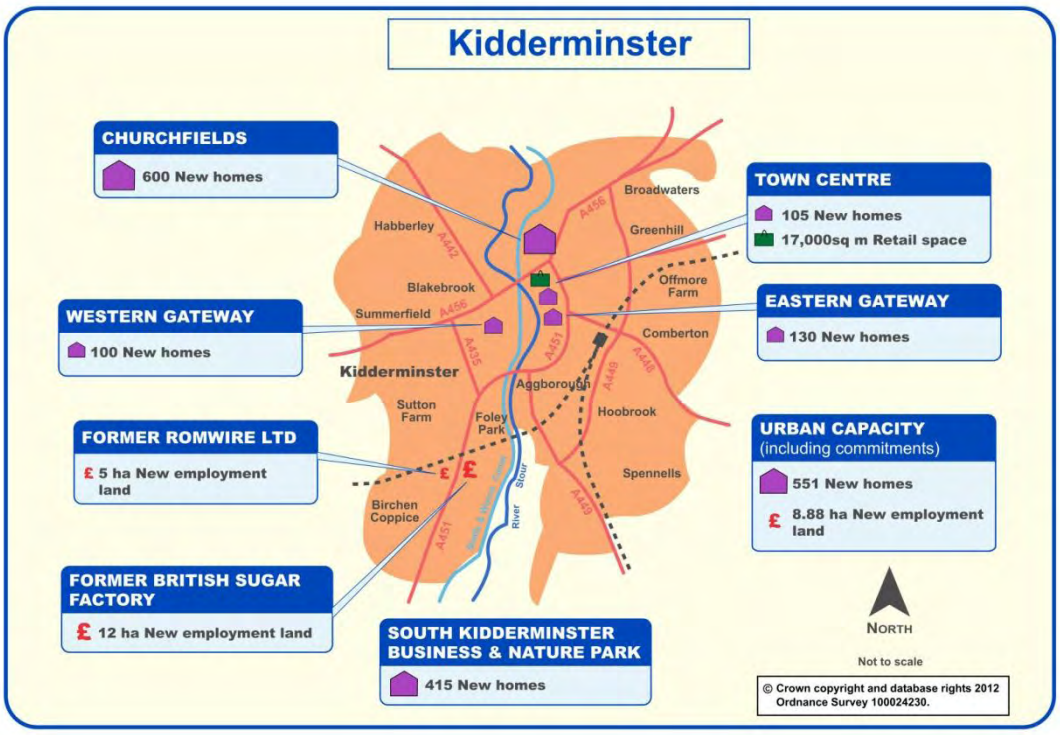
Strategic Infrastructure required to support development in Malvern



Wyre Forest District



Kidderminster



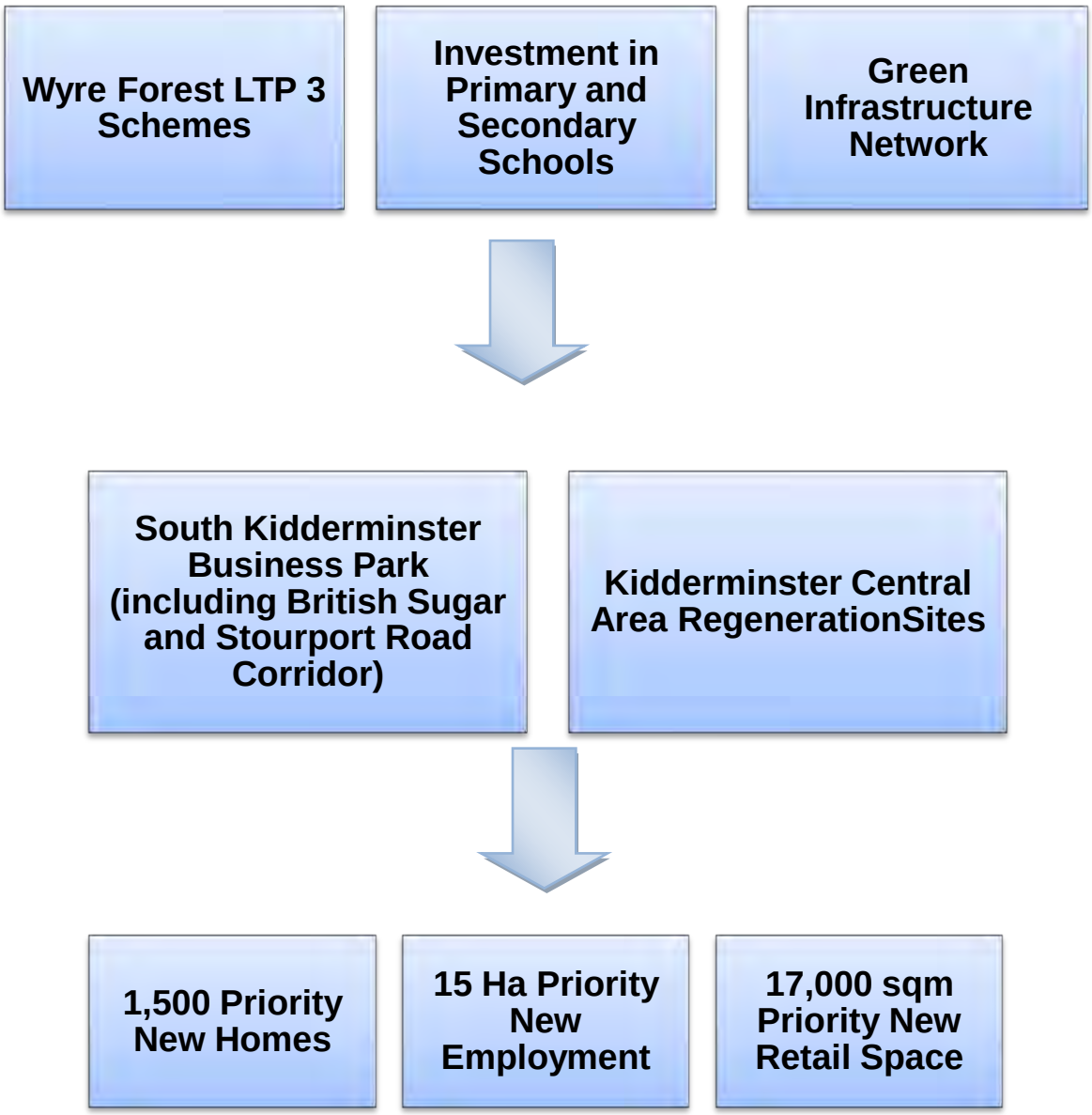
Anticipated Housing Development

Site Description	Approximate Housing (units)
Kidderminster Urban Capacity	551
Churchfields	600
South Kidderminster Business & Nature Park	415
Eastern Gateway	130
Town Centre	105
Western Gateway	100
Kidderminster Total	**1,901**

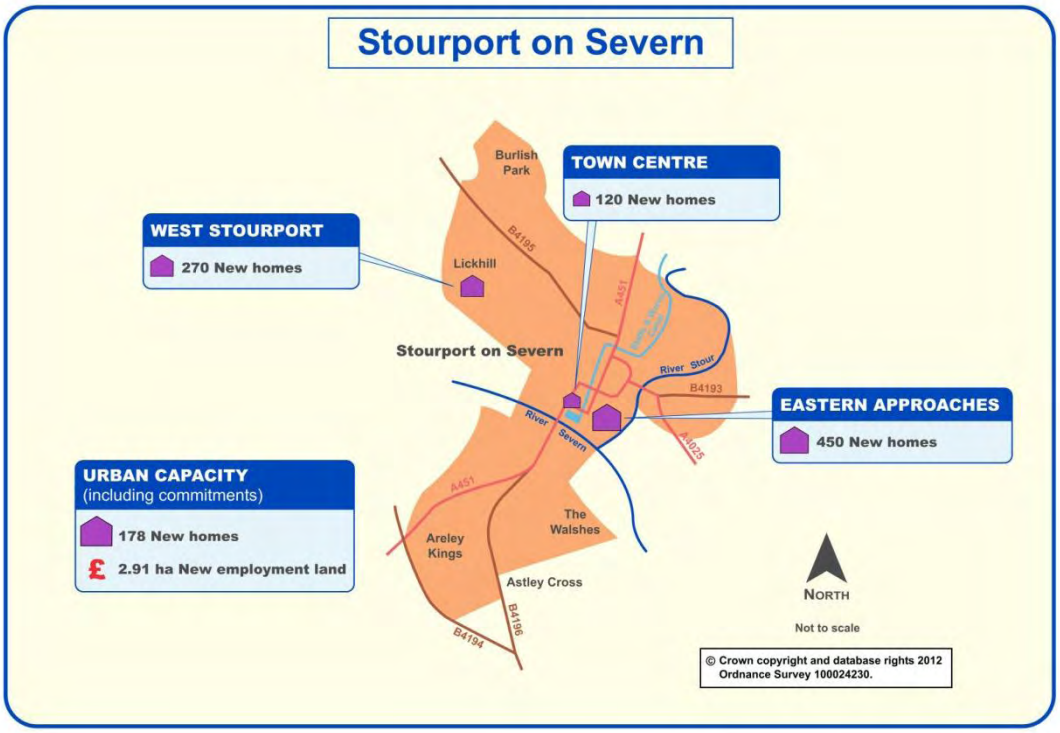
Anticipated Employment Development

Site Description	Total Employment Space
Kidderminster Urban Capacity	8.88 Ha
Former British Sugar	12 Ha
Former Romwire Ltd	5 Ha
Kidderminster Total	**25.88 Ha**

Strategic Infrastructure required to support development in Kidderminster



Stourport-on-Severn



Anticipated Housing Development

Site Description	Approximate Housing (units)
Stourport-on-Severn Urban Capacity	**178**
Eastern Approaches	**450**
West Stourport	**270**
Stourport-on-Severn Total	**898**

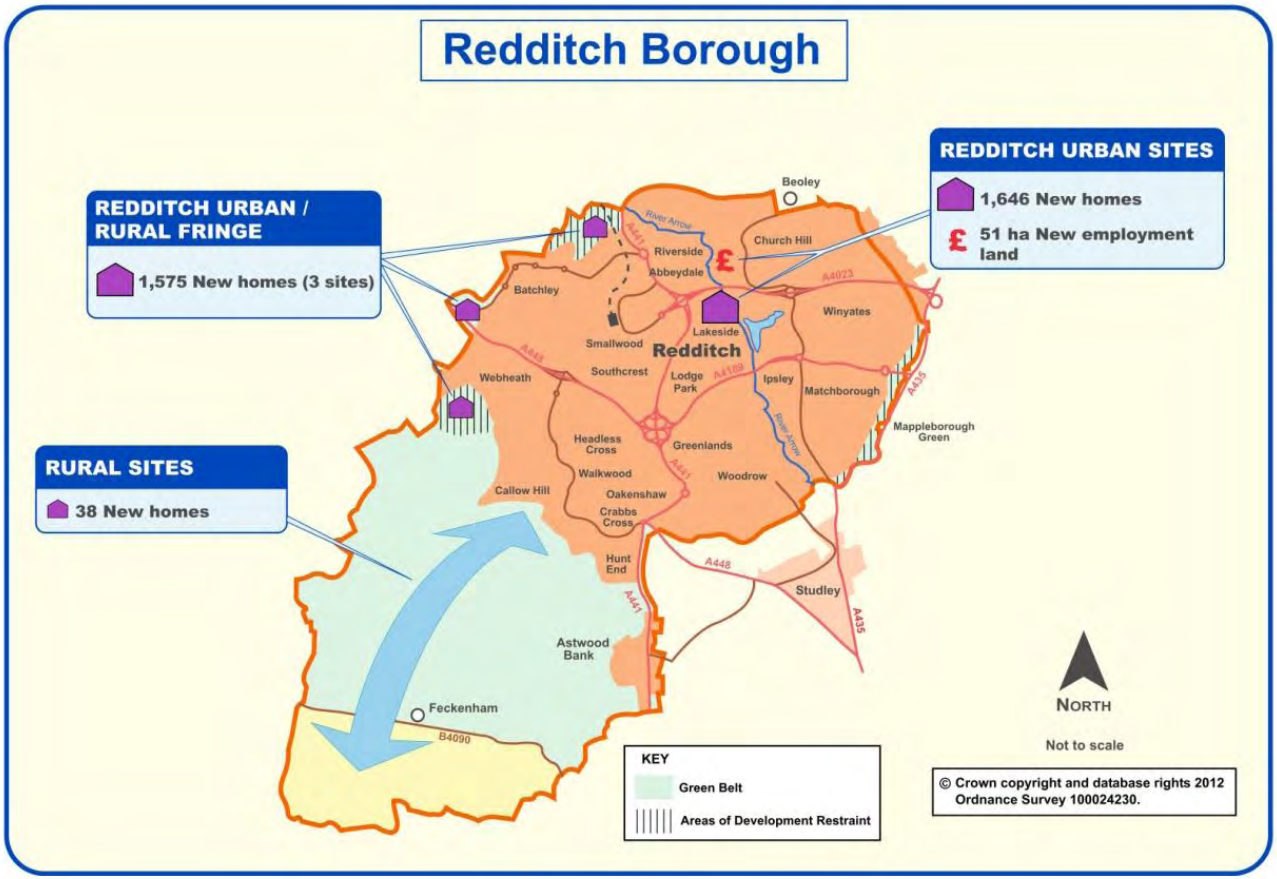
Anticipated Employment Development

Site Description	Total Employment Space
Stourport-on-Severn Urban Capacity	2.91 Ha
Stourport-on-Severn Total	2.91 Ha

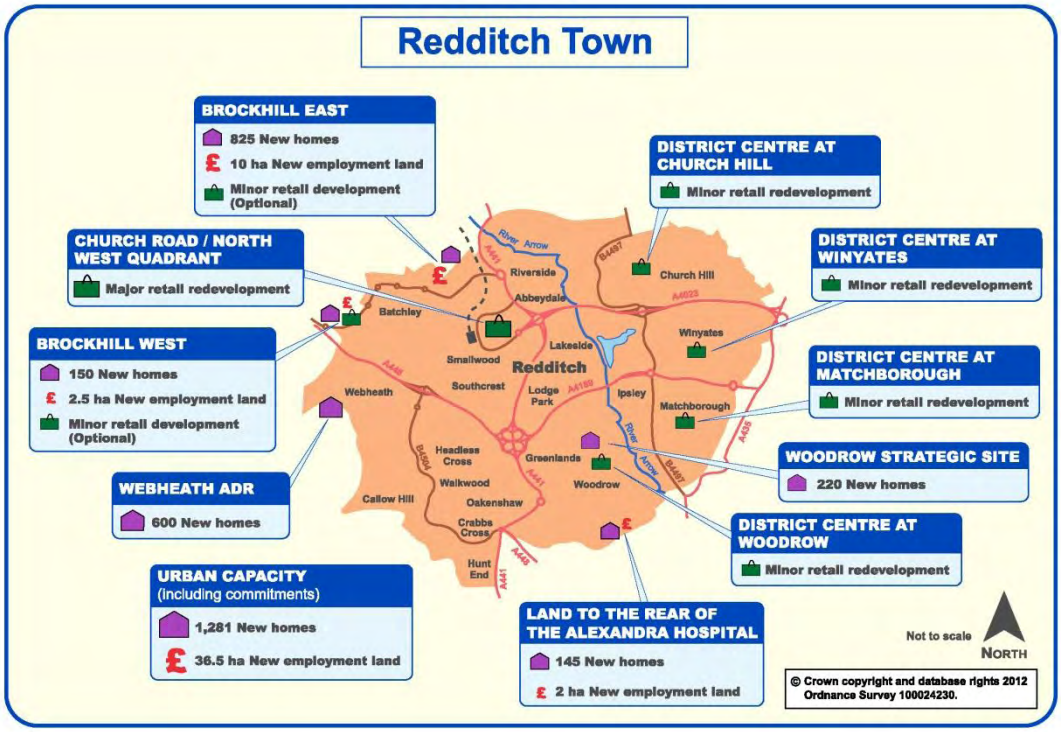
(**NB** this is taken directly from WFCS/WFSA, not from our research)

There are no priority sites identified in Stourport.

Redditch Borough



Redditch



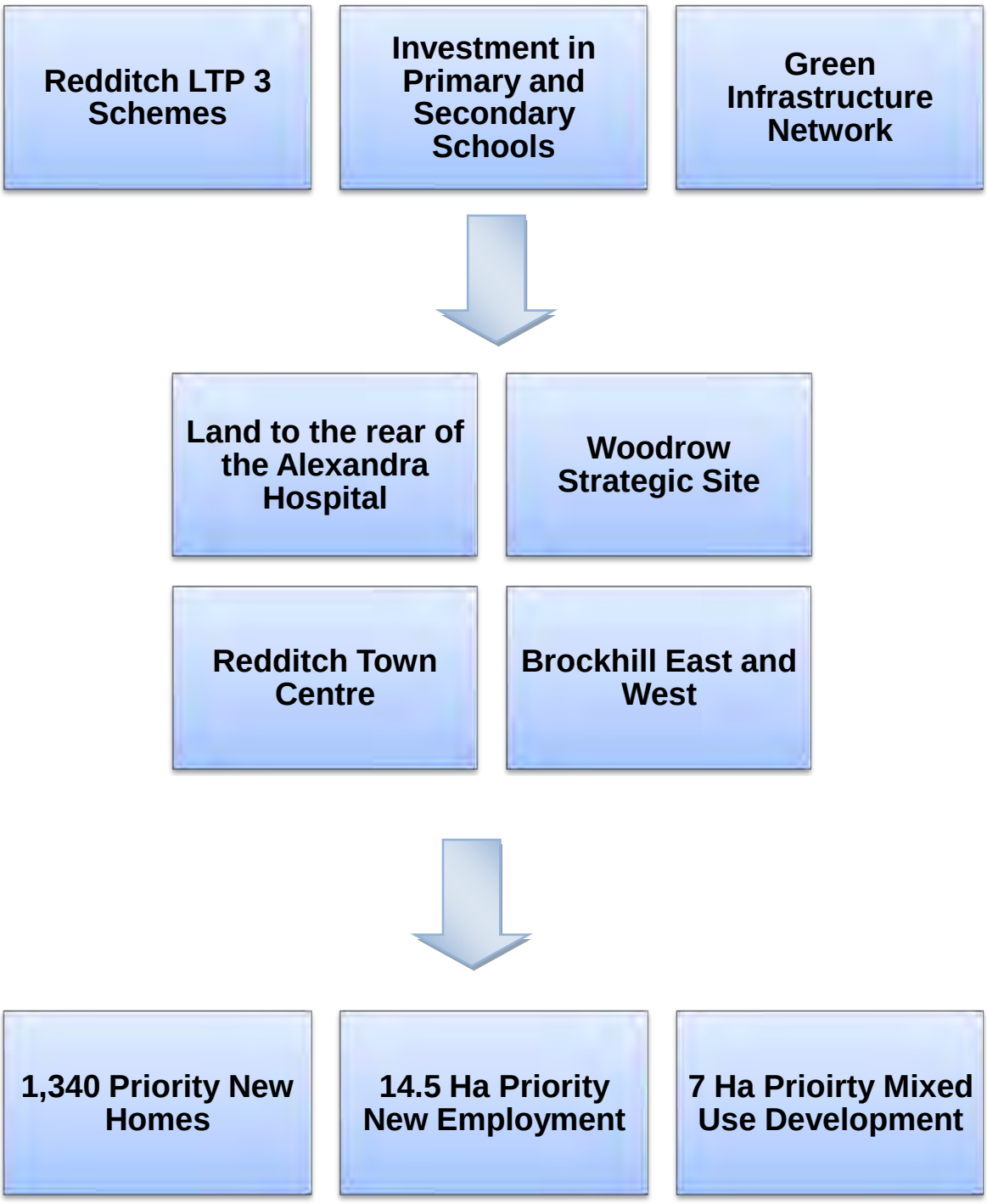
Anticipated Housing Development

Site Description	Approximate Housing (units)
Redditch Town Urban Capacity	1,281
Brockhill East	825
Webheath ADR	600
Woodrow Strategic Site	220
Brockhill West	150
Land to the rear of the Alexandra Hospital	145
Redditch Town Total	**3,221**

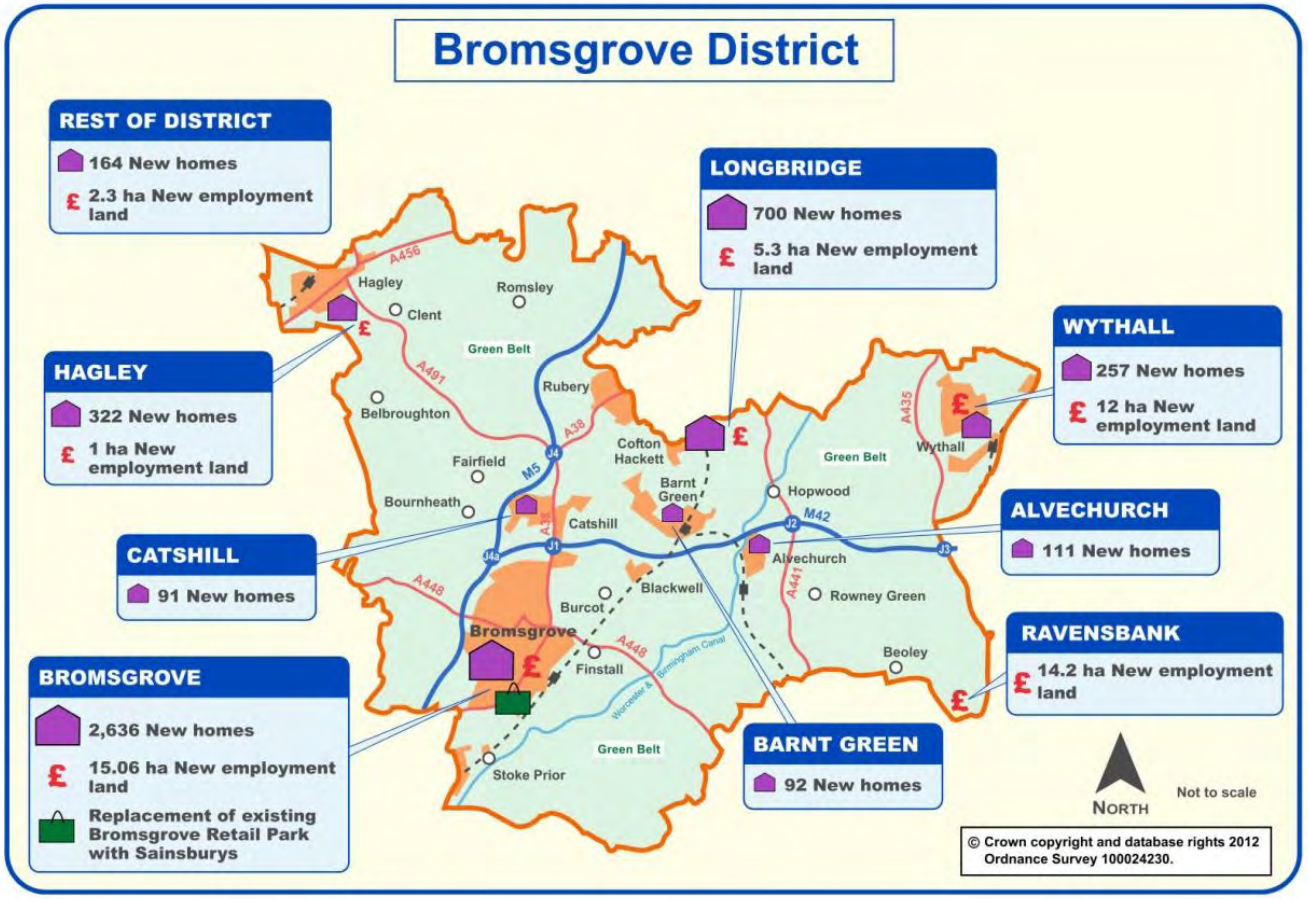
Anticipated Employment Development

Site Description	Total Employment Space
Redditch Town Urban Capacity	36.5 Ha
Brockhill East	10 Ha
Brockhill West	2.5 Ha
Land to the rear of the Alexandra Hospital	2 Ha
Redditch Town Total	**51 Ha**

Strategic Infrastructure required to support development in Redditch



Bromsgrove District



Bromsgrove Town

Anticipated Housing Development

Site Description	Approximate Housing (units)
Bromsgrove Town Urban Capacity	306
Perryfields Road	1,300
Whiford Road	500
Norton Farm	318
Land Adjacent to Wagon Works	212
Bromsgrove Town Total	**2,636**

Anticipated Employment Development

Site Description	Total Employment Space
Bromsgrove Town Urban Capacity	3.46 Ha
Bromsgrove Technology Park	6.1 Ha
Perryfields Road	5 Ha
Buntsford Business Park	0.5 Ha
Bromsgrove Town Total	**15.06 Ha**

Strategic Infrastructure required to support development

in Bromsgrove