

Didcot Garden Town

Delivery Plan

October 2017





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The Didcot Garden Town Delivery Plan is an exciting opportunity to make the town an even better place to be. This chapter provides an introduction to the plan and an overview of the chapters within it.

1. Overview

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111 Foreword

The decision to branch a line off the Great Western Railway from Didcot to Oxford meant that a rural village was destined to become an important regional hub. The grand 19th century vision, and the choices made to implement it, have strongly shaped Didcot into what it is today.

And so it is our hope that the decision to seek garden town status for Didcot will be equally instrumental in shaping the town for decades, if not centuries, to come. Already, with the next phase of the Orchard Centre having started, we are seeing the benefits of being a growing town. However, as more and more people call Didcot their home, we know there is work to do to address the infrastructure deficits of the past as well as making Didcot a 21st century place to work and bring up a family. This delivery plan is offered as a programme of ideas to address those demands.

The plan aims to tackle all of the key areas: housing, jobs, transport, landscape and the environment - within the context of South Oxfordshire and Vale of White Horse District Councils' emerging local plans. It does not aim to change these documents, for example, by changing land allocations or reducing the number of houses to be built on allocated sites.

Just as the railway and power station have defined the town now, and once fully implemented, we believe the ideas put forward in this delivery plan will make Didcot Garden Town widely recognised as a place that achieves the right balance between growth and green space.

Creating this delivery plan has not been a simple task given that garden towns were originally planned and built from scratch on green fields. Didcot is an existing community that has not been developed according to garden town principles. Applying these principles and transforming Didcot into a garden town is therefore a much more challenging task. This is why the views of residents, businesses and stakeholders have been taken into account through an extensive public engagement and a formal public consultation process resulting in many constructive contributions being made to the delivery plan before this version was produced. A number of significant challenges still need to be overcome if the ideas set out in the plan are to be taken through to reality. Our first major challenge will be to establish a governance structure that is inclusive, representative of all interests and capable of maintaining public engagement throughout.

The plan is not a formal planning policy document and has limited weight when determining future planning applications. The ideas and proposals within the delivery plan document will, therefore, need to be incorporated into a formal Didcot Garden Town Development Plan Document (DPD) or a similar Supplementary Planning Document (SPD), as quickly as possible. This will involve up to two years further work by the district councils planning teams and will afford local residents, and other interested parties, a further opportunity to influence plans by engaging with the DPD production process.

A further major challenge will be to secure sufficient government funding support, alongside private and other public sector investment, to help implement key projects within the delivery plan.

Our organisations are ready to overcome these and other challenges and play our part in making sure Didcot grows in a sustainable manner, where facilitating new developments, creating a vibrant town centre, improving connectivity and providing high quality green spaces are viewed as equally important to Didcot's future wellbeing.

Mark Stone Acting Chief Executive, South Oxfordshire and Vale of White Horse District Councils

Kevin Bourner General Manager. South West, Homes and **Communities Agency**

John Cotton

Leader. South Oxfordshire **District Council**

lan Hudspeth Leader, Oxfordshire County Council

Elizabeth Paris Chair of Didcot Garden Town Board

Rt Hon Ed Vaizey MP

Member of Parliment for Wantage and Didcot

Jeremy Long Chair, Oxfordshire Local Enterprise Partnership

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Robert Simister

Lead Cabinet Member for

Development and Regeneration,

South Oxfordshire District Council

Oxfordshire County

Leader, Vale of White Horse District Council

Bill Service

Leader. Didcot

Town Council

Nigel Tipple Chief Executive, Oxfordshire Local Enterprise Partnership

Michael Murray Lead Cabinet Member for Regeneration, Economic Development and Property, Vale of White Horse District Council

Matthew Barber

1.1.2 The delivery plan process

The delivery plan has been formed through a process of consultation, research, masterplanning and delivery planning. The following stages of work are explained in the relevant chapters of this document.

Local plans

Local feedback

local people. The engagement provided

some clear messages as to what people

like about Didcot and what they would like to see change to improve the town and to support economic growth.

At an early stage the team worked with the district councils to establish high level principles for the garden town. These garden town masterplan principles were embedded in the emerging local plans and formed the foundation for the more detailed work in the delivery plan.



Listening to the

Community

Research, studies and analysis

The business environment was studied, considering what can be done to support local businesses, jobs and investment.

Chapter 4 - Making Didcot a place for business

The overarching vision

Based on the community engagement and initial studies the team established an initial vision for the garden town. The vision built provided a number of key principles to guide the development of more detailed work.

Chapter 3 - The vision for Didcot

Delivery of the garden town Technical studies were conducted to The key actions for progressing the give proposals a sound base. These Chapter 5 - The garden town were analysed, together Chapter 11 with funding sources, to identify how included: transport, infrastructure Funding and and social infrastructure, within which needed to support the proposals can be delivered. implementing the more detailed studies were conducted. the garden town proposals A study of the local housing market A system of governance was developed was undertaken, identifying gaps in Chapter 6 to manage the delivery of the garden Chapter 10 provision and areas of concern from town, together with a strategy to Managing delivery local people and businesses. Options develop more detailed planning policy of the masterplan were developed for a wider range in support of this. of housing types and tenures and to support faster delivery of these. Given its place within the Science Vale, Didcot has the opportunity to Chapter 7 - A be an exemplar in smart 21st century connected smart living. The team worked with sector experts and industry to ensure the masterplan benefits from cutting edge technologies being developed in the area. Masterplanning The green infrastructure in and Based on the community feedback and surrounding Didcot was studied, after Chapter 8 - A technical studies, the masterplan was Chapter 9 - A which a strategy was created to ensure developed. This masterplan outlines masterplan for the garden town lives up to its name. overall principles for the garden town, Didcot Garden key priorities and a range of specific Town project proposals.

1.1.3 A vision for Didcot Garden Town

Didcot Garden Town is going to be all about high quality public spaces and connections. Physical connections and accessible, high quality, open spaces are important: Didcot will have easy links to the science campuses and out into the beautiful surrounding countryside, and better ways for people to get around within the town itself. But just as important are social connections. Didcot will create spaces and opportunities to bring together the diverse range of people who live, work and visit Didcot - from workers at the science campuses to those training at the technical college, to young families and those growing old in Didcot. Didcot will be a place that gives people something in common, and it will be a town where they meet, talk and think - about Didcot and its future, about

science and nature, about everyday life.

Connectivity and interlinked green spaces, both within Didcot and into the surrounding countryside, are key to the garden town masterplan and it will be delivered through proposals such as:

- Reducing traffic travelling through the centre of Didcot by re-directing as much traffic as possible around the town's northern periphery by completing major infrastructure works such as the proposed "Science Bridge" and phase three of the northern perimeter road
- Upgrading and completing the "Garden Line" cycleway and walkway that links the town centre with Culham and Harwell campuses

- Connecting Didcot to the surrounding countryside through cycle routes and pathways
- Enhancing the streets that link Didcot Station with the town centre, including civic spaces for gathering such as a new public square opposite the station
- Upgrading routes such as Broadway and Station Road so that they are safer for cyclists today and are ready for the autonomous vehicles of the near future being developed by high tech businesses in the area
- Providing a wider mix of homes, from apartments that are attractive to young, footloose professionals near to the town centre to family



Wittenham Clumps on the horizon © South Oxfordshire District Council

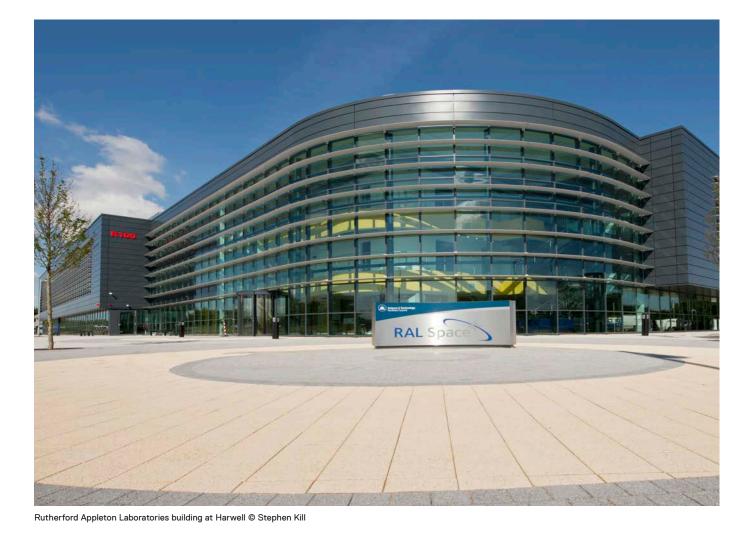
homes and retirement housing, with care and support if people need it

- Bringing a technology institute into the town, giving a local presence to the Science Vale and its enterprise zones
- Creating new, attractive commercial space for bars and restaurants and new office or co-working space for smaller businesses
- Encouraging multi-generational living – perhaps a trial project of students connecting with elderly residents

The councils and their county council partners will work with government to secure funding to deliver essential new infrastructure. The councils will also take the lead in housing and commercial development at sites such as the station gateway and Rich's Sidings. More widely, the garden town team is encouraging developers and landowners who share the garden town vision to come forward and work with us to deliver great new public spaces and vibrant, high quality developments within the town.

Although the garden town does not have the power to improve services that are delivered by other organisations, such as the National Health Service or the county council, we will work with these organisations to help them make the improvements needed to make Didcot a great place in which to live and work. We will likewise seek to involve churches of all faiths in our efforts to implement the delivery plan, since they have an important role to play in improving the health and wellbeing of local residents.

The Didcot Garden Town team believe that the work to date provides a great base for developing new connections and green spaces for Didcot, but it is only a start, the next step is to secure the funding needed to implement the delivery plan. Thereafter, local authorities, government, local people and businesses will all need to work together to make it happen.



1.1.4 Garden town areas

The garden town project does not involve changing administrative boundaries. However, two boundaries relating to the garden town project were proposed: one for the garden town masterplan boundary and one for a wider area of influence that may be affected by some of the proposals included in the Didcot Garden Town Delivery Plan (e.g. those relating to green infrastructure or urban/rural coalescence). These boundaries were the subject of public engagement in November-December 2016, and have since been updated to reflect the comments received.

What is the garden town masterplan area?

The Didcot Garden Town masterplan area is the extent of Didcot that is covered by the garden town masterplan. This area has been considered in detail to identify both appropriate development opportunities and in order to plan investment and improvements in transport, landscape, green infrastructure, public realm and social services. The masterplan's primary focus is the garden town masterplan area, but proposals that relate to connectivity - such as transport and green infrastructure - in some cases extend beyond the garden town boundary in order to join Didcot up with surrounding networks.

The Didcot Garden Town masterplan area is intended to cover the current and future extent of Didcot: the area where you might reasonably describe yourself as being 'in Didcot' if you lived or worked there. Didcot has already transcended its historic boundary in some areas to incorporate new homes and employment uses, and its planned growth will extend Didcot's boundary further into neighbouring parishes. For example, parts of Great Western Park and the planned development at Valley Park are within the parish of Harwell, and the majority of the proposals for North East Didcot are within the parish of Long Wittenham.

Garden town and science vale area of influence

As part of developing proposals for Didcot Garden Town, it has been important to look beyond Didcot's immediate boundary to consider sites and areas that are strongly linked to the garden town. This wider area around Didcot is called the 'area of influence'.

A number of factors have been taken into account when defining the area of influence. All housing sites identified in the garden town expression of interest as contributing towards the garden town housing target have been included within the Area of Influence. Given the strong ties between Didcot and the Science Vale, the area of influence includes the three major science campuses: Harwell, Milton Park* and Culham. As well-known and valued landscape features near to Didcot. Wittenham Clumps and the River Thames are important features contributing to Didcot's natural setting, these are included within the area of influence. Finally, Didcot acts as a primary service centre for a number of surrounding villages; this relationship influences Didcot's economy and transport network, and so these villages are included within the area of influence.



Campus

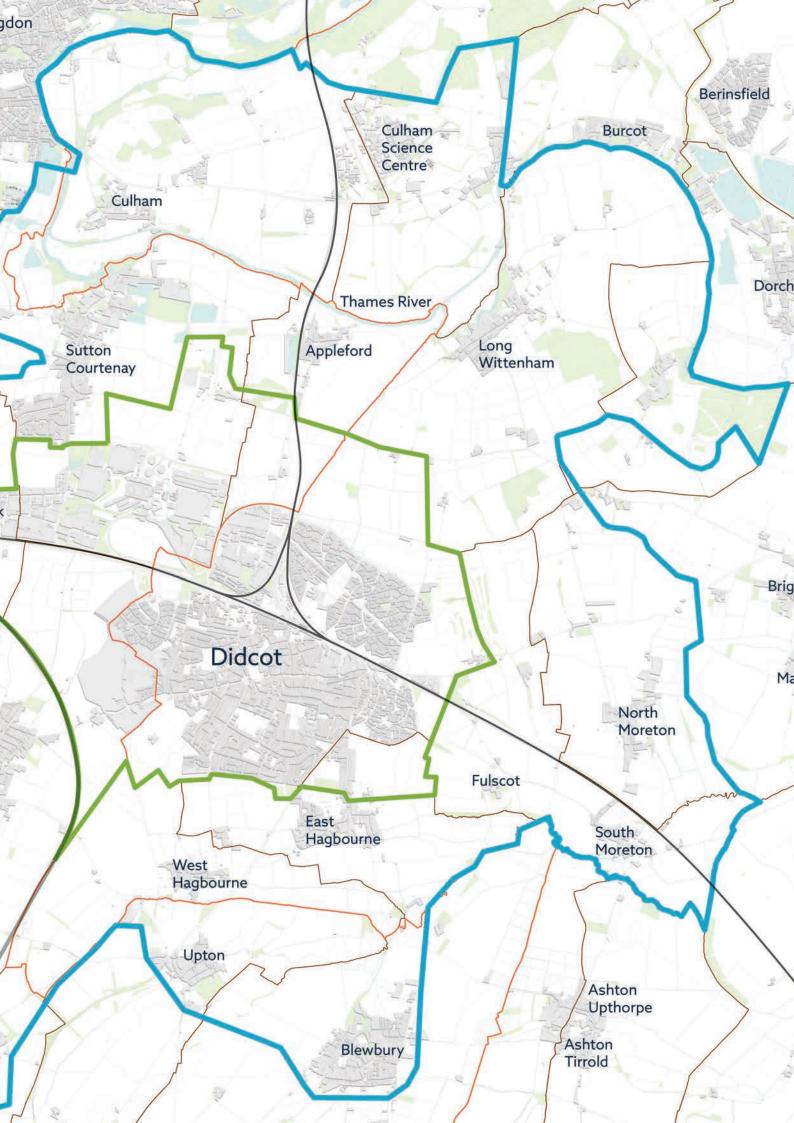
Chilton

Proposed Garden Town Boundaries

Didcot Garden Town and Science Vale

Abing

* Milton Park is referred to throughout this document. However it should be noted that the business park's formal name is Milton Park (MEPC Milton GP Ltd).



1.1.5 Didcot Garden Town masterplan

The Didcot Garden Town masterplan brings together the landscape, infrastructure, housing and economic principles of the garden town into a plan for the next 20 years.

It draws on the views of the community, businesses and other stakeholders to create a blueprint for Didcot's growth that delivers benefits for local people. It centres on mobility, connectivity and inclusion as its guiding principles, attempting to knit the town together.

Boundary

 Didcot Garden Town masterplan boundary

Land Use

Didcot Station
Community centres and retail
Residential areas (existing)
Residential areas (consented)
Residential areas (proposed)
Employment (existing)
Employment (proposed)
Science Vale enterprise zone and
Didcot Growth Accelerator sites
Education
Healthcare
Recreation & leisure
Science Vale sites
Major car parks

Landscape

	Park, formal garden, play, amenity
	and cemetery
	,
	Publicly accessible natural green
	space
	Allotments, community garden,
	and city farm
	Proposed green buffer around
	necklace of villages
	Orchard
	Water / wetland
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	Woodland
*****	Green corridor
	Garden Line





1.1.6 Overview of the delivery plan

The delivery plan sets out a vision for Didcot Garden Town, a series of specific recommendations under different themes, a masterplan and an approach to delivering the proposals. Taken together, the proposals within the Plan provide the opportunity to:

- Diversify housing types and delivery methods, providing new choices such as professionally managed private rented homes and a locally based factory-built home constructor
- Accelerate the delivery of homes and the social and physical infrastructure required to support new residential development
- Support economic growth generated by UK's leading cluster for commercialisation of science, building on the strengths of Harwell Campus, Culham Science Centre and Milton Park to deliver an additional £1bn of annual gross value added to the UK economy
- Explore ways to capture value from new development, which can be channelled into the infrastructure, affordable housing and green spaces to ensure these developments benefit the wider community
- Establish strong local governance for the garden town. Representatives of the local community, local businesses and district, county and town councils to create a unified, democratically accountable delivery body

This section provides a brief overview of the content of each delivery plan chapter.

Chapter 2 - Listening to the community

The delivery plan is founded on feedback from local people. Over the last 6 months the team has met more than 100 groups and businesses, held 5 major public events, provided briefings to 9 parish Councils and received over 400 comments via the online portal, which has recorded more than 4,600 interactions with the public since it was established. Stakeholders ranged from large multi-national businesses to small local community groups. A wide range of views were expressed but several strong themes were clear:

- The green space within and around Didcot is highly valued
- Development is welcomed but only when there is a plan to deliver supporting infrastructure
- Affordability of housing is a problem for local residents as well as affecting recruitment for growing businesses
- Improvements in and around the station and town centre would be welcomed and create a more vibrant town
- Strong resistance to development on Ladygrove Park, strong support from cyclist groups, and a clear desire to know more about how public services infrastructure will be delivered

The delivery plan has been shaped by the feedback to date and identifies the way in which further public engagement will take place over the next year. The governance arrangements within the plan also ensure representation from community and business stakeholders in ongoing decision making.

forward it is particularly Goina important that there are convenient ways for people to engage with the Garden Town and for some momentum to be generated in making early priorities happen. To do this, a centrally located site will become a temporary Didcot Garden Town office, potentially in conjunction with the connectivity hub proposed in Chapter 3. This will take the form of some flexible space maybe constructed from innovatively re-purposed materials - that can serve a number of different purposes and host a mix of events. The Didcot Garden Town team think it should:

- Host a master copy of the Didcot Garden Town masterplan and act as the location for consultation and public engagement
- Provide hot desking workspace
- Host pop-up cafés/ bars/ restaurants that use fresh produce from new community garden in the town or offer training opportunities for local students in the catering sector
- Stage events from technology and science partners that are keen to show what new ideas are emerging. Also artistic events highlight the creativity within the town

Chapter 3 - The vision for Didcot

Section 1.1.3 of this chapter provides a brief overview of the vision for Didcot Garden Town. The text below explains the elements of the vision and how these have come together.

At an early stage of preparing the delivery plan the team worked with the district councils to establish high level principles for the garden town. These are included in the Vale of White Horse Local Plan Part 2 Preferred Options and the South Oxfordshire Local Plan Second Preferred Options, which are summarised in figure 1.1. These principles guided more detailed work which arrived at the vision for Didcot to be "Oxfordshire's home for future science, applied technology, nature and vibrant communities".

Underpinning the vision are three brand identity pillars and three vision principles:

Brand identity pillars

- Visionary science and advanced technologies
- Fantastic green space
- Connected, cultural communities

Vision principles

- Unified identity
- Inspiring green living
- Creative collaboration

Individual parts of the delivery plan then add further priorities appropriate to individual topics such as landscape, spatial planning or specific key sites. The vision and further priorities are all aligned to and build upon the masterplan principles established at the outset and set out within the emerging local plans. Summary of Didcot Garden Town masterplan principles within the Vale of White Horse and South Oxfordshire District Councils' emerging Local Plans

- Design encouraging pioneering architecture and prioritising green spaces
- Local character a unique identity for Didcot, distinctive from the surrounding villages and protecting their rural character
- Density and tenure a variety of densities, housing types and tenures, including higher density development near transport hubs

- Transport and movement reducing reliance on motorised vehicles and promoting a step-change towards active and public transport
- Landscape and green infrastructure – ensuring new development enhances the natural environment and promoting habitat planting and food growing zones
- Social and Community Benefits

 creating accessible and vibrant neighbourhoods, a strong town centre and promoting community ownership and stewardship

Figure 1.1 - The Didcot Garden Town masterplan principles incorporated in the councils' local plans

Chapter 4 - Making Didcot a place for business

Didcot has a strong economic base built on the history of the area as a rail interchange, power generation and nuclear energy research centre. The area continues to be successful with two enterprise zones and a whole range of local and international businesses, particularly associated with high tech science. The delivery plan focuses on two key economic themes that support existing plans for creating 20,000 new jobs in the area:

 Increasing the density and quality of jobs within the town centre. Initiatives include new council-led commercial and retail development, community employment plans and purpose-built space to suit the needs of modern Small and Medium Enterprises (SMEs)

- Supporting Science Vale UK and enterprise zones specifically business which commercialise technological innovation.
- Proposals respond to the feedback from businesses and include development of higher density housing on flexible terms with amenities, infrastructure on-site upgrades to facilitate cycle and future driverless pod access to Culham Science Centre / Harwell Campus and flexibility to speed up the process for testing of new technologies within the town

Chapter 5 - The infrastructure needed to support growth

A planned and funded approach to infrastructure is critical to securing the benefits of growth for Didcot. The delivery plan sets out proposals covering:

Movement

Identifying ways to promote a shift towards sustainable transport such as cycling and the infrastructure required to make key routes safe. Setting out a prioritised schedule of road upgrades including the flexibilities required for future transport methods such as driverless pods. Future proofing the masterplan such that movement of the railway station east is possible, should this deliver sufficient benefits.

Utilities

Establishing the likely upgrades required to support the planned growth and the utility companies' level of preparation for this. Incorporating an approach to infrastructure planning within the garden town governance structure, to offer utility companies better visibility of changing development programmes.

Sustainability

Identifying the benefits of sustainable infrastructure including heat networks, sustainable urban drainage, water saving technology and green roofs.

Social infrastructure

Assessing the needs for education, health, cultural and leisure facilities considering changing demographics. Identifying gaps between secured and required infrastructure and proposing support for a new health campus to provide better services more cost effectively. Assessing the current leisure offer and suggesting enhancements including a wider night time economy and more hotel and conference space.

Chapter 6 - Delivering a wider choice of homes

Housing was a significant source of feedback, both from businesses and the community. There is a need for more housing and for this to be more affordable and accessible to local people and employees. There is also a desire for a much wider variety of types and tenures of homes, including more options for younger people, key workers, older people and those with specialist needs. People also wanted to see homes which are more modern, distinctive, sustainable and interesting.

The delivery plan identifies how the needs of the garden town differ from the wider districts and suggests a range of housing tenures to meet these needs. Examples of new options include:

- Build to rent homes which are purpose built for private rent, managed professionally with on-site maintenance and amenities such as a gym, dining room, roof terrace and parcel/ grocery delivery storage
- Intermediate and living rent generally let at between 50 and 80 per cent of market rent and prioritised for groups such as key workers and those in nearby employment hubs such as a science centre
- Older living a range of housing options for older people including those who wish to downsize but live independently and those who need care at a range of levels

Proposals are also made for a route to support developers through the planning system where they promote schemes meeting the garden town housing aspirations.

Chapter 7 - A Connected Smart Community

Didcot Garden Town will deliver projects which use technology to make Didcot a better place to live and work. To reduce the barriers to successful implementation of such projects, the garden town team have engaged industry experts from the start of the delivery plan process. Products and solutions that have been identified as having the potential to deliver benefits include:

- · E-Bikes
- Public WiFi
- 5th generation mobile networks
- Driverless vehicles
- Connected ticketing services
- Environmental sensors
- Smart home technology
- Energy networks
- District heating

The next stage of work will be to develop strategies to guide the implementation of projects that achieve the vision objectives.

Sustainability is also a focus of the garden town, specific projects being considered include:

- Sustainable fuels for council fleet
 vehicles to reduce carbon emissions
- Small scale renewable energy solutions
- Rainwater and greywater harvesting
- Water saving devices
- Sustainable drainage schemes
- Reuse / repair shop

Chapter 8 - A super green town

A green landscape with generous parks, gardens and tree-lined streets is a defining characteristic of a garden town. Didcot benefits from a range of open spaces within the town, its access to the North Wessex Downs Area of Outstanding Natural Beauty and nearby, natural attractions such as Wittenham Clumps. The delivery plan identifies approaches to protect and enhance what already exists and opportunities to create new green infrastructure. The key priorities are:

 Connecting the town with green routes to promote cycling and walking, particularly for strategic connections between the science campuses and to destinations such as the River Thames and Wittenham Clumps

- Creating new multi-functional spaces, promoting physical activity and ensuring everyone in the town has a green space within 300 metres of their home
- Promoting local growing of food and building on this opportunities to use produce in community cafés or markets
- Integrating new urban public space, with a key focus on the station arrival and Broadway
- Protecting key views, ensuring important viewpoints towards features such as Wittenham Clumps remain and identifying the potential to create a new landscape feature in the longer term
- Ensuring coherent planting structures to new developments

- Formalising green gaps between villages, preserving the character of the distinct areas and preventing coalescence
- Integrating blue infrastructure to support biodiversity and reduce flood risk, this could include improvement of Moor Ditch, new Sustainable Urban Drainage schemes (SUDs) near the station and A4130
- Upgrading the quality of existing green space and encouraging greater use of the spaces
- Additional planting in existing residential areas, for example adding street trees, supporting green roofs or providing advice to help re-green front gardens
- Offering guidance to developers via a design review panel



A school visit to the engine shed at Didcot Railway Centre © Frank Dumbleton



A permeable, connected movement network that supports and future proofs all modes of transport



Didcot will use Smart principles to introduce new technology



Designed to facilitate, encourage and support communities through design



A network of open spaces form the backbone of the garden town



An extended and enhanced town centre in the heart of Didcot Garden Town



Range of uses and designs of housing with appropriate density



Sustainability embedded in every aspect of decision making

Chapter 9 - A masterplan for Didcot Garden Town

The masterplan is informed by and based on the masterplan principles within the local plans, community engagement and studies in chapters 4-7. The plan sets a strategy for Didcot's growth over the next 20 years and beyond based on a number of key masterplan priorities shown in figure 1.2. The masterplan identifies proposals within a series of areas:

The Cultural Spine

This route comprises of Didcot Road, Wantage Road and Broadway and has the opportunity to become the public heart of the town. The improvements to the area will include:

- Wider, better quality pavements which allow temporary retail uses such as pop-ups or markets
- Dedicated space for cyclists, segregated from cars where possible
- New public spaces surrounded by shops, cafés and night life establishments. This could include a new square to terminate the route at Rich's Sidings and a public space fronted by the Baptist House

The Gateway Spine

The Gateway Spine runs from Milton Interchange to Jubilee roundabout. This route will change to better accommodate cycling and new methods of transport, including an arrival space at the station. Connectivity would be improved by the delivery of the Science Bridge and completion of the northern perimeter road.

The Garden Line

Linking Culham Science Centre with Didcot station and Harwell Campus, the Garden Line will be a safe cycle and pedestrian route. The line will be adaptable, accommodating other modes of transport such as driverless pods as these become available.

The town centre

Didcot's existing town centre is crucial to the future social, economic and physical development. This area will receive public spaces improvements and improved signage. Opportunity sites including Rich's Sidings and the Baptist House have the potential to accommodate larger projects that will provide retail and commercial space, making Didcot more of a destination.

Opportunity sites

The masterplan also establishes aspirations for a number of specific opportunity sites, the near term and medium term opportunities are summarised below:

- Didcot Station An upgraded or extended station, including an arrival space and shared surface extending across Station Road
- Didcot Gateway South A new commercial hub, high quality homes, and café and retail
- Rich's Sidings A mixed commercial space, flexible accommodation for small and medium enterprises and purpose built private rented homes
- Ladygrove East A gateway site to the east of Didcot providing additional homes and a local centre

- North West Valley Park The potential for a new specialist neighbourhood comprising 800 homes and associated green space
- Baptist House An important site at the junction of Broadway and Station Road with the opportunity to develop a new town square for Didcot
- Didcot Railway Centre The opportunity to enhance and expand the railway centre and bring its work to life in the station square area
- Land east of Rich's Sidings A site east of the town centre which could accommodate employment or housing uses
- Land south of A4130 (near Great Western Park) – A site which could offer a key opportunity near the A4130

A design review panel should be established to offer feedback to developers from an impartial and independent expert group. This approach has worked successfully in other towns and would help promote new development in accordance with the garden town vision.

Chapter 10 - Managing delivery of the masterplan

For the garden town to be delivered with certainty there is a need for a strong system of governance and development management.

The delivery plan identifies a bespoke governance system which ensures:

- A coherent and focused approach, avoiding the potential problems of cross-boundary coordination between the two district councils
- A body which has the appropriate powers to realise the garden town vision, these include plan making, development management and funding
- Representation of stakeholders from the community and business as well as the district councils' leaders, town councils and parishes

The delivery plan also proposes that a future joint Development Plan Document (DPD) be prepared and, after examination, adopted. A DPD will ensure the vision for the garden town is clear and give the strongest level of planning policy in support of this vision.

Chapter 11 - Funding and implementing the proposals

The delivery plan includes a wide range of proposals, ranging from low cost early priorities, through major long term infrastructure projects, to development activities which can create a commercial return. Chapter 12 of the delivery plan details pre-implementation costs which are items such as technical studies, surveys or design which must happen before a project can be firmed up. These are followed by implementation costs which represent the costs of delivering proposals such as an infrastructure project, building or community initiative. Finally any currently secured funding is identified together with anticipated receipts from any commercial activities.

In summary the delivery plan identifies that c.£10.8m is required to fund pre-implementation costs and to support a dedicated garden town team for the next 5 years. Implementation of the projects will then cost c.£612.1m, set against secured/ anticipated receipts of c.£288.0m. The councils are engaging with central government to identify opportunities for the initial pre-implementation and garden town team costs to be funded, together with contributions to the longer term implementation costs.

Whilst the costs of the garden town over the coming decades are substantial, these must be weighed against the benefits, both to local people and the UK economy as a whole. There is the opportunity to upgrade local infrastructure, create and protect green spaces and build on the strengths of the town to create "Oxfordshire's home for future science, applied technology, nature and vibrant communities". There is also the unique opportunity to accelerate and deliver over 15,000 new homes, 20,000 jobs and add substantial value to the UK economy via the cutting edge work in the Science Vale.

Status of the Didcot Garden Town Delivery Plan

It should be noted that statements in this document do not amount to formal decisions of the bodies involved unless they have specifically agreed to them and that the implementation of the delivery plan is, where necessary, subject to formal decisions of the bodies involved.

There may also be elements of the document that are beneficial when considered within the context of Didcot Garden Town only that could have wider implications for the districts and the county, as a whole, that have not yet been fully understood or evaluated. This evaluation will be undertaken when key projects move into a more detailed planning and pre-implementation stage of development.

1.1.7 The delivery plan and other council policy

The Didcot Garden Town Delivery Plan is intended to set out a vision for the town and a framework to deliver this vision. The plan builds on existing and emerging policies including the Vale of White Horse and South Oxfordshire District Councils' Local Plans and strategies relating to issues such as housing and the economy. The plan is complimentary to these policies and strategies, suggesting more detailed and specific plans for Didcot Garden Town within the context of the wider districts.

It is recommended that in time the delivery plan forms the basis of a joint Development Plan Document (DPD) such as an area action plan. Following an examination process this DPD would be adopted by the district councils, offering clarity and certainty on the proposals and giving the strongest level of planning policy in support of the garden town vision.

In its present form the delivery plan does not represent adopted planning policy, it will also take some time before a DPD is considered for examination and adoption. If early progress in realising the aims of the garden town is to be made, it is therefore important to consider how the delivery plan can influence planning decisions whilst a DPD is considered.

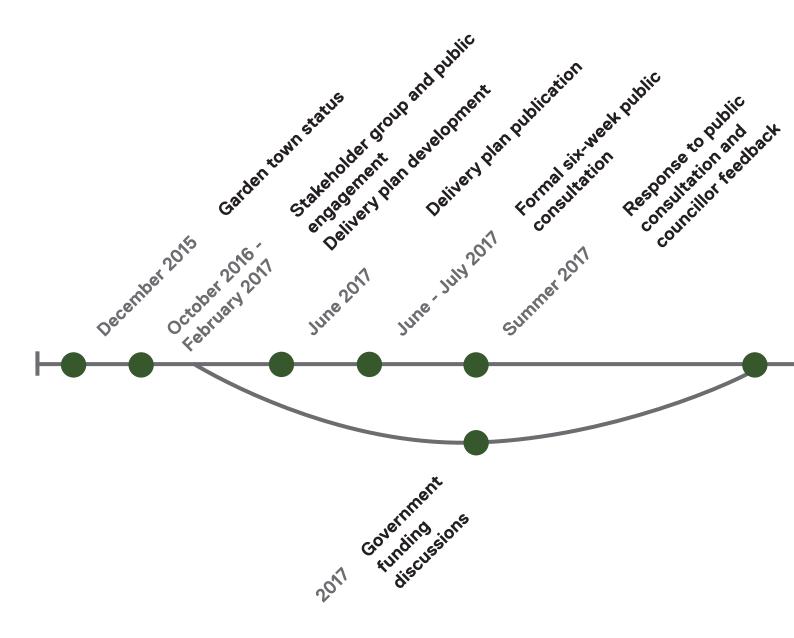
It is intended that the delivery plan be the subject of formal public consultation during summer 2017, allowing an updated document to be considered for approval by councillors in Autumn 2017. Subject to approval, it is suggested the delivery plan be published and treated as a non-statutory planning document. Whilst the document would not have any formal status in development plan policy terms, it would represent a clear statement of intent and commitment to the garden town vision. Given the national importance of garden towns, the document could also be a material consideration and carry weight in determination of planning applications. As such, the garden town vision could begin to have influence as early as late 2017.

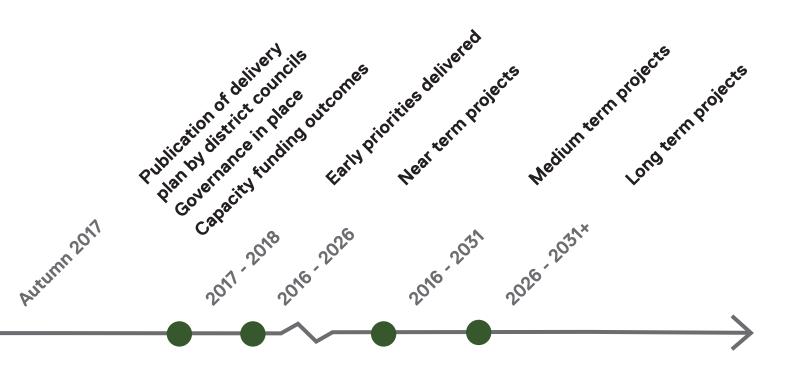


Stargazing live at Rutherford Appleton Laboratories © Stephen Kill

1.1.8 Project timeline

This timeline sets out how the Didcot Garden Town project has progressed so far and the future milestones as the project continues.





2. Listening to the community

Didcot is home to a diverse range of people, who all value different things. As the garden town delivery plan has been developed the team have sought input from as many of these people as possible. This chapter outlines the community engagement that has taken place so far, how this has shaped the various proposals contained within the delivery plan, and how continued community involvement will be ensured.

2. Listening to the community

2.1.1	Our approach to community involvement	32
2.1.2	Engagement via website and other values	34
2.1.3	Masterplan response to feedback	36
2.1.4	Public consultation	41
2.1.5	Conclusions	43

2.1.1 Our approach to community involvement

There are many exceptional assets within Didcot and the surrounding area. Its proximity to the area of outstanding natural beauty and cutting edge science facilities along with its thriving enterprise zones are just a few things that make Didcot an exciting place to be. However, the asset Didcot can be most proud of is its people and, since the vision of this document aims to enrich the community, great care has been taken to ensure that the views of local people are taken into account. To unlock this local knowledge and expertise, three main forms of engagement activity were undertaken to encourage community involvement and engagement, when shaping this draft delivery plan:



Stakeholder groups representatives event © Robert White

The three main forms of engagement activity:

А.

Meetings with stakeholder group representatives, parish councils and community groups.

The garden town team have met with over 100 stakeholder groups, many of these on more than one occasion. Representatives of many of these groups have also attended the stakeholder events between October 2016 and January 2017.

These stakeholders are made up of parish councils, Oxfordshire County Council, utility providers, community groups, environmental groups, sports clubs, residents associations, local businesses, government organisations, educational facilities, leisure providers, housing associations, science industries, emergency services and developers. From the outset of the garden town project the delivery plan has evolved from input from these stakeholder groups.

A summary of outputs from these meetings with stakeholder representative groups up to 18 December 2016 can be found in the phase one community engagement summary report at appendix A.

A summary of feedback received from stakeholder groups on the initial proposals can be found in the phase two community engagement summary report at appendix B.

В.

A dedicated, interactive website (www.didcotgardentown.co.uk) that enabled members of the public to comment on various aspects of Didcot, and provide ideas for accommodating future growth in a sustainable way. Engagement though the interactive website was broken down into two phases, further details of which can be found in section 2.1.2.

C.

Other engagement activity:

The garden town team realised the importance of using a wide range of opportunities for the residents of Didcot and the surrounding villages to become informed of the garden town project. With this in mind we undertook the following in addition to the activities highlighted in points A and B.

- Public drop in sessions at Cornerstone Arts Centre
- · Presentations at nine public parish council meetings
- Pop-up shops in the Orchard Centre, Didcot
- · A dedicated phone number and email address for the garden town team
- Facebook advertising
- Advertising in the Herald series newspapers
- Display stands Orchard Centre, Conerstone Arts Centre, Didcot Civic Hall, Didcot Wave and South Oxfordshire and Vale of White of White Horse District Council Offices.
- · Leaflet delivery to all homes in Didcot
- Posters in Didcot and surrounding villages
- Community engagement at Didcot Street Fair
- Press releases leading to articles in local media
- Briefing sessions and mailings to residents of the Ladygrove ward focusing on plans in this area of Didcot.

2.1.2 Engagement via website and other values

The dedicated, interactive website (www.didcotgardentown.co.uk) acted as a platform to keep the public informed of latest developments with the garden town project. News items were automatically forwarded to contributors who requested to receive updates by email and materials presented at stakeholder briefings were made available to download.

The website also allowed the public to comment on the area as it currently is and on the initial masterplan proposals. This engagement was broken down into two phases.

Phase one – 9 November 2016 to 18 December 2016

Phase one of the interactive website enabled members of the public to place 'pins' into a map of Didcot and the surrounding area and record their views of that location in its current state and to suggest improvements. The purpose of this stage the engagement was to help the garden town team develop a robust masterplan for Didcot Garden Town and identify the best means to deliver this.

The majority of feedback received related to the masterplan which sets out the distribution of physical features. Feedback was also given on how the garden town area should be maintained and managed, therefore the comments received were divided into the following three sections.

Masterplan related -

Comments relating to physical features such as infrastructure, buildings and green spaces

Service and maintenance -

Comments relating to quality of service delivery and maintenance of public spaces

Governance -

Comments on how the garden town is managed and how this is being funded

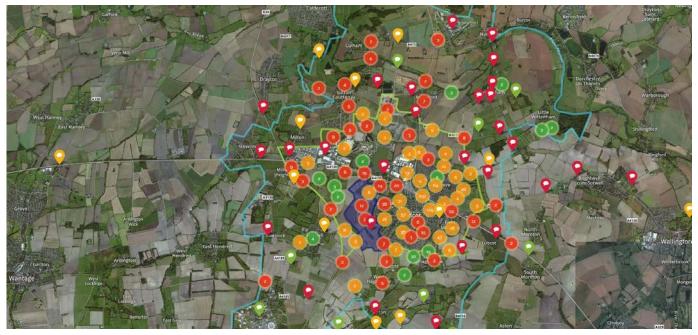
A summary of this phase of engagement can be found in the phase one community engagement summary report at appendix A.

Phase two – 26 January 2017 to 24 February 2017

The second phase of the website enabled the public to comment on the initial proposals for the masterplan, town centre and transport which were launched at the stakeholder representative group meeting on 19 January 2017.

The purpose of this phase of engagement was to help the Garden Town Team understand the views of the public on the initial proposals and to highlight any concerns over feasibility, deliverability and public opinion of the plans.

Comments received through the website along with those received by email, post and telephone were considered when producing the final draft proposals.



Map of feedback given on commonplace

This phase of engagement highlighted that several aspects of the initial proposals were of concern to some local residents. The proposals for development on Ladygrove Park, the proposed closure of Cow Lane Railway Bridge underpass to vehicular traffic and the allocation of land for the potential long-term relocation of Didcot Railway Station accounted for almost 70 per cent of all feedback received during the final phase of the community engagement process. These representations highlight the value of undertaking an extensive community engagement process, prior to the completion of this draft delivery plan document.

The proposed developments on Ladygrove Park attracted 86 per cent of all feedback on the town centre projects. This was accompanied by a petition to 'Please promise to protect all of Didcot's green spaces, paths and amenities on Ladygrove from loss, shrinkage or relocation through future development' signed by 2,039 people. As a result of this community feedback, which highlighted significant public objection to these proposals, they have been removed from the plans.

The proposals to close Cow Lane to vehicular traffic and the potential long-term plan to relocate Didcot Parkway station continue to factor in the masterplan, but are subject to extensive feasibility studies before these schemes are brought forward.

A summary of this phase of engagement can be found in the phase two community engagement summary report at appendix B.

Understanding the comments

Participants in both stages of the engagement process through the website were required to register to enter their comments. This enabled contributors to sign up to receive updates from the website and (where details were provided) enable to the councils to understand the demographic of those making comments.

By using this information we were able to understand the areas of society that we needed to reach to gain their feedback. An example of this is that the age analysis indicated that we needed to do more to engage with younger residents of the area. This was then followed up with engagement sessions with secondary school students in Didcot.

Age distribution of respondents to phase two of online engagement

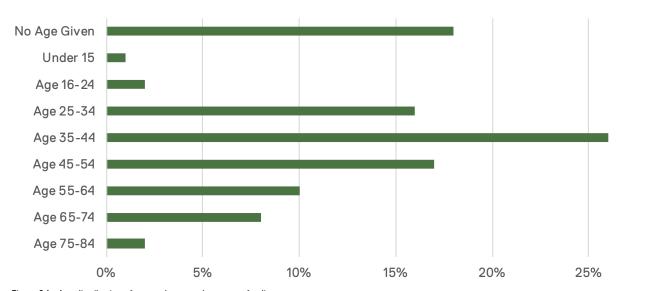


Figure 2.1 - Age distribution of respondents to phase two of online engagement

30%

2.1.3 Masterplan response to feedback

As part of the engagement process members of the public were asked what they would like to see in the area. There were in excess of 1,600 responses given to this question as broken down in figure 2.2 below:

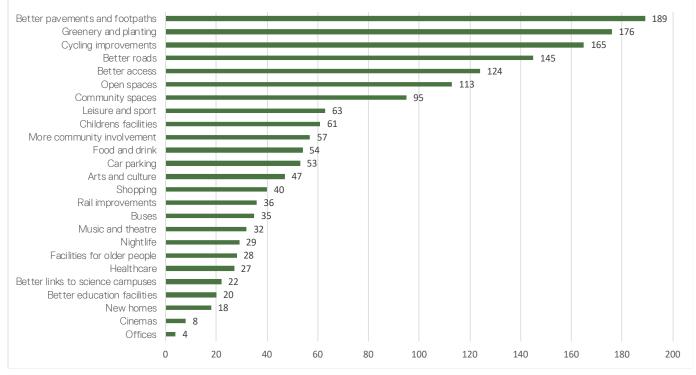


Figure 2.2 - Frequency of issues in feedback

Summarised from this point, in order of level of response, is how the garden town team have incorporated suggestions and responded to feedback:

1. Better pavements and footpaths

- A scheme of improvements to be undertaken to aid in the upkeep of pavements and footpaths
- A better connected town by a network of safe, well-lit and attractively landscaped pedestrian routes both within Didcot and to the surrounding areas
- Encouraging community involvement in helping maintain the amenities of Didcot

2. Greenery and planting

- Integrating high quality green and blue infrastructure into new and existing green spaces and communal areas for the benefit of both the community and wildlife (biodiversiy)
- An initiative of community gardens as a focus to bring the community of Didcot together

3. Cycling improvements

- An extensive cycle network around Didcot, linking to the surrounding villages and to key areas of employment.
- With safety in mind, separating cycle lanes from traffic on certain routes
- The creation of Didcot's 'Garden Line' a safe and enjoyable cycle and

pedestrian route linking Culham Science Centre, Didcot Station and Harwell Campus

- Actively encouraging cycling as both a means of getting from A to B and as a key part to a healthy lifestyle.
- A network of charging points for electric bikes
- Well lit cycle routes
- A commitment to work closely with local cycling groups to integrate their knowledge of the area into the proposed cycling improvements

4. Better roads

 Utilising the latest traffic modelling technology to inform the implementation of a road network capable of accommodating the future growth of Didcot and new forms of transport

- Creating an 'East-West Movement Corridor' that channels movement of through traffic along the perimeter roads around the edge of Didcot rather than going through the town centre
- A vision to create an additional River Thames crossing to provide better access to Culham Science Centre and help ease traffic in Sutton Courtenay, Clifton Hampden and on the A34
- More charging points for electric vehicles
- Striving to deliver key road infrastructure in advance of housing delivery
- Working with Oxfordshire County Council to ensure roads are well maintained, essential short, medium and long-term traffic infrastructure schemes are delivered and traffic pinch points are identified and addressed
- Being engaged with national infrastructure schemes such as the Oxford to Cambridge express way

5. Better access

- Ensuring that all community spaces and public open spaces are accessible to all
- A commitment to working with local access groups to ensure that urban and green developments can be enjoyed by all
- Providing a range of mobility schemes

6. Open spaces

- A commitment to ensuring that access to high quality public green space is within 300 metres of all residences
- An undertaking to protect the green buffers surrounding the necklace of

villages neighbouring Didcot

 Innovative uses of green spaces to create attractive landforms accessible to all

7. Community and cultural spaces

- Enhancements to existing and creation of new communal spaces to increase the vibrancy of the town
- A vision to re-invigorate Broadway to become the 'Cultural Spine' of Didcot
- A new market place outside Baptist House to become a focal point of the town
- Building on the success of Cornerstone Arts Centre to bring high quality public art into Didcot

8. Leisure and sport

- The development of a world class leisure centre in Didcot to become a unique destination for leisure activities for the South of England
- Community sports facilities to cater for local teams and clubs
- Ensuring that the popular park run remains a key part of the healthy culture of Didcot
- Easy access to open spaces suitable for all forms of outdoor leisure activities both energetic and relaxed

9. Children's facilities

- Working with the young people of Didcot and the surrounding area to ensure that their requirements are met
- Ensuring that all children's facilities are safe and well maintained
- Ensuring that open spaces are suitable and enjoyable for children to encourage a healthy lifestyle from a young age

10. Facilities for older people

- Retirement type housing for over 55's suitable for those who wish to downsize
- Extra care facilities for those wanting to retain independence but who may require various levels of care and support
- Specialist housing such as dementia care housing

11. More community involvement

- Encouraging involvement of the community in public realm improvements/ maintenance
- Pioneering schemes such as community gardens
- Remaining engaged with community groups to help them realise any initiatives and goals.
- A robust governance model with community involvement at its heart

12. Food and drink

- A variety of cafés and restaurants located in Orchard Centre phase two and on an enhanced Broadway
- Encouraging the use of fresh local produce
- Using community gardens as an opportunity to grow fruit and veg
- Creating community hubs on new developments and provide provisions for cafés and restaurants

13. Car parking

- Using traffic modelling data to ensure sufficient parking provisions are made for the town centre and that this is situated in the correct locations
- Creating a parking strategy for the town centre and station area

- A new multi storey car park on Foxhall Road for users of Didcot Station
- A long stay parking solution that allows easy access to the town centre and railway station
- Sufficient parking at local community hubs
- Ensuring that local access groups are engaged to guarantee appropriate levels of parking spaces for those with limited mobility and that these provide easy access to the key areas of the town

14. Arts and culture

- Using Didcot's railway heritage, its scientific links to Culham Science Centre and Harwell Campus and its location between the River Thames and the area of outstanding natural beauty to inspire a public art programme for the town
- Creating a high quality 'Cultural Spine' along the Broadway
- An enhanced railway museum with improved access

15. Shopping

- Building on the momentum of Orchard Centre phase two to bring a wider variety of shopping opportunities to Didcot
- Using the creation of the 'Cultural Spine' along Broadway to encourage niche business to locate to this area
- The creation of neighbourhood centres in new developments to cater for the needs of residents
- Enhancements to shopping centres such as improved public realm and landscaping and a wider variety of cafés and restaurants to enrich the experience of shopping in Didcot

16. Rail Improvements

- An enhanced railway station with improved facilities and dedicated entrance to Didcot Railway Centre
- A better entrance to Didcot through a welcoming gateway development and pedestrian friendly station forecourt square
- Better access to platforms by using bridges over tracks rather than existing tunnel which is prone to flooding
- Better parking provisions for rail users
- Allow a wider range of rail services to stop at Didcot such as services to the north and south of the country
- A strong working relationship with Network Rail to investigate connectivity improvements around Didcot.

17. Buses

- An improved bus service around Didcot and to the surrounding villages
- Embracing new technology to track timetables and pay for journeys

18. Music and theatre

- Building on the success of Cornerstone Arts Centre by using the garden town to promote its outstanding facilities
- Encourage street entertainment in the town centre, particularly on the area to become the cultural spine of Didcot

19. Nightlife

 A better mix of bars and restaurants in the town centre and along the Broadway to encourage people to remain in Didcot rather than travelling to Oxford or Reading

- Facilities for older people
- Ensuring that public and open spaces are accessible to all
- A wider variety of activities at leisure centres aimed at all age groups
- A mix of cultural entertainment that appeals to all ages

20. Healthcare

- Investigating the possibility of a health care hub within the garden town to cover the needs of Southern Oxfordshire and help ease the burden on the John Radcliffe Hospital
- Maintaining close working relationships with local health centres, Oxfordshire County Council, NHS England and the Clinical Commissioning Group to ensure that the growth of Didcot is accommodated for in future health care plans

21. Better links to science campuses

- Creating a safe and enjoyable cycle and pedestrian route linking Culham Science Centre, Didcot Station and Harwell Campus to be known as the 'Garden Line'
- Exploring new technologies such as autonomous vehicles and electric bikes as alternative means to travel between Culham Science Centre, Didcot Station and Harwell Campus and ensuring that routes can support future innovation
- Establishing an educational link to the science facilities such as an interactive science fair to bring the world leading research and development to the community of Didcot and as an event to bring people into the town

22. Better education facilities

- · Working with leading educational facilities with a view of bringing world class learning opportunities to the heart of Didcot
- Tapping into the scientific expertise of Culham Science Centre and Harwell Campus to provide better opportunities to the residents of Didcot in the exciting world of hi-tech developments
- Developing on the outstanding success of the existing educational facilities in Didcot
- Exploring the opportunity of bringing interactive exhibitions, both historic and hi-tech, to the heart of Didcot

23. New homes

- · Supporting high guality residential development
- Providing a wider range of tenures, design and unit sizes across developments
- Promoting higher densities at appropriate sites in the centre of town and close to transport links
- Encouraging new residential development to include high quality

accessible public spaces

Promoting smart, eco-friendly homes

24. Cinemas

- Exploring all avenues of family entertainment to ensure that the residents of Didcot have the best facilities available on their doorstep
- Working with entertainment providers to encourage a wide variety of services to become part of the community of Didcot

25. Offices

- Providing business space and shared workspace for start-up companies in the centre of town
- Providing assistance to companies wishing to start up in Didcot Garden Town and Science Vale.
- Using enterprise zones and local links to leading scientific establishments attract established global to locate in the organisations to Science Vale area

Key points of the engagement process

The community engagement process was wide ranging, transparent and inclusive of all community interests. Ideas and comments were assessed in terms of their overall benefit to Didcot town and the surrounding area of influence. It was therefore inevitable that some ideas and comments, that were contradictory to more acceptable ones, could not be incorporated into the latest masterplan/delivery plan.

Although the proposals are generally welcomed a number of project ideas caused considerable local have concern. In particular the councils have received strong representation against any development on Ladygrove Park, the closure of Cow Lane to vehicular traffic and the potential relocation of the railway station. We have also had a significant number of comments calling for an improved bus service across the town.

All practical comments and ideas were listened to and have been acted upon to produce the latest version of the masterplan and wider delivery plan.



Inspirational comments

It is very clear from the engagement process that residents care very deeply about Didcot and the surrounding areas. These are a few of the inspirational comments made through the engagement process:

"Didcot needs to believe in itself. Identify and address negatives, find ways to deliver enhancements."

"Let's do something really inspirational."

"The transformation of Didcot will demonstrate excellence in its approach to low-carbon living and integrated urban design. Didcot will provide for the needs of all irrespective of wealth or age. Didcot will be the place of first choice for people to settle and its success will be an example used nationally."

"It is exciting to see Didcot growing. One of the things that makes it a great place to live and work is that there is a good mixture of facilities that are close to hand. We have a mixture of housing and work opportunities, together with leisure facilities, green spaces and cycle/pathways. As Didcot grows is would be good to preserve and enhance these facilities and indeed create more spaces where people walk, play and come together."

"I want to see my town as somewhere the whole community is proud of with plenty of green space and good transport links."

"Encourage a stronger sense of community and develop well maintained and sustainable community facilities for all age groups."

"I think the town is in desperate need of improvement and that DGT is a once in a lifetime opportunity to make some new positive changes. The planned growth of a DGT is to be welcomed, especially where it protects, enhances and respects the unique individuality of nearby historic settlements."

"Didcot is a great place to live, and I love that we have so many green areas."

"It's great to have so many shops nearby where we live and I'm excited about phase 2 of the Orchard Centre. I absolutely love Cornerstone, we are very lucky to have it."

"It would be great to make Didcot a more welcoming, vibrant town with the plans of the new getaway at the station."

"I'd like to see Didcot become a Capital for Sustainability through this project by providing a catalyst for innovation and demonstration of sustainable design and transport/mobility."

"The Garden Town status is an opportunity to get the infrastructure sorted for this housing and make Didcot a pleasant and aspirational place to live."

"I am proud to say I live in Didcot"

Receiving comments such as these through the engagement process reinforces the drive of the team to produce a garden town that we can all be proud of.

2.1.4 Public consultation

The public consultation on the draft delivery plan ran from 19 June to 31 July 2017 and was designed to capture people's views and suggestions on the proposals within the plan. The councils put together a survey asking for feedback on the proposed objectives and an online survey was designed that mirrored the chapters within the proposed delivery plan.

The introduction to the survev provided a weblink to download a full copy of the proposed delivery plan and respondents were given the option at the beginning of the survey to choose which sections and chapters they wished to complete. At the start of each chapter the survey provided a weblink to the relevant chapter. This opened in a pop-up window, allowing respondents to review and consider the detail of the chapter prior to answering. At the end of each section, respondents were given the opportunity to provide comments on the chapter.

The councils ran a social media campaign throughout the duration of the consultation to encourage people to participate. This was accompanied by a leaflet sent to each property within Didcot and the surrounding villages. Email notifications, which included a link inviting people complete the survey online, to were sent to stakeholder groups and residents that had previously requested to be kept informed of garden town updates. This was also done for people who had previously expressed an interest in taking part in wider council consultations.

The launch of the proposed delivery plan was also comprehensively covered by the local media. Papercopiesoftheproposeddeliveryplanwereavailableforthepublictoviewat:

- South Oxfordshire and Vale of White Horse District Council, 135
 Eastern Avenue, Milton Park, OX14
 4SB
- Vale of White Horse District
 Council, Abbey House, Abbey
 Close, Abingdon, OX14 3JE
- Didcot Civic Hall, Britwell Road, Didcot, OX11 7HN
- Didcot Library, 197 Broadway, Didcot, OX11 8RU
- Cornerstone Arts Centre, 25 Station Road, Didcot, OX11 7NE
- Didcot Wave, Newlands Avenue, Didcot OX11 8NX

Consultation responses

A copy of the consultation report is available in appendix R. In total, 458 people (residents, businesses, stakeholders and other interested parties) provided a response to the survey. 24 of which were postal returns, 105 via email and 329 were made online. In addition, 36 businesses and other stakeholders provided a written response to the consultation.

The consultation summary report confirms that most respondents agreed with, or had a neutral view of, most chapters of the proposed delivery plan. The support for various sections of the document is summarised in the following 2.3..

The levels of agreement for chapters 3 to 11 of the proposed delivery plan from the public consultation are indicated in figure 2.4:

Many of the comments received are critical of issues that the garden town cannot, and has not, sought to influence. For example, disagreeing with the proposed delivery plan because it does not aim to change the number of houses allocated for development within either district councils' local plans.

The garden town aims to play its part in delivering the district-wide local

Chapter	Торіс	Responses	% of total respondents that agree with, or have a neutral view of, the proposals
3	Vision	93 to 94	49% (bringing vision to life) to 59% (vision)
4	Better Place for Business	64	54%
5	Infrastructure	135 to 157	54% (transport) to 76% (grey)
6	Wider Choice of Homes	80	61 %
7	Connected Smart Community	64 to 67	65% to 67%
8	Super Green Town	100 to 102	60% to 62%
9	Proposed Masterplan	78 to 87	51% (the masterplan) to 64% (design review panel)
10	Managing Delivery	135 to 157	42% (planning) to 50% (planning & governance overview)
11	Funding and Implementation	67	45%

Figure 2.3 - Per cent of total respondents that agree with, or have a neutral view of, the proposals

plans by facilitating higher quality and more sustainable development at a faster pace than might otherwise be the case without garden town status. As such it has never set out to oppose or amend the local plans, in any way. However, by analysing individual respondents' comments, as well as the overall assessment of various elements of the proposed delivery plan, we have been able to identify a number of issues which have influenced, and have been addressed in, the final delivery plan.

3.1 The vision for Didcot	21%	2	.7%	110/	16%	25%	
3.2 Bringing the vision to			_	11%	_		
life	13%	20%	16%	2	2%	28%	
4.1 Making Didcot a place for business	14%	23%	17	%	16%	30%	
5.1 Transport infrastructure (traffic	13%	22%	9%	14%		39%	3%
5.2 Grey infrastructure (utilities, waste, energy	10%	26%			5%	19%	10%
5.3 Blue infrastructure (flood risks and	9%	27%	24	1%	8%	21%	11%
5.4 Social infrastructure (education, healthcare,	10%	27%	189	6	14%	24%	7%
6.1 Delivering a wider choice of	19%	27	'%	15%	11%	28%	
7.1 Technology	12%	31%			9%	22%	3%
7.2 Sustainability projects	14%	33%	6		6%	23%	3%
8.1 Summary of super green town	23%		24%		6%	31%	
8.2 Didcot's relationship with its landscape setting	27%		18%		6%	34%	
8.3 Landscape principles, green infrastructure and	25%		23%		6%	32%	
9.1 Introduction to masterplan	16%	26%		21%	2%	32%	4%
9.2 Analysis	16%	20%	17%	7%		32%	7%
9.3 Spatial vision and masterplan strategy	14%	22%	16%	8%		37%	3%
9.4 The masterplan	13%	23%	15%	9%		36%	4%
9.5 Guidance for key sites	12%	20%	19%	6%		37%	6%
9.6 Phasing	12%	20%	21%	6%		35%	6%
9.7 A design review panel for Didcot	20%	17%		27%	1%	29%	6%
9.8 Progressing the masterplan	14%	15%	27%	5	%	31%	8%
10.1 An overview of planning and governance	9% 18	3%	23%	3%	39	%	9%
10.2 Planning	5% 18%	19	9% 5%		49	%	4%
10.3 Suggested approach to governance	7% 15%	21	.% 6%	5	45%	6	7%
10.4 Garden town areas	10% 15	5%	22%	4%	44	%	6%
11.1 Funding and implementing the	12% 1	2% 2	21% 5	%	4	8%	3%
	Strongly agr	ee 🔳 Agree	Neither	Disagree	Strongly d	isagree Don'	t know

42

2.1.5 Conclusions

The production of the draft delivery plan is the start of an exciting journey for Didcot Garden Town and we recognise that a key driver to its success is community involvement. With this in mind we will continue to work with stakeholder groups and the public to bring the aspirations in this document to life as we begin to work on the detail of the plans.

From the announcement that Didcot had been granted garden town status there has excitement over the opportunities that this could deliver. Encouragingly, many individuals and groups have expressed their interest in being regularly informed about the project and having opportunities to help shape the garden town vision both in the near-future and long-term.

Following the launch of the draft delivery plan the council will conduct a formal six week consultation period to allow the community to give their views on the final draft proposals. However, it is essential that we keep Didcot Garden Town at the forefront of the minds of the residents of Didcot and the surrounding areas and will do so by committing to strong community involvement within the governance structure.

Community engagement will be an ongoing process for the Didcot Garden Town Board and Executive (see chapter 10 - Managing delivery of the masterplan) – since there is an acute understanding of the need to involve all parts of the local community in the work of the garden town.

To ensure that the community is placed at the centre of the governance proposals parish councils and other stakeholder groups will be asked to nominate a representative to be part of the community panel. As a representative of this panel they will be empowered to provide updates to their parishes/ groups and bring forward feedback to the governance panel.



Milton Park shuttle bus © MEPC



A clear vision is an important part of the garden town plan, since it sets out the ambition and ensures everyone has the objective in mind when responding to opportunities and setting priorities for the next 20 years. This chapter outlines both the vision and a range of principles that will guide development of Didcot Garden Town.

3. The vision for Didcot

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3.1 The vision for Didcot

3.1.1 The garden town opportunity

What does garden town status aim to enable?

50

The garden city movement encapsulated a holistic urban design approach formed by Ebenezer Howard in 1898, reinvigorated as new urbanism in the 1980s.

The garden city concept was that of a planned urban core, populated with self-sufficient communities, living in greenbelt areas of housing, commerce and agriculture.

The garden city movement was based on physical, aesthetic and social principles relating to the form, function and governance of place, and concerned with the city's relation to the rural. The principles were underpinned by land, housing and commerce reform and grounded in the ethos of economic success channelled to improve social and environmental wellbeing.

The new urbanist reading of the garden city movement was as much an economic concept as an aesthetic and environmental one. The masterplan sat front and central as integral to creating an attractive and viable place, the quality of this plan informing its success and longevity. Significantly, and a marker of this movement, the local community was active at all stages of decision-making in the form and function of place. A garden city has:

- an equality of built, social and environmental infrastructure to foster place attachment and community cohesion, where the design of its form is equal to that of its function
- 2. a governance model where its ownership and management is built on locally co-operative principles
- a form that fosters a meaningful relationship to urban land through a continuum to its rural periphery, from the town centre core, through urban neighbourhoods to rural villages



Cherry orchard © David Marsh



What could garden town status mean for Didcot?

Becoming a garden town affords Didcot numerous material, cultural, economic and political opportunities. Overall, the offer is for Didcot to grow into a place that people near and far want to come to, built on its unique assets that is about community as much as architecture and urban design. It offers Didcot the chance to become a uniquely attractive place to live, work and learn for residents and visitors alike, now and into the future.

The key aspects of contemporary garden town thinking are:

- a productive urban centre that is accountable to and controlled and governed by and for the community
- embedded and sustainable design and management

The garden town status and approach will galvanise Didcot's social, cultural, economic, political and environmental assets as one whole ecosystem, creating an inclusive and holistically planned town of high-quality and affordable housing and cultural amenities: that is aesthetically beautiful; with healthy, sociable and civic-minded communities.

The relationship between landscape and urban space creates an opportunity for

sustainability, such as food production, to be integrated into urban development – to produce a diverse urban form that is easily traversed by foot and bike. The community-focussed governance offers its population an active say and stake in the development of new ideas, decision-making and implementation, and to both share in and enjoy its future prosperity.

The approach

Shaping a vision for the garden town through considered engagement with a broad range of community stakeholders (see Chapter 2) has drawn out a set of primary pillars and principles that define a unique approach for Didcot.

There has been a strong sense that a collective ownership of the town has been lost in recent times, and that the garden town presents a real opportunity to regain this through a strong new brand identity that gives the town the permission and confidence to be special.

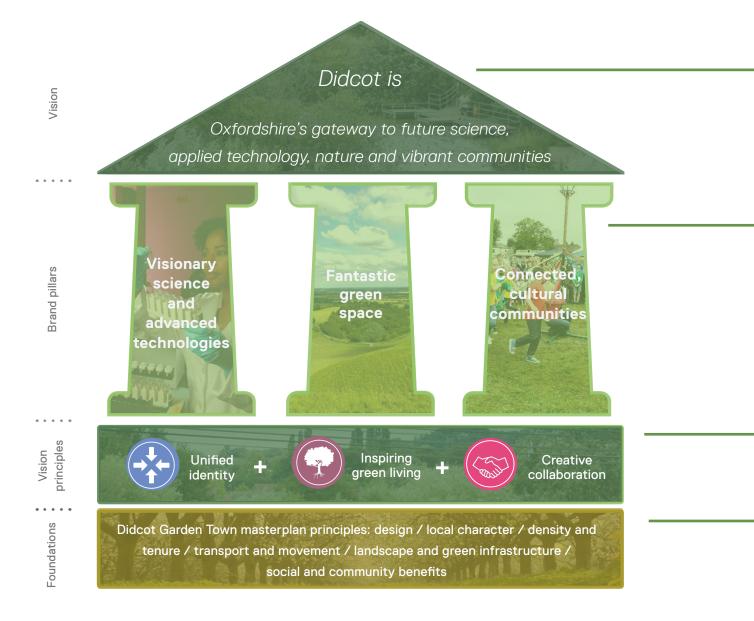
To do this however, everyone in the town must feel involved in the process, nurturing a shared energy, agency and pride in the creation of the garden town. Cross-sectoral, cross-cultural, and intergenerational working are examples of how creative collaboration models can bring together the wisdom and creativity of the town's diverse communities in powerful wavs. Stakeholders can help devise and lead these processes: a pioneering group of 'community builders' driving the community component of the garden town governance model. This is so important if, for example, younger and older members of the community are to feel any importance in this process. Section 10.2 articulates the proposed governance model in detail.

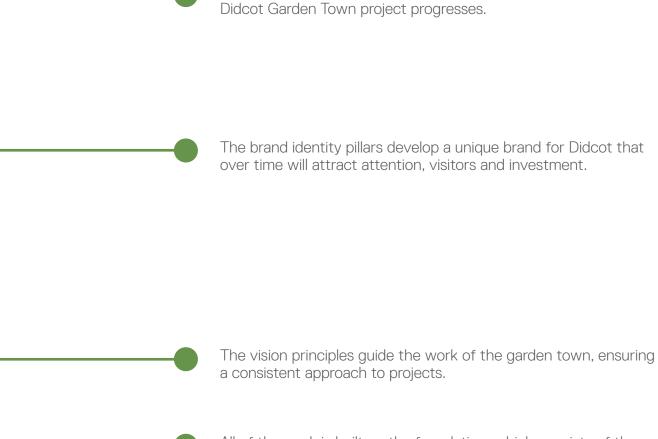
Support has been voiced for the organic growth of a unifying town centre linked to multiple neighbourhoods and productive landscapes, where new urban green space is based on evidence confirming its' social, environmental and economic values and benefits".

Stakeholder support for "smart city" ideas to be part of a Didcot Garden Town future development strategy means that technology based solutions to various urban challenges can help to create a more vibrant economy for the town.

3.1.2 Summary of vision

The awarding of garden town status to Didcot represents a landmark opportunity for the town to instigate an ambitious, sustainable growth plan that prioritises inspiring green living through physical and social infrastructure. To provide clear focus a vision has been developed that is supported by three brand pillars (Didcot's unique assets) and three vision principles (the focus as everyone works together). These are supported by the foundation of six garden town principles that will embed this delivery plan into the district councils' two local plans. The structure is bespoke for Didcot, making the most of its unrivalled assets, whilst anchored in the ethos of the garden city movement.





All of the work is built on the foundation, which consists of the garden town masterplan principles, as included in the emerging local plans.

The vision for Didcot, providing a focus for everyone as the

3.1.3 The Didcot Garden Town vision

Didcot Garden Town's vision is to be:



Oxfordshire's gateway to future science, applied technology, nature and vibrant communities

Didcot Garden Town will be the county's home of sustainable living and inspiring future ideas, leading the way in solution driven creativity through proactive resident, worker and visitor participation.

Didcot Garden Town will be the internationally recognised gateway to Science Vale and its uniquely valuable surrounding landscape; a town that demonstrates progressive and sensitive planning and governance and architecture and design that reflects its locality and surrounding environment. Participatory and collaborative working is the hallmark of the Garden Town. The people of Didcot will be empowered to create a whole-town network of inclusive, accessible and productive amenity green spaces, located in a culture of partnership, networks and co-production.

Didcot Garden Town will exemplify the 'contemporary green', lifestyle that places green technologies and energies, localism, health and wellbeing and active lifestyles at the foreground of its culture, infrastructure, planning and governance.

Sustainability

Sustainability is at the heart of this vision:

- sustainable via an "eco-first" approach to projects - e.g. green infrastructure and amenities prioritised
- sustainable via a confident, pioneering green ethos and public identity generated from these projects
- building a resilient community over time. Resilience means Didcot's communities have the ideas, the resources and the ingenuity to work together to create an ever-improving town and surrounding area environment

3.1.4 Brand pillars

Good transport infrastructure, high quality housing, strong social infrastructure and thriving retail are the essential basics to the branding of places, without which other more unique and aspirational things are not possible. Didcot Garden Town and its competitors will include all these basic components to attract new residents, businesses, visitors and investment. But how will Didcot stand out? A compelling place brand identity needs to be about more than the broadbrush promotion of a high-quality environment for living, working and play. It must be developed around its unique assets. Didcot's components of Science Vale, its environmental context (Area of Outstanding Natural Beauty), and its diverse communities are powerful unique selling points that have inspired much of the delivery plan. From this, Didcot Garden Town's three brand pillars can be articulated, which support the vision, and are the starting point for developing a strong unique identity.

Didcot's three brand pillars:



Developing the brand identity

Didcot's unique assets should define the garden town's future identity. Together they have the potential to project a powerful and specific new narrative for the garden town. Developed into a unique brand they can drive attention, visitors and investment and over time create a distinct identity and set of associations for what Didcot Garden Town means to the wider world.

The above three brand identity pillars can be combined to form a powerful brand proposition, which can be used to create an identity for Didcot that differentiates it not just from other towns but also from other garden towns.

3.1.5 Vision principles

Achieving the vision and delivery plan requires the necessary sparks of creative thinking, audacious optimism, and genuine commitment to effective governance. Three vision principles underpin the vision and brand pillars as the fundamental pricinples to work under to develop and implement this delivery plan. When adopted and consistently championed by the garden town's governance structure, and bought into by external stakeholders,

the vision principles will help generate inspiring ideas and proposals and realise subsequent activities and projects.

Didcot's vision pillars:



Didcot Garden Town will work under the principle of **unified identity** to:

- Embrace the expertise and resources within each of its brand pillars, and encourage them to work together
- Support these unique assets tocreateinspiringconvergent relationships and projects
- Generate a strong, clear identity for the town that sets it apart within Oxfordshire and against other UK garden towns

Encouraging the convergence of the areas science, arts, environment and community will create a place where everyone can be inspired and learn. It will define 21st century life in Didcot.

Inspiring green living

Didcot Garden Town will work under the principle of **inspiring green living** to:

- Prioritise green infrastructure, working across all scales, from windowsills to parks and open spaces
- Combine the needs of biodiversity, food production, connectivity, environmental protection and outdoor recreation in innovative ways
- Support local communities to take part in the creation, maintenance and stewardship of all green spaces and projects to foster social cohesion, place attachment and ownership

Through this principle Didcot can create leadership on the relationship between green living, and residents health and wellbeing.

Figure 3.3 - Didcot's vision principles

Case studies are offered on the next page as exemplars of aspects of each vision principle. They are drawn from a global cohort of practice: as marking a game-changer for the UK, Didcot Garden Town would in the future be the UK's case study in this regard.

6 Garden town masterplan principles

Section, 3.1.6 outlines six Didcot Garden Town principles. These have been created as policy benchmarking tools to embed the vision and delivery Creative collaboration Didcot Garden Town will work under the principle of creative collaboration to: • Learn and apply new ways for its diverse communities to share

 Create effective townwide, cross community partnerships between diverse stakeholders

ideas and work together

 Combine its unique assets in innovative ways, making them greater than the sum of their parts, to foster an active effective network

Ongoing commitment to this principle will enable dynamic community input into the garden town's governance, where community, commercial, cultural and political stakeholders can together deliver unique projects and solutions.

plan within the two local plans. As such they sit as the foundation for operational implementation, supporting the vision, brand identity and vision principles.

Vision principles case studies Unified identity

Festival Town: The Hay Festival, Powys

Described by Bill Clinton as "the Woodstock of the mind", the Hay Festival of Literature & Arts is an annual literature festival held for ten days from May to June, which platforms a range of well established British and international writers. Building on the town's existing 'place brand' as "the Town of Books" and its concentration of bookstores, the Festival occurred in a variety of locations across Hay-on-Wye including a local Primary School for its first seven years. The festival attracts major media sponsorship as well as support from universities and the British Council. It has expanded over the years to include musical performances, film previews and "Hay Fever", a children's festival - as well as internationally.

Wayfinding: Walk Brighton

A city-wide, multi-modal wayfinding system for Brighton that reflects the character of the city and provides a distinct mapping style across a range of wayfinding initiatives. Using the same base map, the designers created a system of on-street signage, printed walking maps and a free WalkBrighton iPhone app. WalkBrighton was commissioned by Brighton & Hove City Council and designed by Applied Wayfinding in 2008.

Interdisciplinary hub: The Helsinki Challenge

The Helsinki Challenge is a science-led multi partner innovation accelerator led by University of Helsinki in collaboration with 10 Finnish universities. In 2017, it is focused to find impactful and science based solutions addressing the sustainable development goals by the United Nations for 2030. Science and education teams develop solutions together with experts, advisors, artists, industry, media, decision makers and public sector.

Creative collaboration

Cultural partnerships: MakeCity, Berlin

MakeCity is a festival focused on optimising Berlin's spatial, material and civic resources, founded by over 100 partners from across urban, creative and community sectors. A co-designed programme engaged a city-wide conversation comprised of studio talks, tours, exhibitions and 'happenings'. The programme focused on communities using social networks to pose problems of Berlin's urban realm and propose design solutions.

Collaborative governance: Co-cities, global

A co-city aims to create a more just and democratic city, based on urban co-governance which implies shared, collaborative, polycentric governance of the urban commons and in which environmental, cultural, knowledge and digital urban resources are co-managed through contractual or institutionalised public-privatecommunity partnerships.

Construction meets conservation: Wallasea Island Wild Coast Project, Essex

Wallasea Island Wild Coast project is the largest conservation and engineering scheme in Europe. It aims to combat climate change and coastal flooding by recreating the region's ancient wetland landscape of mudflats and saltmarsh, lagoons and pasture. Its vision is to provide, by 2025, a wetland landscape of 1,655 acres, which will act as a haven for an array of important wildlife and as a great place for people to enjoy. Central to its realisation is a partnership with Crossrail, which has a 95 per cent recycling target for its excavated earth - more than 4.5m tonnes of which is being transported to Wallasea.

Inspiring green living

Eco-resilience: Frieberg im Bresgau, Germany

Renowned in Germany as an exemplar eco-city, Freiberg has a Green Mayor, a strong solar energy industry, two sustainable model districts. one which is car free with low energy consumption housing, one that has houses generating more energy than they consume. City-wide, its policy is to only build low-energy buildings on municipal land and all new housing must comply with low energy consumption. The city is known for a culture of cycling and recycling, and houses have solar panels, rain collection and solar heating.

Land and food sharing: Incredible Edible, Todmorden, Yorkshire

The Incredible Edible project is an urban gardening initiative that aims to bring people together through actions around local food. It aims to change behaviour towards the environment and to build a kinder and more resilient world. Since its conception in 2008, the Incredible Edible ethos has been taken up by communities all over the world and there are now 120 Incredible Edible official groups in the UK and more than 700 worldwide. In the UK, these groups' collective success has begun to directly influence decision makers both on a national and local level. In response, the network has evolved from a resource for members into a fully fledged movement.

In autumn 2016 Incredible Edible worked with Sustainable Didcot to plant its first herb garden in Didcot town centre, next to the Cornerstone Arts Centre. This was followed by a fruit garden and was accompanied by events which 'rehired' unwanted vegetables and turned allotment food into free pumpkin soup.

3.1.6 Didcot garden town masterplan principles

The garden town masterplan principles (shown below) are incorperated in the emerging Vale of White Horse Local Plan Part 2 and South Oxfordshire Local Plan. These more specific principles provide a framework for developers and landowners bringing forward new development in Didcot, and for residents who want to know what the garden town will look like in the future.



The foundation of the vision and brand:

Didcot Garden Town masterplan principles: design/ local character/ density and tenure/ transport and movement/ landscape and green infrastructure/ social and community benefits

1. Design

The garden yown will be characterised by design that adds value to Didcot and endures over time; it will encourage pioneering architecture of buildings and careful urban design of the spaces in between, prioritising green spaces over roads and car parks. All new proposals should show the application of the Council's adopted design guide supplementary planning document and demonstrate best practice design standards.

2. Local character

The garden town will establish a confident and unique identity, becoming a destination in itself that is distinctive from surrounding towns and villages whilst respecting and protecting their rural character and setting. Didcot's identity will champion science, natural beauty, and green living, in part delivered through strengthened physical connections and active public and private sector collaboration with the Science Vale.

3. Density and tenure

The garden town will incorporate a variety of densities, housing types and tenures to meet the needs of a diverse community. This will include high density development in suitable locations in central Didcot and near sustainable transport hubs; higher density development will be balanced by good levels of public areas and accessible green space.

5. Landscape and green infrastructure

New development in the garden town will enhance the natural environment, increase biodiversity and support climate resilience through the use of traditional measures and new technology. Innovative habitat planting and food growing zones will characterise the garden town and, in turn, these measures will support quality of life and public health.

4. Transport and movement

The garden town will reduce reliance on motorised vehicles and will promote a step-change towards active and public transport through the creation of highly legible, attractive and accessible movement network and the appropriate location of housing, employment and leisure facilities. Cycling and pedestrian links between the garden town, its surrounding villages, and natural assets and the strategic employment sites will be enhanced.

6. Social and community benefits

The planning of the garden town will be community-focused, creating accessible and vibrant neighbourhoods around a strong town centre offer of cultural, recreational and commercial amenities that support well-being, social cohesion and vibrant communities. The garden town will embrace community participation throughout its evolution. It will promote community ownership of land and long-term stewardship of assets where desirable.



3.2 Bringing the vision to life

3.2.1 Early priorities

Imagine starting your day with local food and drink and sharing some quality time with your family before starting school or work, because your journey is convenient. Local travel is safe and enjoyable and increasingly carbon neutral, and there are accessible local events and activities that give you a stake in the town's future.

This lifestyle can be fully realised in Didcot through the vision, brand and principles. To begin on this journey, the delivery plan has identified nine 'early priorities' projects to initiate and deliver over the next few years following 2017.

Together they propose strong and accessible opportunities for community engagement to inform a real step change within Didcot's public areas, how it is connected, and the social collaboration that are so crucial to nurture from the outset.

These nine projects cover both community engagement and public space improvement.

Nine early priority projects



Figure 3.4 - Early priority projects

Didcot Garden Town



A town and region-wide strategy for cycling, collating and further developing the cycling proposals in this delivery plan. A framework to set out the phased delivery of a network and the connected infrastructure and community services along its routes. A guidebook for all of Didcot's stakeholders to engage with cycling and help bring forward a whole range of initiatives from training, clubs and events, to routes, storage, and community hubs.



Town wayfinding

Didcot is less legible than it could be, especially for new visitors. Improved signage, commissioned to an artist/ arts collective and with aspects of community participation, would aid visitors in getting around and improve the awareness residents and workers have of their town.

This proposal is for a series of clear branded signage including easily readable maps with key destinations and services on. The recommendation is for an initial basic signage system installed in the first one to two years, followed by a more advanced system including maps once the initial major projects have been completed. This wayfinding solution would sit alongside standard brown tourism signs for the town's arts and heritage venues.



Town-wide Public Spaces & Culture Strategy

Arts and culture can play a pivotal role in delivering a visionary garden town, both by creating inspiring visual and decorative enhancements, but also by bringing the local community and visitors together in placemaking, celebrating and nurturing an inspiring destination.

An area-wide strategy for public commissioning art and wayfinding initiatives to improve the look and feel and legibility of the town and its surrounding areas. A strategy would bring together other major opportunities such as creative working with Arts Council England, larger cultural investments from national partners, and further funds from major developer contributions from the planning system (via the public art policy within the Community Infrastructure Levy (CIL) and Section 106 funding). Commissions should include sculptural as well as community engagement in public spaces and support the proposed creation centre forming from Cornerstone Arts Centre.



Conference festival

With two of Europe's largest science parks and the intellectual as well as technological capital, experience and knowledge which each have on an international scale, as well as capitalising on the cultural assets of Didcot, a science and arts festival could be an easy win. This would combine a conference programme of global research and practice, as well as a town-wide programme of events and activities, taking place in venues and public spaces.

The conference would combine lectures by leading scientists, engineers, technologists and artists with open days at key spectacular facilities, such as JET at Culham, Diamond Light Source and the central laser facility on Harwell Campus and Cornerstone Arts Centre for example. Schools and community groups should also be involved in the programming and delivery, as well as the learning, in a genuine collaboration between arts and science engagement.

In its first year, the festival can focus on the goals of the garden town and bring in leading thinkers and doers from across sectors to work with the garden town and share best practice. Over time, the festival would become known as 'the' festival for interdisciplinary arts/ science research, practice and learning. The festival would sit within the Cornerstone's Arts Council England funding application for cultural investment, as well as attract further funding and sponsorship, and media attention. The festival would be well connected to London, Bristol, Bath and Oxford with Heathrow as an easy access point for international visitors.



A first phase of works to initiate the Garden Line route to improve existing cycling infrastructure to connect Didcot with Harwell and Culham. The first phase would be upgrading the route between Didcot and Harwell, future proofing it in line with the masterplan proposals (Section 9.4).



A Didcot Garden Town hub, sited in close proximity to Didcot Station as an interim place to work, eat and drink, meet other community members, host cross community and cross sector workshops, meetings and events, host larger public events that combine the best science, arts, environmental and connectivity thinking, and in so doing be the focal centre for the Didcot Garden Town project. In its infancy it should develop in close collaboration with Cornerstone Arts Centre as the town's other key public venue. In the longer term the connectivity hub has the potential to be a unique space that symbolises all the key aspects of the garden town: inspiring sculpture, information centre, innovation hub, people's parliament, knowledge exchange space to solve the future challenges of the town and promote its innovation.



A community garden and 'grow cook eat' facility for everyone in the town, located at an unused site adjoining the Co-op in Ladygrove. Developing community interest in local food growing is key to health, wellbeing and community and environmental sustainability. A suite of initiatives to engage with existing allotment societies and Sustainable Didcot to promote local food production should be organised. Set up pop-up shop for produce sale also stalls within Saturday farmers' market to boost local interest. Identify potential sites within villages to be included in neighbourhood plans for more commercial market gardening by local landowners and farmers. Research potential for involvement of bio-science and landowner groups.



A first phase of works to initiate the proposed Gateway Spine route along the A4130 and Station Road (Section 9.4.4) to improve existing cycling and pedestrian infrastructure. The first phase would focus on future proofing it in line with the masterplan proposals.



A first phase of works to initiate the Cultural Spine route of the Broadway and Didcot Road (section 9.4.3). This will improve cycling infrastructure and the public spaces along the route.

Case studies to illustrate the first three proposed early priorities

1. Conference festival

Hay Festival

What started as a modest idea around a kitchen table 29 years ago has now grown into an annual 11 day festival of literature and the arts in the beautiful Brecon Beacons National Park in Wales, attracting over 100,000 visitors yearly. It brings together the most exciting writers, filmmakers, comedians, politicians and musicians from around the globe and has expanded internationally with satellite events now taking place on all five continents.

Folkestone Triennial

Since its inception in 2008, Folkestone Triennial has rapidly established itself as a significant event in the international calendar of recurring art exhibitions. It invites artists to engage with the rich cultural history and built environment of the locality, and to exhibit newly commissioned work in public spaces around the town. It is the flagship project of the Creative Foundation, an independent arts charity dedicated to enabling the regeneration of the seaside town of Folkestone through creative activity.

2. Town-wide public art and realm strategy

Deveron Projects

Based in a market town called Huntly in the north east of Scotland with a population of 4,500, Deveron Projects is an arts organisation that has been working with the history, context and identity of the town since 1995. It approaches the locale through a framework the town is the venue to create socially engaged projects that connect artists, communities and places by inhibiting, exploring, mapping and activating the town through artistically driven projects.

Art and The Public Realm Bristol

One of the leading cities in the UK for

public art commissioning and for its programme of projects with artists of local, national and international significance is Bristol. Its Art and the Public Realm Bristol programme focusses on the development and showcasing of visionary public art works outside the conventional gallery and museum setting. Bristol City Council adopted its Public Art Strategy in 2003 and the programme has since supported the realisation of over 100 commissions within a diverse range of contexts. The council provides a strategic role in the development of art in the public realm and is responsible for providing planning approval for art works.

Plymouth Public Art Plan

Arts producers Situations worked with artists and organisations from across the city of Plymouth to develop The Plymouth Principles - a set of guiding principles for the commissioning and development of arts in the public realm. They set out opportunities and visions for art in the city to offer new kinds of cultural experience in the public realm and across unconventional spaces, to nurture its talent and to create opportunities for both resident and visiting artists to respond and contribute Plymouth's built and natural to environment, living culture and heritage.

3. Cycling strategy

Indianapolis Cultural Trail

The Indianapolis Cultural Trail is an award-winning eight mile urban bike and pedestrian path in downtown Indianapolis, Indiana. It seamlessly connects neighbourhoods, cultural districts and entertainment amenities while serving as the downtown hub for the city centre's vast greenway system, and is managed by a non-profit incorporated company. The trail is recognised for enriching the lives of Indianapolis residents and visitors by providing a beautiful connection to each other, culture, art and healthy living.

Utrecht - We All Cycle!

The rapidly growing city of Utrecht in the Netherlands has adopted a position that bicycle should play a major role in keeping the city livable, accessible and economically strong. While the transition to a genuine cycling city is still ongoing, Utrecht has implemented several policies and invested in a long list of projects over the past five years to improve the city's cycling climate. "Utrecht – we all cycle!" is the overarching action plan to elaborate on the coalition agreement "Utrecht Attractive and Accessible" and the city council's decree to consider the bicycle the most important means of transport.

3.2.2 Beyond early priorities

Nurturing creative opportunities

It is best to understand the early priorities projects proposed for 2017-20 not as one-offs, but as initial iterations of longer-term journeys that the garden town aspires to take itself and its communities upon. They are identified because they can be done quickly, and because they are reasonably cost-effective - so demonstrating Didcot's commitment to translate ideas into action. They, and all future projects initiated by the garden town's governance structure, should be tested for success against a cross-cutting evaluation framework that connects to the vision principles and the garden town's strategic development goals.

As an example, the conference festival described on the previous page is a

prototype that could, if developed over time, become a ideas sharing conference for Didcot - the UK's thought leadership leading annual connecting advanced conference scientific research with the 'citizen science' movement and the intricacies of urban development. Equally, it could become a weekend family event, bringing generations together science accessible and making through playful cultural experiences, signposting vocational opportunities to young people in the process. Or it could become a permanent new building with a year-round programme of events and some stakeholders have indicated an interest in this. The best solution will emerge from multiple iterations that are analysed for value against key questions, and which are designed as open initiatives - ones that are visible places for congregation and which let

in diverse participant groups.

Valuable lessons will be learnt along the way. Not every aspect of every project will work as expected (or necessarily, at all), and transformational success might come from unexpected places. The course should be flexible and responsive, but it is important to stay the course, so the garden town can discover what works most powerfully for its communities and so that the implementation of the delivery plan is understood as an ongoing, creative endeavour - one undertaken with a range of communities.

3.2.3 Next steps

Strategies

The early priorities (3.2.1) identify the need to produce five strategies, as listed below. Three strategies related to arts and culture, public spaces and cycling are central to the garden town's future road map, implementation process and budget allocation. A wider landscape masterplan strategy (green and blue infrastructure) should also be developed and coupled with a strategy for encouraging strong community involvement and enhancing existing neighbourhoods.

- Arts & culture (inc. public art)
- Public Spaces (inc. wayfinding)
- Cycling
- Green and blue infrastructure
- Enhanced neighbourhoods

Feasibility studies

Aligned to the strategies, the following five spatially specific early priority recommendations should be detailed through feasibility studies to create robust proposals with clear phased implementation plans that can unlock costed first stages of delivery.

- Cultural Spine
- Gateway Spine
- Garden Line
- Connectivity hub
- Community hub

Inspiring, inclusive stakeholder engagement & partnership

The strategies and feasibility studies commissioning should contain integrated stakeholder engagement. These can be kick started by implementing the conference festival Early Priority with a two to three year events plan that leads to the festival. A year one mini festival, coupled with community based workshops and projects.

This events plan should be developed and delivered in collaborative partnership with the key local organisations across science, arts & culture, education and environment. It can deliver inspiring, inclusive community activities, and at the same time build the strong stakeholder community partnerships that are imperative for the success of the garden town governance model.

Glasswork at Boundary Park sports pavilion, Great Western Park © Martin Donlin

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4. Making Didcot a place for business

There are a wide range of successful businesses in Didcot, from local shops to international technology companies. This chapter sets out proposals to strengthen those already in the area and attract further investment.

4. Making Didcot a place for business

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4.1.1 Didcot as a Garden Town

As a Garden Town of the 21st century, Didcot is seeking to build on its economic strengths and address those weaknesses that currently constrain or limit economic growth in the town. Didcot's garden town status is expected to accelerate the delivery of both housing and economic development – much of which is already planned.

It is clear that Didcot has a significant role to play as part of the Science Vale, not only in providing a location where jobs in technology and complementary sectors can be based, but also by better fulfilling its strategic economic, social and cultural role(s) as a town centre for the surrounding area.

To achieve those aspirations, Didcot Garden Town will need to develop a number of key features over the coming years. These key features will include:

- Diverse jobs suitable for a range of skill-sets and in locations that are accessible by foot, bike, and/ or reliable and frequent public transport services
- Different types and sizes of business premises that are suitable for firms across different sectors of the economy
- High speed broadband connectivity and advanced ICT infrastructure that enables home-working and also the use of technology to enhance everyday life through 'smart' solutions
- Support for small and medium sized enterprises (SMEs)
- Ensuring that residents are able to derive maximum benefit from the opportunities available in the town and surrounding area through education, skills and training programmes



Milton Park bus © MEPC

This chapter of the Didcot Garden Town Delivery Plan has been prepared based on desk-top research, analysis of a range of data sources, a review of policy and evidence based documents, input from stakeholders and feedback from public consultation events. It is structured as follows:

- Didcot's current economic role and characteristics
- Economic policy objectives for the town as set out in current and emerging policy
- How the Garden Town Masterplan, which sits behind this Delivery Plan, will enable those objectives to be met

The garden town masterplan takes account of Didcot's future economic growth and seeks to ensure increases in jobs and commercial activity in the town can be accommodated without comprising other aspirations of the garden town vision.

In summary, the masterplan response to economic growth and development

comprises the following facets:

- Promoting trend-based employment growth based on projections from the councils' policy and evidence base documents
- Enabling above trend growth in science/ technology sectors (principally through the 'commercialisation of science') – based on the requirements of the garden town bid document (2015)
- Town centre enhancement and expansion – part of a programme of place-making initiatives that will aim to improve the quality of life in Didcot and make the area a place where people choose to come and live, work and visit
- Planned housing growth (c.15,000 homes) which will stimulate demand for employment generating floorspace creating sustainable localised job opportunities

The chapter will then set out an approach to skills and training delivery within the garden town and identify a number of recommendations that will help to ensure Didcot maximises its economic potential.

4.1.2 Didcot's economic profile today

Didcot benefits from a number of characteristics that provide an excellent basis for increasing the town's role within the Science Vale. These characteristics also provide a good platform to allow the town to establish itself as a destination in its own right, rather than as a place that people tend to pass through on their way to somewhere else.

Figure 4.1 shows how Didcot compares to other settlements with a similar size of working age population. Didcot scores well in relation to economic activity rate and employment rates but the proportion of higher-skilled/higher value jobs based in the town could be improved.

The latest Indices of multiple deprivation (2015) which measure deprivation by combining a number of indicators including a range of social, economic and housing issues to give a single 'ranking' show that parts of Didcot are within the 30% most deprived areas of England. A particular driver of deprivation in Didcot appears to be the education, skills and training domain which measures 'the lack of attainment and skills in the local population' (Department for Communities and Local Government, The English Indices of Deprivation 2015).

At present, Didcot is not fulfilling the role it has the potential to play - sitting as it does at the heart of a prosperous region and close to science clusters of international significance. Despite being the largest town in South Oxfordshire, Didcot does not yet have the social and economic function that might be expected of a town of its size and strategic location. Its historic association with logistics and transport activities and the power station means

Didcot economic comparison

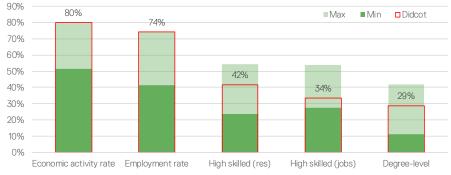


Figure 4.1 - Didcot economic profile summary

it can often be overlooked in favour of other locations nearby – Oxford, Reading and Abingdon for retail and leisure, and out-of-town business parks for commercial activity. These are aspects that the garden town vision and masterplan seeks to address and change.

Further information about Didcot's social and economic baseline is provided in appendix D social and economic baseline.

Didcot's Economy

The growth of Didcot around a major transport hub means that manufacturing and transport/ logistics functions currently account for a significant proportion of jobs in Didcot. There is twice the concentration of transport/ storage sector jobs in Didcot compared to the average for Oxfordshire as a whole. Other concentrations significant sector in Didcot include publishing and scientific research and development. This indicates that Didcot's economic profile is diversifying from its historic economic base and the influence of the Science Vale on the town is growing.

The town has historically had strong connections to motor-racing as the Williams Grand Prix Engineering

team was founded in a former carpet warehouse building there during the 1970s. Agriculture plays a significant role in the economy of the surrounding area. The military presence in the town, which was established during the First World War, continues at Vauxhall Barracks, although the Ministry of Defence announced recently that the Barracks would close in 2028. Didcot A Power Station has now been decommissioned and parts of the building have started to be demolished. Contrary to public announcements in 2014, Didcot B Power Station is expected to continue to be an energy production facility post 2023.

Whilst retail employment accounts for a significant number of jobs in the town, this sector has contracted in recent years and there is recognition in the councils' local plans evidence base documents that Didcot suffers from leakage of expenditure to other centres such as Oxford, Reading, Bicester and Abingdon in terms of retail and leisure. The town has seen some significant investment in retail floorspace through the completion of Orchard Centre phase one and it will be important for phase two of the project, which is under construction, to provide opportunities for Didcot to claw back expenditure by encouraging a range of retailers to locate in the town.



Milton Park © MEPC

In considering Didcot's economic base, it is also important to recognise its location at the heart of, and relationship with, the Science Vale. Didcot is effectively a 'gateway' to the Science Vale given the number of strategic routes that converge in the town.

The concentration of science-focused activity within the Science Vale is predominantly at Harwell Campus and Culham Science Centre – both former RAF bases. Milton Park is another key hub of economic activity located to the west of the town just beyond the main urban area of Didcot. Milton Park and Harwell Campus have enterprise zone designations within them (the Science Vale Oxford Enterprise Zone was designated in 2012) and a further enterprise zone (Didcot Growth Accelerator Enterprise Zone) was identified in 2016 comprising several sites within the garden town masterplan boundary.

Didcot's Labour Market

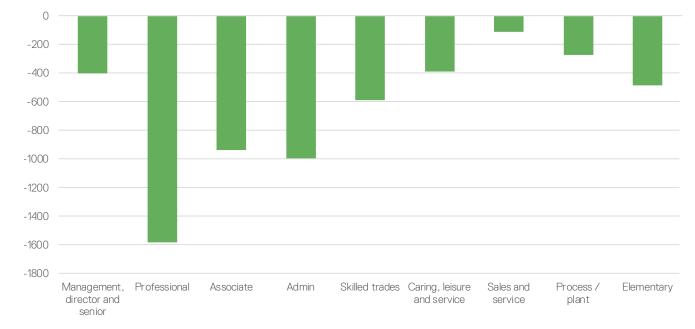
Oxfordshire has remarkably strong economic characteristics compared to the rest of the country, with high rates of economic activity and employment, high skill levels, qualifications and incomes across the county. Didcot's residents share many of these characteristics but, at a local level, the town faces some challenges including:

The town itself does not support

enough jobs. As a result, there is a significant outward flow of residents, many of whom work locally in high skilled sectors

The jobs that are supported in the town are generally lower skilled and lower paid (service sector, elementary and process jobs)

The balance of jobs and homes in Didcot is an aspect that has required careful consideration in the context of the emerging garden town masterplan. At present, the town is a 'net exporter' of people during the working day. This is shown on Figure 4.2.



Didcot's skills balance

A significant proportion of workers currently leave the town's core to work at Milton Park, Harwell Campus, Culham Science Centre and Abingdon. Although these travel to work patterns represent relatively local dispersal, it still means that around 5,000 working age residents leave Didcot each day to go to their place of work. Over half of the net out-flow is in management, professional and technical roles. There are two potential reasons for this, reflecting the challenges above - low job density and low representation of higher skilled jobs in the town - which means that significant numbers of people - and predominantly higher skilled people - have to travel to their place of work. Whilst this is partly a natural consequence of Didcot's location - close to other towns and areas of employment (including the science campuses) - it does create implications on the movement network within and to and from the town.

It should be noted that these figures are based on the existing urban area of Didcot. New areas of housing including at Great Western Park and Valley Park - will bring additional working age residents closer to key areas of job growth. These schemes are also likely to generate employment opportunities within their local district centres. Collectively, this should help to reduce outflows from the town.

There are also other challenges that need to be addressed. For example, there are problems relating to the recruitment of workers. This is a regionwide issue which is perpetuated to a certain degree by the area being a victim of its own success. High employment rates mean there is a limited pool of available employees for companies to recruit from when setting up or expanding their business in the area. There are also difficulties in retaining young working age professionals in the area. This is a particular concern for Didcot and, anecdotally, from discussions with stakeholders and consultation feedback from members of the public, the reasons for people choosing to leave the area include: lack of good quality affordable housing, poor connectivity to employment hubs, and limited town centre offer.

Didcot's strategic location

One of the key advantages that Didcot has over many other towns is its strategic location. It is a well-established interchange on the Great Western Railway main line and close to the strategic road network (A34 and M4). This infrastructure provides relatively quick connections to London, Birmingham and other towns and cities (such as Oxford, Reading and Bristol), and to Heathrow and Birmingham Airports. There is recognition, however, that transport infrastructure serving Didcot requires investment in order to future-proof it to meet expected housing and economic growth in the area.

Economic benchmarking – how does Didcot compare?

In order to get a better understanding of Didcot's economic potential particularly in the context of the future housing and employment growth, a benchmarking exercise has been undertaken to see how the town's economic characteristics compare against other towns and cities of a similar size across the UK. The key criterion of comparators used was that they have a similar sized working age population to that which Didcot is anticipated to have in the future once the 15,000 homes planned for the town are built (i.e. a range between 30,000 and 50,000 working-age residents after the planned 15,000 homes are occupied). This exercise did not take into account any wider role of the towns and cities used as comparators and, therefore, the conclusions should be treated as broad indicators of Didcot's future direction of travel rather than as specific policy objectives. The key findings of this exercise are:

- Didcot's resident workforce has a comparatively high economic activity rate, and high employment rate – this reflects the fact that residents are generally higher skilled than average and better qualified
- However, Didcot performs comparatively less well in terms of its job density i.e. the number of jobs per working age resident population

 this creates an imbalance which could impact on quality of life and sustainability
- Jobs that are located in Didcot tend to be in lower-value sectors. This means that higher-skilled workers will commute out of the town (or choose not to locate in Didcot at all) and the base from which business rates are derived (and which help to fund a range of community services) is narrower than it could be)

Harwell Campus

The science base that established itself at Harwell in the 1940s was largely driven by medical and nuclear/ atomic research. Since that time Harwell has grown and diversified. The focus of the hub is now on 'Big Science' which centres on innovation and research linked to five key areas:

- Space and satellite Applications
- Life sciences and healthcare
- Big data and supercomputing
- Energy and environment Advanced engineering and materials

The Harwell Campus comprises approximately 710 acres and the companies based there employ over 5,000 people. There are ambitions for the campus to continue to grow to make Harwell one of the largest and most influential science and innovation campuses in the world. There are plans for a future 36 acre expansion of the campus that could deliver one million sqft of labs, offices and technical accommodation. Current occupiers of space at the campus include: Science and Technology Facilities Council, Satellite Applications Catapult, Diamond Light Source, Research Complex at Harwell, Medical Research Council Harwell, The European Centre for Space Applications and Telecommunications and the UK Space Agency to name but a few. The campus also has strong links with several universities, multinational organisations and government departments. A significant proportion of potential development land at Harwell Campus is within the Science Vale Oxford Enterprise Zone. This means that businesses wishing to base themselves there can benefit from business rates discounts, super-fast broadband and a simplified planning process.

Culham Science Centre

Culham Science Centre provides another hub within the Science Vale. It had its beginnings in the late 1950s/ early 1960s when the UK Atomic Energy Authority (UKAEA) identified Culham as a suitable site for the construction of a brand new purpose-built laboratory for plasma physics and fusion research. This research programme continues

Milton Park

Milton Park is a business park located to the west of Didcot town centre and the station. It sits within the Vale of White Horse District Council and covers approximately 250 acres. Since the site was sold by the Ministry of Defense in the 1970s and was subsequently sold to MEPC in 1985, it has grown into one of the largest mixed use business estates in Europe and is home to a wide range of companies leading the way in the high-tech, innovative, research and deisgn industries. today through Culham Centre for Fusion Energy to create clean sustainable energy sources for the future. More recently, UKAEA has expanded activity at Culham Science Centre in bespoke new buildings on-site: Facility Materials Research and Remote Applications in Challenging Environments. Autonomous vehicles and

space rockets are just some of the projects that are being progressed at Culham Science Centre. Other facilities on-site include: conference centre, lecture theatre, restaurant, shop, café, nursery, and an innovation centre.

It is also home to a growing life science sector. Milton Park is owned and managed by MEPC and is home to approximately 9,000 people who are based at 250 companies. As well as high quality employment floorspace, the business park provides a range of amenities on-site including a health and fitness centre, a business lounge, café, restaurant, nursery, post office, convenience stores, pharmacy and, visiting 'streetfood' vendors every Thursday. There are still development

opportunities at Milton Park. The majority of these comprise that are designated sites under the Science Vale Oxford Enterprise Zone or the Didcot Growth Accelerator Enterprise Zone. Enterprise Zone Status means that businesses wishing to locate at Milton Park can benefit from business rate discounts super-fast broadband and a simplified planning process.

4.1.3 Enterprise zones

The Science Vale UK enterprise zones welcome innovators of all sizes, with 216 hectares of development opportunities for science and technology businesses.

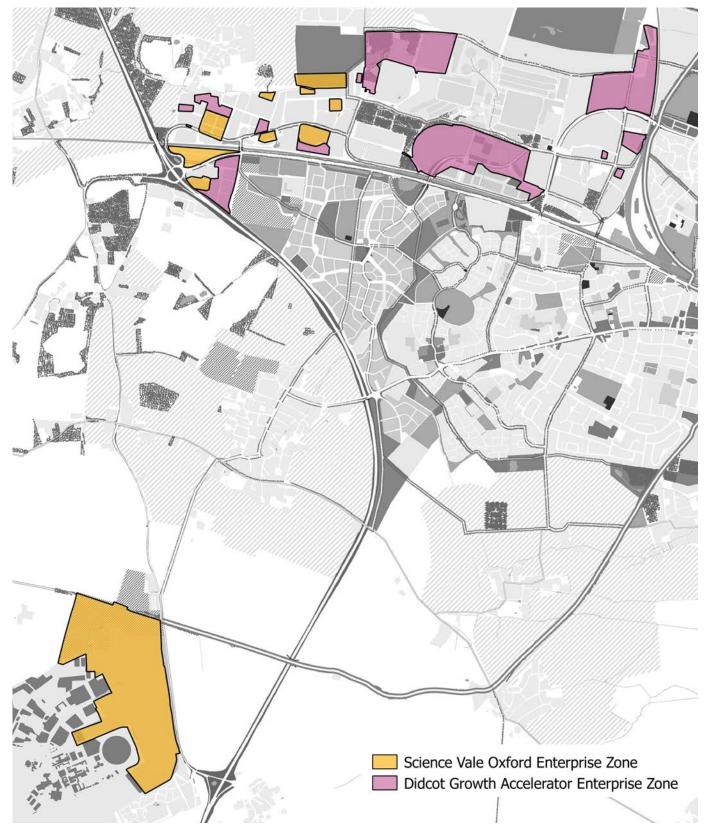


Figure 4.3 - Enterprise zones - Science Vale Oxford in orange & Didcot Growth Accelerator in pink

Enterprise zones exist to stimulate growth, where businesses can receive advice, incentives, potentially expedited planning and support that encourage firms to grow. There are two enterprise zones, Science Vale Oxford and Didcot Growth Accelerator. Supported by expertise and entrepreneurialism these zones have the potential to generate 20,000 new jobs by 2031. The areas that make up the zones are shown in figure 4.3.

Science Vale Oxford Enterprise Zone: Harwell Campus

The Science Vale Oxford enterprise zone occupies 93 hectares, one-third of the 710-acre Harwell Campus, adjacent to the world famous Rutherford Appleton Laboratory & Diamond Light Source, the UK national synchrotron. Harwell is already home to 200 businesses employing over 5,500 people. Its industry clusters space and satellite applications, life sciences and healthcare, big data and supercomputing, energy and environment, and advanced engineering and materials - are driven by the expertise that comes from hosting five of the UK's leading big-science facilities.

Science Vale Oxford Enterprise Zone: Milton Park

Milton Park is a business park to the north-west of Didcot. The Science Vale Oxford enterprise zone occupies nine development sites in the park amounting to 21 hectares. It is home to a cluster of over 300 businesses, principally in the pharma, bio, medical & life sciences sectors employing 9,000 people. Collaboration and interaction are actively encouraged in Milton Park. Here, cutting-edge science and technology occupiers, excellent transport links, outstanding amenities, and a stunning natural landscape combine to create a happy, thriving community.

Didcot Growth Accelerator Enterprise Zone

The Didcot Growth Accelerator consists of five locations to the north of Didcot and a further six extension sites in Milton Park.

- D-Tech: a 23-hectare (56-acre) site capable of providing 950,000 sq ft of hi-tech offices, laboratories, and manufacturing facilities – and 2,000 new jobs
- Southmead Park: three sites totalling 3.5 hectares (8 acres). It includes, the Meridian Didcot Business Village, a 2.5 hectare (6.5 acre) site which will provide 150,000 sq. ft. of space for offices, laboratories, and manufacturing, and create 200 jobs
- Milton Interchange: an 8-hectare (20-acre) site right next to the A34 Milton Interchange
- Didcot A: 35-hectares (86-acres) of the former Didcot A power station suitable for mixed-use business and industrial development. It includes offices, light industry, storage, and distribution
- Giant Didcot Distribution Park: a 25-hectare (62-acre) site, adjacent to the Didcot B power station, offering warehousing facilities for a range of businesses including

those looking for a multi-use site to incorporate offices and laboratories

 Milton Park Growth Accelerator: 7-hectares (17-acres) within the hugely popular Milton Park

With the potential for 3.25million sq ft of new business space and more than 8,500 jobs, the Didcot Growth Accelerator will make a major contribution to the prosperity of the southern Oxfordshire community.

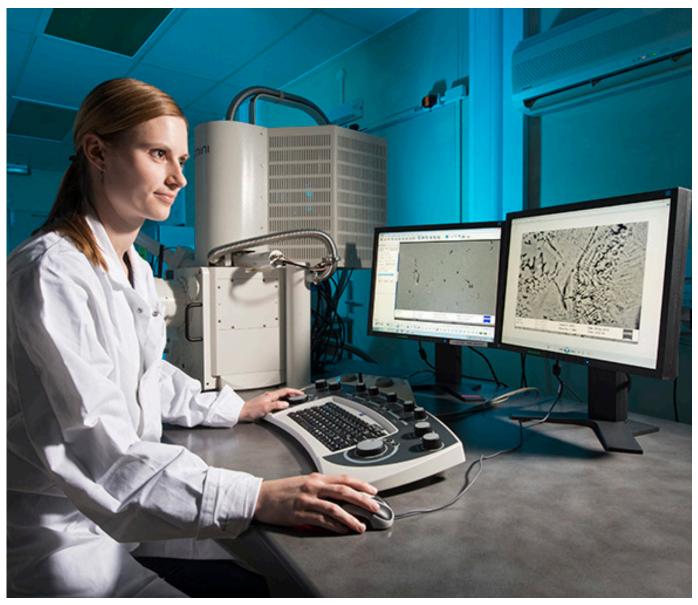
4.1.4 Economic priorities for didcot

The councils and the Oxfordshire Local Enterprise Partnership (OxLEP) have identified policy objectives that have helped to define and set parameters for the garden town masterplan. They have also sought to ensure there is sufficient flexibility for a plan that covers a 15 year period.

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There are different elements to policy guiding economic development in Didcot. In the first instance, there is the need for the town to meet projected 'trend' levels of growth as identified in the Employment Land Reviews undertaken to inform the local plans of both South Oxfordshire and Vale of White Horse District Councils. South Oxfordshire's Local Plan 2032 (Preferred Options, June 2016) reflects the findings of the Employment Land Review (2015) which identifies a need for a further 15,000sqm of office floorspace in central Didcot. This would be equivalent to approximately 1,200 jobs based on standard job densities applied to office floorspace.

This represents an opportunity to broaden and improve Didcot and the Science Vale's office floorspace offering to ensure appropriate accommodation is available for businesses across a range of sectors and sizes (including SMEs). This offer could be based not just in the town centre but also, on a smaller scale, within the local centres expected to come forward as part of the strategic housing sites around



ESA-RAL advanced manufacturing lab © Stephen Kill

Didcot (e.g. Great Western Park, Valley Park and North-East Didcot). The desire to support SME activity across the districts has been another policy priority. The district councils have commissioned a study to inform a new business and innovation SME Strategy for the district council areas to identify measures which could help to support the SME community. This strategy has not yet been finalised but early conclusions emerging from it include ensuring that a range of flexible space is available in the right places - very much in line with the general approach to office provision in the town. Other recommendations from the report are considered later in this chapter.

Another key component of the economic strategy for the area is the objective to promote the growth of the science sector at the science hubs of Harwell Campus and Culham Science Centre and support economic growth at the enterprise zone at Milton Park. This continues to be a priority for the OxLEP through its Strategic Economic Plan and for the district councils' areas. The Didcot Garden Town bid document prepared by both district councils set out a 15 year target for delivering 20.000 jobs across Didcot and the wider Science Vale. These 20,000 jobs were specifically expected to be accommodated through growth in science-sector businesses in the area.

There is an aspiration for Didcot to play a greater role in the Science Vale, creating an environment which promotes synergies between the academic, public and private sector stakeholders. There is, therefore, an opportunity for Didcot to deliver a share of those 20,000 jobs. The intention is that those jobs will be in sectors related to the 'commercialisation of science'. In spatial terms, it is expected that this growth could be delivered in the sites comprising the two enterprise zones within the town and where new businesses are already starting to choose to locate.

The ambitions outlined above align closely to central government policy as indicated in the recent Green Paper Building our Industrial Strategy (January 2017). The vision of the strategy is to 'support, strengthen and develop our different industries and to get all parts of the country firing on all cylinders'. This vision is based on 'ten pillars' including: investing in science, research and innovation, developing skills, upgrading infrastructure, supporting businesses to start and grow, improving procurement, cultivating world-leading sectors, and creating the right institutions to bring together sectors and places.

Underpinning the ability of the town to succeed in growing its office presence and in building a complementary science and technology sector offer for the Science Vale, is the ability of the town to attract people to come and live, do business, and to visit. This requires more than just providing suitable business premises. It is about creating a high quality environment within which sit other facilities – the restaurants, bars, pubs, shops, hotels, cultural attractions. This will encourage people to spend time and money in a place.

Therefore, cross-cutting policy themes of relevance to improving quality of life in Didcot include increasing the range and quality of the housing offer, enhancing and strengthening green infrastructure, public spaces and links to the surrounding countryside, enhancing routes both within the town itself and between the town and key destinations in the local area, giving people a choice of transport modes for their journey and providing a vibrant town centre which caters for the needs of residents, workers and visitors.

4.1.5 Masterplan response

Didcot Garden Town, as articulated by this delivery plan document and the masterplan, seeks to build on the councils' ambitions for the town and the Science Vale as a whole and strengthen the town's economic base. Ultimately, the economic offer of Didcot Garden Town will take a number of forms. This will ensure the town is able to offer something for everyone and meet a variety of different needs. The way in which the Masterplan responds spatially to the different facets of the economic narrative is set out below.

Delivering office floorspace

A number of opportunity sites have been identified within the masterplan that could deliver office floorspace through mixed use development. These sites are predominantly in locations close to the town centre and Didcot Station although there may be a case for smaller-scale office floorspace to be provided as part of some of the strategic extensions to the town e.g. within Great Western Park, North East Didcot and Valley Park.

The Station Gateway (also known as Gateway South) site has the potential to accommodate new commercial premises. This site could play a particularly significant role not only in bringing forward additional employment floorspace but also in providing a high quality development close to a key 'arrival' point into Didcot i.e. Didcot station. It will be important in creating positive first impressions of the town.

Office floorspace can take a variety of forms ranging from large-scale purpose-built serviced premises to more informal, flexible spaces potentially interspersed with other uses. In line with the principles of a garden town, the availability of different types of office floorspace to meet the needs of businesses at different stages of their life-cycle will be critical to the sustainability of Didcot as an economic hub.

A proportion of this floorspace could take the form of flexible, responsive and easy-to-access space for small local businesses and residents looking for local workspace. This could add to the active environment and daytime the development population of encouraging meetings and linked trips, entrepreneurship and investment. Innovative forms of office space may include: start-up space; short-term incubator space; flexible SME space; 'second home' style accommodation; hot-desking space for entrepreneurs, and include shared facilities and meeting rooms for both business and community use. This is supported by the South Oxfordshire and Vale of White Horse District Council Business and Innovation SME Strategy.



Milton Park © MEPC

Growth in science/ technology sectors

As has previously been set out in this chapter the Didcot Garden Town masterplan covers a number of formally designated enterprise zones including parts of the Science Vale Oxford Enterprise Zone and the Didcot Growth Accelerator Enterprise Zone. These areas will be fundamental in enabling Didcot to accommodate a share of the 20,000 high-tech jobs envisaged for the Science Vale as a whole in the garden town bid document (2015). These jobs will create a 'step change' in employment growth in the town and will also help to increase the job density of the town in the context of significant population and housing growth.

These jobs will require a mix of sites and floorspace types, with a degree of flexibility built in. New commercial development should be encouraged to house a suite of facilities including hybrid elements of office, lab, industrialisation & production areas, mixtures of clean-tech and prototyping as well as some heavy manufacturing industrial space and an element of high-bay warehousing. It is anticipated that this range of provision would attract target occupiers with a particular focus on commercialising science activities.

Occupiers are already being identified as candidates to be located in the Didcot Growth Accelerator Enterprise Zone.

Whilst Milton Park is well established, there are still sites within it that are yet to be delivered. The park has become increasingly dense since it first started being developed so it is envisaged that this location could still provide significant additional areas of employment-generating floorspace which will be suitable for a range of occupiers including those involved in science and related areas.

It should be noted that much of Milton Park is within both the Science Vale's enterprise zones. Milton Park is also covered by a Local Development Order (LDO) designation and the councils are currently in the process of designating part of the Didcot Growth Accelerator enterprise zone as a LDO.

LDOs and a positive planning system are expected to prove a major attractor for business to Didcot's enterprise zones. Ultimately, there is an aspiration to create a network of world class research and high-tech institutions where companies cluster and connect with start-ups and there are 'spins-off' benefits for businesses elsewhere in local procurement and supply chains.



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Town centre regeneration and enhancement

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The garden town masterplan has a strong focus on enabling Didcot to strengthen its cultural and leisure role in the wider area. This is part of a range of features intended to boost the quality of life and to play a 'placemaking' role as a central focal point for new and existing communities to come together.

The baseline analysis undertaken as part of the work behind the delivery plan and the feedback received from stakeholders all point to the need for Didcot to do better at fulfilling its role as a key service centre within the Science Vale and for there to be improvements in the general appearance of the town centre and its 'visibility' from Didcot Station. The town needs to become more widely recognised as a place to visit and spend time in rather than pass through en route to somewhere else within the Science Vale and beyond. Whilst the Orchard Centre phase two

project is expected to deliver the retail floorspace that is required to meet the needs of the growing population, there is recognition that a modern town centre is about so much more than shopping. Successful town centres tend to be those which are able to provide enjoyment, creativity, learning, and opportunities for socialising, culture and health and well-being.

As such, the masterplan identifies opportunities to expand the town centre further to enable it to accommodate a wider variety of uses. The Rich's Sidings site is earmarked to accommodate mixed use development which will not only add vital 'critical mass' to potential customer base of the town centre through its residential floorspace, it will also provide an opportunity for additional retail, leisure

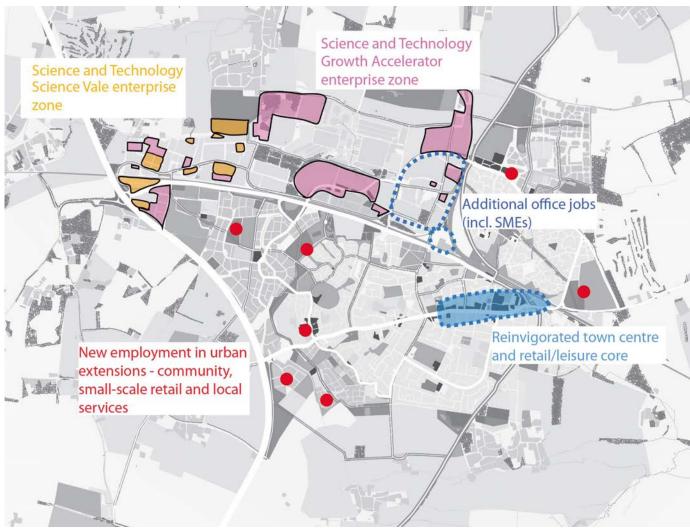


Figure 4.4 - Spatial distribution of economic growth

and/ or office premises to reinforce the scale of the town centre. There will also be opportunities to introduce uses that support a broader visitor economy offer.

The masterplan also promotes improvements to Broadway including the general environs of the street but also in creating a public open space which could be used for events and festivals. Animating Broadway will require interventions that go beyond physical improvements. It will also require proactive partnership working between the councils and key stakeholders to manage and curate the area.

Housing growth and ancillary employment

The masterplan takes into account the c.15,000 new homes that are expected to be built in Didcot by 2031 of which 9,600 have already received planning permission. New housing, as well as providing the homes for additional working age people to live in (thereby increasing the labour pool available for employers to recruit staff from), will itself create jobs. These jobs will be generated through both the spending of new households on goods and services and the demand of the new population for a variety of services.

A number of these sites are of a significant size and as such proposals for their development include non-residential uses such as small-scale retail, education and community facilities. A proportion of the jobs expected to be generated as a result of new homes are likely to be based within those local centres. These jobs will be vital in providing opportunities for employment in close proximity to where people live. However the

masterplan also recognises that it is vital these new communities do not 'turn their back' on Didcot's main town centre. The new routes and links within the town are intended to encourage movement between these neighbourhoods and the more strategic and broader range of facilities provided by the town centre.

A detailed review of the permitted and planned development across Didcot as part of the masterplan work has identified that where 'local' and 'neighbourhood' centres are included within proposals, there is a focus for the floorspace within them to be predominantly geared towards retail and recreational facilities. Whilst this fits with the need to ensure there can be adequate facilities and services to meet the everyday needs of the resident population, the Council will need to consider whether there might be benefit in encouraging developers to include a space for business within those centres to serve the needs of people who wish to access flexible office space close to home. This is an emerging theme from the councils' Business and Innovation SME Strategy.

Figure 4.4 shows the potential spatial distribution of future economic growth across the garden town. Pink and yellow areas denote sites within the Science Vale's enterprise zones; blue areas denote potential locations for future office growth and red denotes the broad location of new local district centres much are planned to support the needs of the new residents brought to the area by new housing developments.

4.1.6 Non-physical interventions

The physical manifestation of the masterplan over the coming years must be supplemented by 'softer' interventions in order to fulfil the vision and the key principles that underpin the Didcot Garden Town. These activities could be undertaken by a range of different parties, but can be led by the local authority (or governance body established to oversee the development of the garden town).

There are interventions that could be made in relation to each of the four key components of the economic strategy for Didcot and these are explained below.

The provision of new office floorspace, including suitable premises for SMEs, would benefit from a greater level of support for local businesses across Didcot as a whole. This could include a far greater role for organisations such as the Didcot Chamber of Commerce and Didcot First to develop networks and support business events, in partnership with the district councils' business support networks.

Among the findings of South Oxfordshire and Vale of White Horse District Councils' Business and Innovation SME Strategy includes the need to:

- Improve on-line search capabilities for vacant commercial property
- Improve and facilitate information dissemination and signposting of services and support
- Improve roll-out/ coverage of super-fast broadband
- Fostering and creating relationships between education and skills providers and the local business community
- Improve the quality, frequency and accessibility of public transport services.

In addition, there is a council objective to support local SMEs by helping them to win business and contracts from the public sector and from larger companies. This could be achieved by initiating a local supplier development programme targeted specifically at SMEs involving activities such as 'meet the buyer' fairs and workshops designed to provide SMEs with the skills and knowledge needed to bid for work from larger companies in the locality.

For the science sector to continue to thrive, and for the area to be a place of choice for business, there must be a labour force capable of undertaking the work required by employers. This is an issue that was raised on numerous occasions during stakeholder interviews and public consultation events.

The new workers brought to the area by the increased supply of housing will only provide part of the solution. There will also be a need for there to be a much stronger and clearer role for education and training providers to provide people with the skills they require to access the employment opportunities available in the area. It is also vital that Didcot provides an employment offer that goes beyond the world of science and technology.

There are a number of organisations which are already active in promoting providing skills, and training, apprenticeships and work experience in the area - in particular, OxLEP (Oxfordshire Skills Board, Opportunities to Inspire - O2i, and Oxfordshire Apprenticeships), Abingdon and Witney College, Job Centre Plus, UTC Oxfordshire, Activate Learning, Didcot Girls School, St Birinus School, Aureus School and also initiatives such as South Oxfordshire Food and Education Academy (SOFEA) and other charitable and volunteer organisations. The links that these organisations and bodies have with businesses in the local and wider area should be nurtured and expanded further.

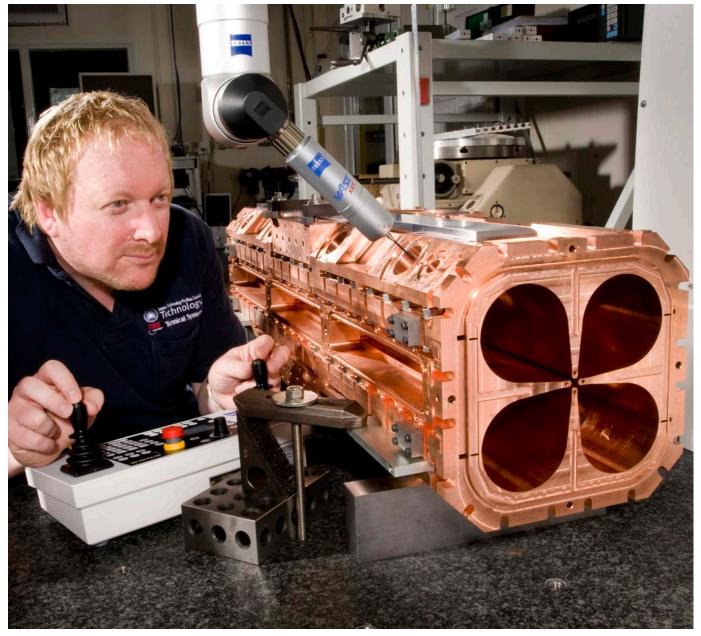
Community Employment Plans

CEPs employer-led are initiatives relating to both the construction phase of developments and the end-user phase of large commercial development. They are intended to include measures to promote apprenticeships and training schemes, local procurement, and links with schools and colleges. A number of CEPs are already in place across Oxfordshire and more are in the pipeline. Local councils will have a key role to play in ensuring CEPs are implemented and in providing developers with the contacts and knowledge they need to prepare those plans.

It is vital that developers/ promoters of new development - whether it be housing or employment floorspace are made aware of existing networks and encouraged to become part of and contribute to them as early as possible in the process. One way in which this could happen is through CEPs which OxLEP is promoting through local plan processes in order to provide local planning authorities with the ability to request these from developers of sites above certain thresholds. The district councils' economic development teams are already working with OxLEP to ensure that these plans are integrated as a requirement through the councils' planning process going forward.

Plans to reinvigorate Didcot's town centre will also need to go beyond physical enhancements – in terms of expanding the centre, strengthening the role of Broadway, and improvements to public spaces. The introduction of a wider range of retailers to the town centre (including independent retailers) is likely to also require careful town centre management and curation by the council and/ or other partner stakeholders. This may entail identification of temporary/ pop-up uses to animate vacant shops, subsidised rents, and events to raise the profile of the town and what it has to offer. There must also be support for existing retailers. As part of this process, the council will consider the potential to introduce a centre manager role to Didcot.

Finally, it must be recognised that social enterprises are playing an increasing role in creating employment and training opportunities. Programmes and projects should therefore be developed to encourage the future development of this sector within the garden town.



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4.1.7 The strategy to support cutting edge business

The Science Vale is a global destination for science and innovation, home to start-ups, SMEs, national and international companies. The area is particularly renowned for the development of technologies related to energy, high performance engineering, biotechnology and medical instruments. Not only is the science sector an important part of the local economy, it is something the town can be proud of.

There is excellent support in the garden town for cutting edge firms in the enterprise zones, which play an integral role in supporting the commercialisation and roll-out of new

Industries include

Life sciences cluster Cells and gene therapy Oncology Sensors Digital technology Satellite applications Autonomous vehicles Robotics Performance engineering Nuclear fusion Synthetic materials

technologies by offering firms a range of benefits. These benefits include business rates discounts, super-fast broadband and simplified planning. The garden town plan will further support innovative organisations by better connecting the enterprise zones to the town and wider world. With these improved links, it will be easier for people in the science parks and those working on the campuses to spend time in the town centre.

Links to education establishments are important, UTC Oxfordshire,

Abingdon and Witney College and other science, technology, engineering and mathmatics (STEM) providers, work closely with established science and engineering businesses ensuring a skilled labour force in the area. The garden town will look to build further links.

The garden Ttwn project will also directly support the commercialisation of new technologies in Didcot, ensuring that residents are the first to benefit from the latest technology being developed next door. Many tech innovators are already engaging with the garden town team, as is discussed further in chapter 7.1.

Alongside supporting innovative firms, the garden town will ensure residents benefit from them. Connecting schools and colleges with tech firms will open science up to students. Through partnerships and apprenticeships local people will get the opportunity to gain skills for careers in STEM, which will also provide the Science Vale with a local workforce.

The following projects are key to how the garden town will deliver in this area.

Connectivity

The 'Garden Line' will connect Harwell Campus to Culham Science Centre via Didcot Station and town centre. This will initially be a cycling route, potentially upgradable to accommodate driverless vehicles, making it easier for employees and international visitors to get between these key locations.

Housing

New build to rent housing, including smaller units, will be developed to meet the needs of a growing workforce.

Build to rent will provide a range of lease options and features such as communal lounges and laundry areas. This compelling offer will incentivise people to move to Didcot and address the lack of one bed homes in the area.

Science centre

A science centre is proposed as a means of showcasing the innovations taking place in Science Vale. A site has yet to be identified for this project, since identifying a suitable site will form part of the study that is needed to validate the feasibility of this idea. Ideally, the science centre will act as a conference space that is also capable of hosting permanent exhibits from organisations in the Science Vale. These exhibitions will advertise the great work that goes on in the Science Vale to investors and be an attraction for residents and visitors alike. The space could be used as one of the venues for the science and arts festival.

Education partnerships

Links between local education establishments and private companies in Didcot will be improved, allowing local students to gain skills in STEM. This will provide opportunities for local people and ensure companies in the Science Vale can find local workers with the skills they need.

Commercialisation partnerships

The garden town team will partner with firms to implement future solutions commercially where they have real benefits for residents. This will provide an opportunity for firms to test their solutions on an achievable town scale, whilst offering Didcot residents the benefits of emerging technology first.

Local supplier development programme

A number of organised events including 'meet the buyer' fairs and workshops to provide SMEs with the skills and knowledge needed to bid for work from larger companies in the locality. This will help SMEs win business from the public sector and larger companies, which will provide significant opportunity for growth.

Strategic alliances

Alliances are being formed with partner companies in the fields of energy, travel, housing to encourage the adoption of the latest solutions in a co-ordinated way. This is discussed further in chapter 7.

Science Vale marketing campaign

A campaign has been launched to raise the profile of the Science Vale both nationally and internationally.



Business lounge © MEPC

4.1.8 Conclusions and recommendations

The economic success of Didcot will be one of the most important factors in ensuring the future prosperity and sustainability of the town. To achieve that and to secure the investment needed to meet the targets set for growth, the town needs to be able to demonstrate that it can offer the quality of life that will attract employers and employees to it. High quality and varied employment space may only be part of that offer. It needs to be part of a 'package' that provides both employers and their workforce with a great strategic location for business, excellent local links between homes and employment hubs that encourage movement by foot or by bike, a high quality and green environment that encourages healthy lifestyles, and a vibrant and active town centre that provides an offer to people of different age ranges and social groups.

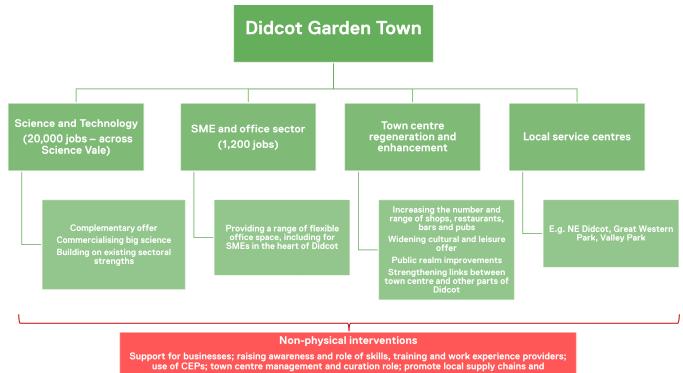
The economic proposals for the Didcot Garden Town seek to build on

existing local planning and economic policy and align with the national level policy direction in terms of industry development. However, over the longer term there are ambitious plans for the future economy of Didcot and these will take a number of forms including promotion of the commercialisation of science, meeting trend demand for office floorspace, including an attractive offer for SMEs, town centre regeneration, and viable local centres which provide supplementary services to Didcot town centre without compromising its role and success.

Underpinning these elements will be a range of interventions that will help the physical elements of the masterplan to mesh together into that coherent 'package'. These interventions will be driven by South Oxfordshire and Vale of White Horse District Councils or future governance body for the garden town in partnership with local organisations, businesses and stakeholders.

Recommendations

- Implementation of recommendations from South Oxfordshire and Vale of White Horse District Councils' Business and Innovation SME Strategy
- Councils to consider successful town centre regeneration schemes and adopt best practice from those examples to encourage new occupiers/ retailers to Didcot town centre, even if on a temporary/ pop-up/ meantime basis.
- Councils to continue to broker and facilitate investment by business into Didcot.
- Councils to explore the potential to introduce the role of a town centre manager for Didcot in order to drive forward the masterplan proposals to regenerate and revitalise the town centre.
- Continuation of the marketing campaign recently launched to market Didcot Garden Town as part of the wider Science Vale.



procurement



5. The infrastructure needed to support the garden town

Infrastructure acts as a skeleton, allowing the rest of the town to function properly. Both traditional infrastructure, roads and sewers, and social infrastructure, schools and community halls, are needed to ensure that a town works well for its residents. This chapter considers where infrastructure can be improved, recommending projects to solve problems and meet future demand.

5. The infrastructure needed to support growth of the town

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5.1 Transport infrastructure

New Hitachi train at Didcot Station © Frank Dumbleton

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HITACHI Inspire the Next

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5.1.1 A connected future

The vision for Didcot is changing and the garden town is setting new horizons. Our proposals for movement in the garden town build upon the existing transport plan. They do not change the transport plan, but seek to reinforce it with new ideas and infrastructure projects associated to the garden town masterplan.

The current local transport plan for Oxfordshire addresses many of the issues caused by Didcot's historic development and influences. It is only by understanding how the town has evolved that it is possible to set a bold and ambitious vision for the future.

Since the mid 19th century Didcot has grown and changed greatly. Within these historic cycles of change the town's transport infrastructure has remained relatively unaltered when compared to the scale of growth. The infrastructure patterns of the 19th and 20th centuries by in large remain.

Although this infrastructure has been the catalyst for much of Didcot's growth, railway lines and large roads have also served to segregate development so some parts of the town are isolated from others.

Furthermore, although this transport infrastructure deals with much of the movement in the town today, on the whole it is inadequate to handle the movement associated with Didcot's future growth. The town's historic development has left a legacy that needs to be addressed in the its evolving urban form.

This legacy has resulted in:

- A high level of north/ south severance by the railway line
- A development pattern that has had a high reliance on movement by car
- A road network that is under pressure dealing with both strategic and local movement
- A need for alternatives to car transport

The garden town vision identifies a number of projects that both address these historic issues and reinforce the core principles of the transport plan. The vision also seeks to promote the sustainable transport modes that are embedded in the Didcot Garden Town masterplan.

The garden town team's new proposals include:

- Giving more alternatives to travel by car
- Utilising technology to deliver smarter travel choices
- A greatly improved cycling network with a new regional connection between Harwell Campus, Didcot

and Culham Science Centre

- Enhancing a greatly improved public transport system
- Three new "movement corridors".

Infrastructure projects (discussed in more detail later in this chapter) like Science Bridge are primarily associated with severance whilst Station Gateway looks to improve the arrival sequence and sense of place. They all need momentum and funding if future growth is to be achieved.

By giving more viable travel alternatives to the private car, the garden town vision seeks to promote a healthy environment where connected, walkable and ridable neighbourhoods encourage an active lifestyle. By creating compact, mixed-use and transit-oriented development it is also possible to reduce local congestion.

All of these objectives and proposals give a balanced investment strategy to complement the existing local transport plan in accommodating growth.



One in eleven early deaths could be avoided and £900 million could be saved every year2 if everyone met recommended levels of exercise, such as walking for 20 minutes 5 days a week.



75% of people in our major cities who do not meet recommended levels of exercise say they could be encouraged to walk more each week.

If for the country did meet recommended levels of walking,



5.1.2 An established movement pattern

Didcot today

Didcot has a complex movement profile. This movement profile is deeply influenced by its development from a small railway village to the significant place it is today. The growth of the town and Didcot's importance is very much tied to the arrival of The Great Western Railway in the mid 19th century.

Since this period however, there have also been many changes in the region and within the town itself that have influenced its shape, transport infrastructure and the movement patterns of those who live and work in Didcot today.

The 19th century

The arrival of the railway in the mid 19th century is generally credited with being the spur for the growth of Didcot. The town is at a crossroads on the national rail system: a rail system that connected nationally but also caused severance locally as new railway lines were built though towns and open countryside. That severance saw Didcot grow one sided, to the south of the railway. By the turn of the 19th century the town was growing to the south however there were only three modest rights of way crossing the railway line at Foxhall Road, Cow Lane and Broadway. These crossings all remain to the current day and form key parts in the existing highway network of the town.

The early and mid 20th century

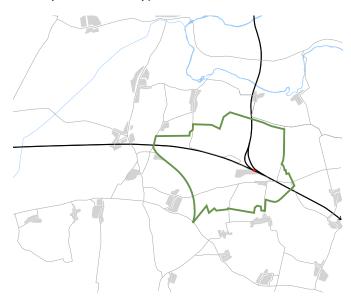
The last century saw a series of significant changes to the town. To the north, the railway triangle became an excellent location for rail distribution for army ordnance and later for the import of fuel for the power station. These uses have a high dependence on strategic rail connections only, with each having little influence on local movement. To the south, Didcot continued to grow around Broadway with Harwell Campus establishing itself as a major employment centre changing the employment base for the town and the region.



Train arriving from London © Frank Dumbleton

Late 20th and early 21st century

This period saw a changing role for the railway as the power station reduced in size and Didcot grew. To the north of the railway, Milton Park and Ladygrove developed and the site evolved and changed. This changing shape of the urban area was accompanied by new crossings over the railway line at the A4130 and to the east and west of Milton Park (the western crossing is now in private ownership).



Industrial areas

Science hubs

River/ canal

Didcot Garden Town boundary

Forest

Railway

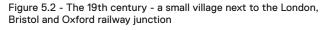
Stations

A - Roads

Towns

Secondary Roads

A34



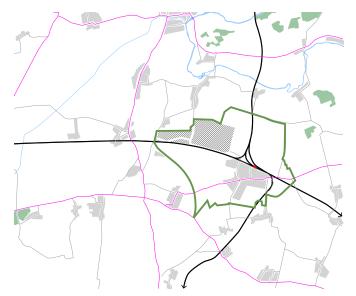


Figure 5.4 - Mid 20th century - the town grows to the north and south of the rail lines

Figure 5.3 - Early 20th century - the railway extends to Southampton and Didcot grows to the South

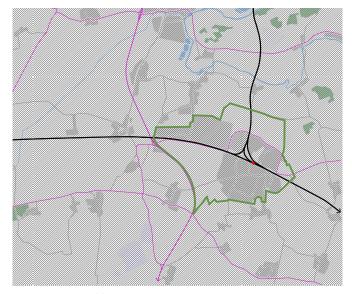


Figure 5.5 - Late 20th century - the town expands, the A34 is built and the railway line to Southampton closed

Regional infrastructure

Within the region as a whole strategic road infrastructure has developed with good north-south radial links to Oxford but with relatively poor east-west links, particularly between the A34 and the M40.

One of the two major East-West connections - the A4130 - travels through directly through Didcot.

Although this provides good regional links, it is also increases the amount of strategic traffic passing through the town centre.

The town has also grown significantly, with development placing a greater reliance on the private car. This has resulted in increased pressures on the network of streets in the town and congestion at peak times. A typical example of this car reliant and complex pattern is shown by an extract from the movement statistics for Milton Park:

- 30 per cent of Milton Park workers live within Didcot but drive 2 miles to and from work every day
- 45 per cent of Milton Park workers live within the Didcot Garden Town and Science Vale area of influence
- 70 per cent of Milton Park workers drive on their own
- 25 per cent drive from Oxford and Abingdon
- Less than 17 per cent walk or cycle

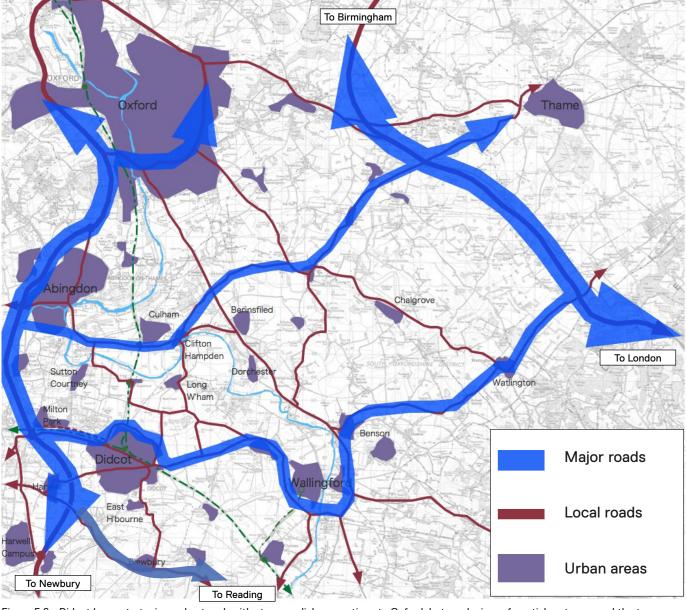


Figure 5.6 - Didcot has a strategic road network with strong radial connections to Oxford, but weak circumferential routes around the town

5.1.3 Existing traffic flows

Flows along key routes during peak times (in both directions)

The plan below visually summarises existing traffic flows in Didcot. The thickness of the lineweights represents the volume of traffic at peak times in either direction. Peak flows of vehicles along the key routes are as follows:

A34 - 50,000

A4130 - 22,000 Wantage Road - 21,000 Station Road - 13,000 Grove Road - 8,000 Reading Road - 7,000 Abingdon Road - 8,000 Ladygrove - 7,000 Milton Road - 7,000 Jubilee Way - 5,000 Park Road - 5,000

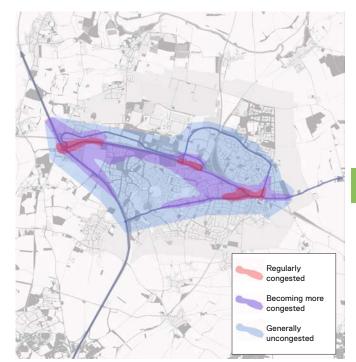


Figure 5.7 - Congestion heat map



Figure 5.8 - Traffic flows along key routes in thousands of vehicles

5.1.4 A new movement pattern

Strategic movement

Strategic growth

Didcot's strategic location is unique. Sitting comfortably at the southern end of the Oxford Cambridge growth corridor, it is in a place that will see significant growth and investment in strategic infrastructure over the coming years. The two areas of strategic investment most relevant to the garden town are the Oxford Cambridge expressway (promoted by the Department for Transport) and future investment within the national rail network.

The Oxford Cambridge Expressway

This project is currently at an initial feasibility stage. This stage will review options for route alignment north or south of Oxford. A southerly alignment could have major benefits to relieve strategic A34/ M40 traffic, bring inward investment to the region but importantly for the garden town, it could relieve the local road network from strategic traffic making investment more efficient for the town's growth.

Rail and Didcot Station

The railway has always been at the heart of Didcot and is now seeing unprecedented interest as patronage grows to meet increasing demand. Electrification of the London to Bristol line will greatly improve national services and there is growing interest in Oxford's metro rail to serve the city and its region. The railway system is changing and will continue to evolve. The garden town needs to both drive and respond to this evolution.

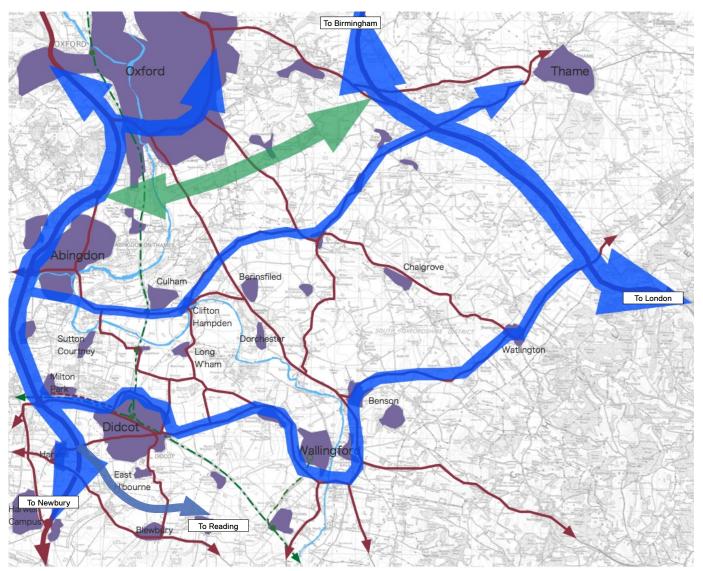


Figure 5.9 - The alignment for the Oxford Cambridge Expressway is undecided, but a southerly alignment could bring major benefit to the garden town

Future investment in rail offers a major opportunity for the town's growth, prosperity and regional rail movement.

Proposals for changes to the station and rail network are at an early stage and all of the points made in this chapter are early options that require further consideration. The next step in bringing forward a revitalised station is a capacity and accessibility study conducted in partnership between Network Rail and the Didcot Garden Town team. There are significant challenges here, including the junction itself, the need for more platforms, the embankment and levels, and land ownership near the railway line. The scope for this study is under review but likely to include:

1. A transport assessment which links transport need to local growth. This would include:

- A demand forecast and design capacity assessment for Didcot and the surrounding area to identify options to either extend, rebuild or relocate the station
- Review of options with comparison of cost benefit

2. A 'desk-top' options review and feasibility study to determine options that provide extra capacity, followed by design development of preferred options to establish costs, programme and approvals. It is envisaged that the feasibility study will include the following:

- Consideration for a 'grade separated junction' east of Didcot, which will enable trains travelling to Oxford and the Midlands to cross east-west services without conflict.
- Considering whether to rebuild, extend or relocate Didcot Station
- Review of improved connectivity to the Midlands and possibly the establishment of a Heathrow Airport service, via Reading
- Wider rail connections across the country (Great Western Railway, Cross Country and Chiltern Railways)
- Coordination with strategic electrification work
- Review of freight and passenger capacity
- Car parking and inter-modal transport assessment

As this is a multi year phased development, the garden town masterplan promotes flexibility, allowing various changes to be considered over time.

The potential improvements are clear opportunities to make national and international connections for business, residents and visitors to Didcot.

Studies will consider the benefits to Didcot, Heathrow, Crossrail and High-Speed one and two along with new services to Cambridge. Again, improved direct connections from Didcot need to be explored in depth as part of these proposals, as they could offer very significant benefits for residents and businesses associated with the town.

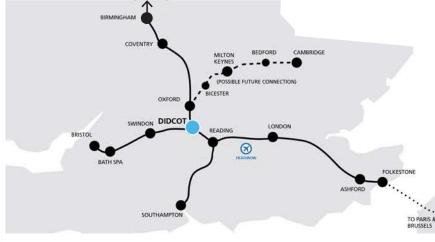


Figure 5.10 - Wider rail connections across the country

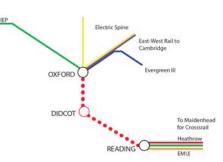


Figure 5.11 - Potential for improved direct services to Didcot from Oxford and Reading

Town wide movement

Diversifying movement patterns

The Didcot Garden Town vision recognises that Didcot will grow from approximately 26,000 people to over 60,000 by 2031. With this growth Didcot will become the largest town in Southern Oxfordshire. If the means by which residents move around the town remains unchanged, town wide journeys by car will double.

The current methods for travel to work are shown below. 64 per cent of residents travel to work by car; this representation is fairly typical of a car dependent place.

In addition to the large portion of journeys by car, the diagrams demonstrate that 11 per cent of residents travel by public transport and 5 per cent by cycling.

1%

4% 3%

5%

5%

The challenge that lies ahead is moving travel patterns away from private cars to more sustainable alternatives. Moving travel away from the car has other benefits including making our streets safer, promoting healthier lifestyles amongst residents and allowing greater human interaction and activity in public space.

The garden town team have assessed other (less car dominated) places across the UK and can see significant opportunities to change the movement profile of Didcot towards one that is more diverse and ultimately more sustainable.

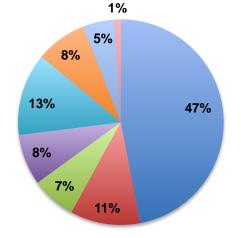
This change in travel patterns (above that included in the existing Local Transport Plan) can be realised by:

- Increased investment in public transport
- Enhancing the cycling network
- Investment in new technologies to both improve transport systems and engage residents and employees in alternative forms of transport
- Future proofing transport infrastructure to accommodate evolving transport systems

With investment in these areas the Didcot Garden Town team conclude that the future split of transport choices for the garden town should at a minimum target 47 per cent car, 15 per cent public transport and 13 per cent cycling by 2031.



Figure 5.12 - Method of travel to work Didcot today (14,200 residents in employment)



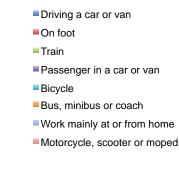


Figure 5.13 - Method of travel to work Garden Town 2031 target

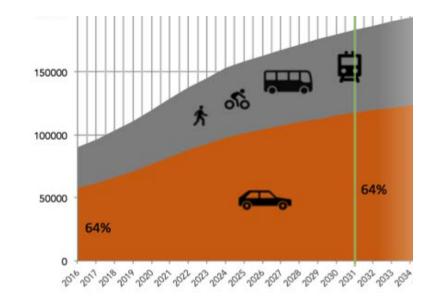


Figure 5.14 - Total number of journeys per day growth scenario one - no change: investment focused on cars and building more roads

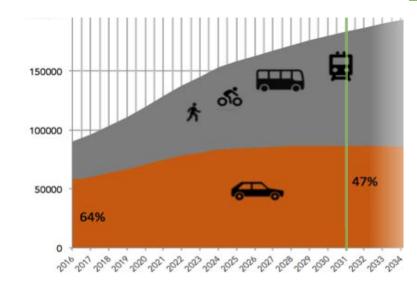


Figure 5.15 - Total number of journeys per day growth scenario two - investment shifting to other modes of transport and smarter journey planning

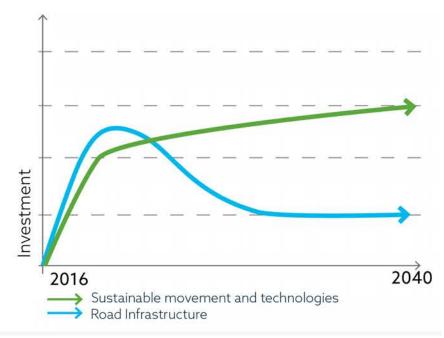


Figure 5.16 - Investment sustainable movement and technologies should be prioritised over investment in road infrastructure

Investment strategy, a balanced approach

To achieve this target a balanced approach to investment is required. The existing transport plan has identified a number of strategic infrastructure projects that require investment by 2031. The town requires that investment for its existing and new strategic transport infrastructure to address the issue of growing congestion and growth. This investment is primarily related to new roads and bridges (see later section) with the assumption that transport choices will change little over time.

If the desired change in movement choices is to be achieved, the investment in strategic infrastructure needs to be balanced with a new garden town sustainable infrastructure fund. The existing transport plan initiatives will be supported by the strategic infrastructure fund whilst a garden town sustainable infrastructure fund will address transport choices.

A sustainable movement hierarchy

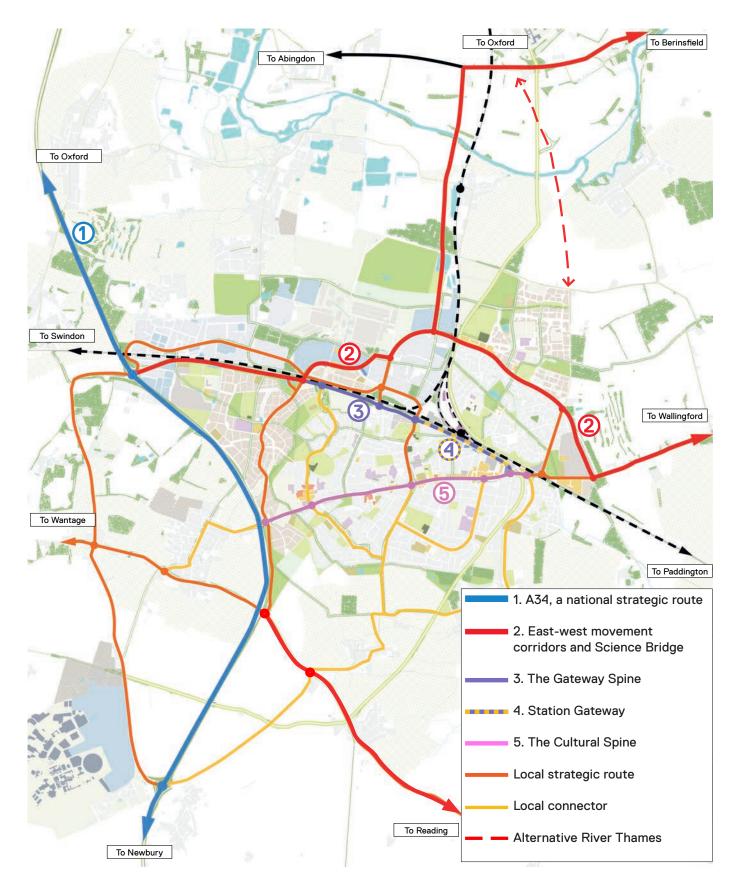


Figure 5.17 - Street hierarchy and summary of proposals

It is recognised that, in the short term, the choices people make in the way they travel are unlikely to significantly change. Despite this the masterplan and the movement strategies for the garden town are aimed at encouraging a shift away from reliance on the private car and towards other modes of transport.

Investment in new infrastructure to accommodate town-wide movement therefore needs to enable alternative modes of transport to become the preference for as many journeys as possible.

A clear movement hierarchy is needed to achieve this as local journeys, in particular, should be made by alternatives to the private car. The masterplan establishes this hierarchy through a series of interventions that develop the existing transport plan towards the sustainability targets embedded in the garden town vision.

- The top of the movement hierarchy is unchanged and is set by the A34, a national strategic route primarily dealing with north-south traffic movement, both to the town and past to Oxford and beyond
- The next tier is set by the east-west movement corridors. The first is a strategic route from the A34 through the town via the A4130 and the northern perimeter road to Wallingford. This is a route that will handle traffic that passes through and stops in Didcot and other forms of local movement within the town. This route offers relief to the town centre and station from the pressure caused by strategic traffic movement. The second route is the A417 and connects the A34 to Reading

- Below this, a series of local strategic routes interconnect the town, providing main connectors for traffic and bus routes
- Finally, shared streets near the station and Broadway interconnect all forms of movement in places with restricted vehicular access

Overlain on this hierarchy are two streets that form the radial movement back-bone to the plan (the Gateway Spine runs from the A4130 to Station Road and the Cultural Spine along Broadway to the town centre). These routes contain a bus network that serves the whole town, a greatly improved cycling network and a series of smaller scale transport hubs. These hubs form interconnections for all forms of movement and will help create a seamless journey experience.

Predictions of future levels of traffic in the town have, in the past, been based on an assumption that the number of car-based journeys will rise in line with population and economic growth in the region. The garden town strategy, by contrast, will accommodate all forms of movement.

More detailed transport modelling is now being commissioned as part of the garden town project. This modelling will enable different scenarios and assumptions on travel choices to be tested.

These, in turn, will enable a better understanding of the effect of transport patterns and how to phase and establish this movement hierarchy and promote the town's sustainable transport initiatives. Several 'early win' projects have also been identified. These projects are not dependent on this transport modelling and should be implemented now for maximum effect.

The Gateway Spine

The Gateway Spine corridor runs from the A34 to Jubilee Way. There are four movement characters along its length. From Milton Interchange to the northern perimeter road, the route handles a mixture of strategic and local traffic. Here the new corridor includes separate walking and cycling routes, two lanes for traffic and the potential for a segregated lane for public transport; a lane that in future could be dedicated to autonomous vehicles. From the northern perimeter road to Station Gateway the route changes slightly but still accommodates walking, cycling traffic and a segregated public transport route. At Station Gateway the route changes character. Here there is a much higher priority for pedestrians within a shared space in front of the station. After the station square the corridor returns to the same form as the western arm.

The Gateway Spine and its four movement corridors

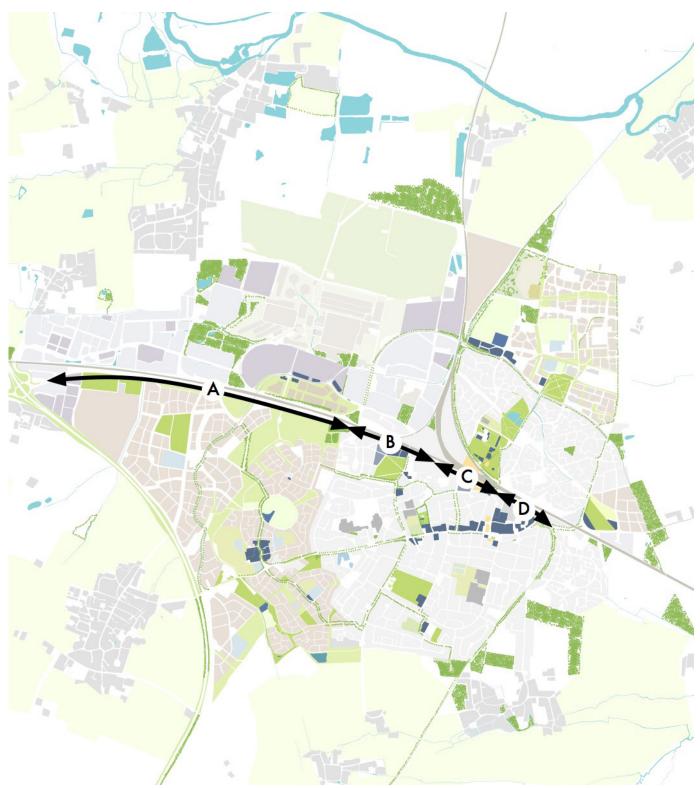


Figure 5.18 - The Gateway Spine - a new access route to Didcot Garden Town centre

Gateway Spine - Movement character area A

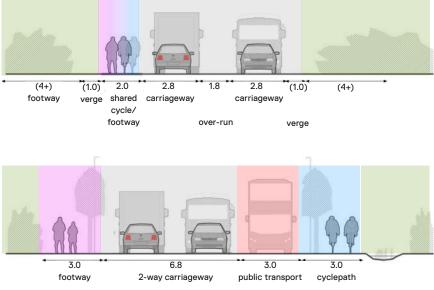


Figure 5.19 - Section A From Milton Interchange to the northern perimeter road

Gateway Spine - Movement character areas B

(4+) 3.0 (4+) 1.8 5.5 1.8 (1.0) footway footway carriageway footway margin

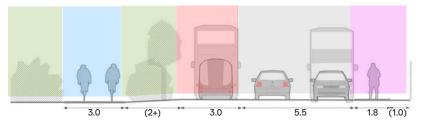


Figure 5.20 - Section B the northern perimeter road to Station Gateway



Aspiration

Exisiting

Aspiration



Figure 5.21 - The Gateway Spine - a new access route to Didcot Garden Town centre

Gateway Spine - Movement character area C

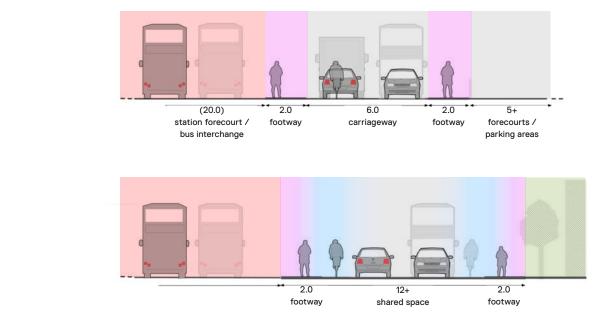


Figure 5.22 - Section C Station Gateway

Gateway Spine - Movement character area D

2.0 1.8 1.8 2.5 (1.0) 2.5 9.0 (varies) footway footway carriageway footway cyclepath verge cyclepath 3.0 (2.5) 6.0 (2.5) 3.0 3.0 cycle / public transport carriageway cycle / footway footway Figure 5.23 - Section D Station Gateway - Jubilee Way Carriageway Cycleway Footway Public transport/ smart vehicles Verge

Existing

Existing

Aspiration

Aspiration

The Cultural Spine and its two character areas

The Cultural Spine

The Cultural Spine runs from the A34 to Jubilee Way. Here there are two character areas that focus mainly on providing new segregated cycling routes. Between the A34 and Broadway the corridor has separate walking footpaths with cycleways adjacent to the main carriageway which handles two lanes of traffic and public transport (mixed).

Looking to the future

The Cultural Spine and the Gateway Spine are main radial routes into the centre of Didcot. They are historic routes that form key movement corridors into and out of the centre. The garden town team have shown how they can adapt and change to accommodate new movement over the coming years. Beyond then they must remain as key radial links as they are corridors that can accept change. These are the routes that could accept much more significant transport proposals as Didcot continues to grow into the future.

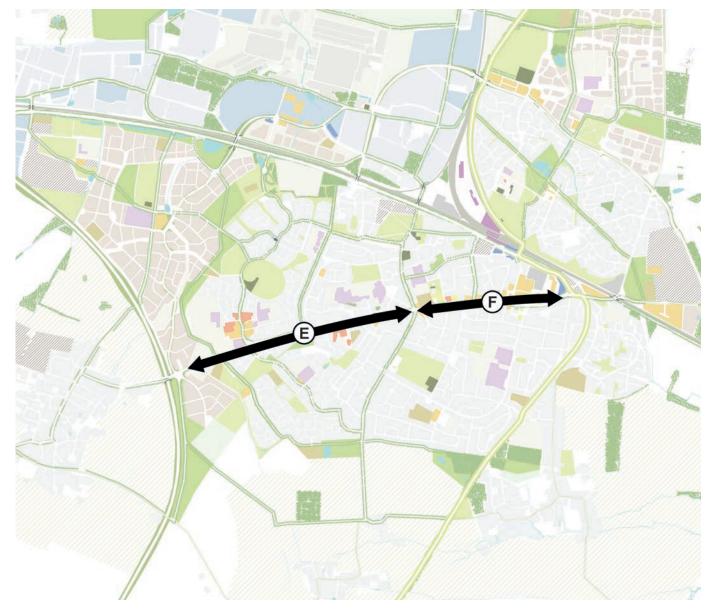
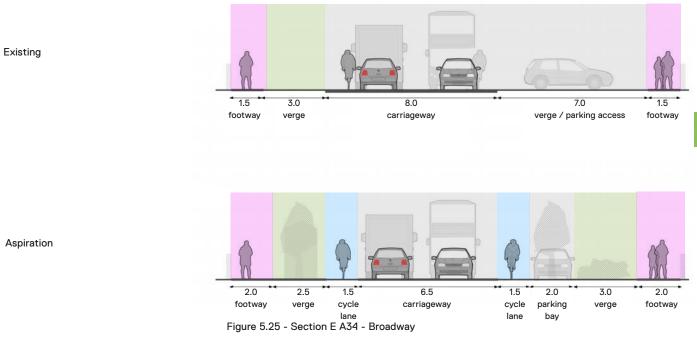
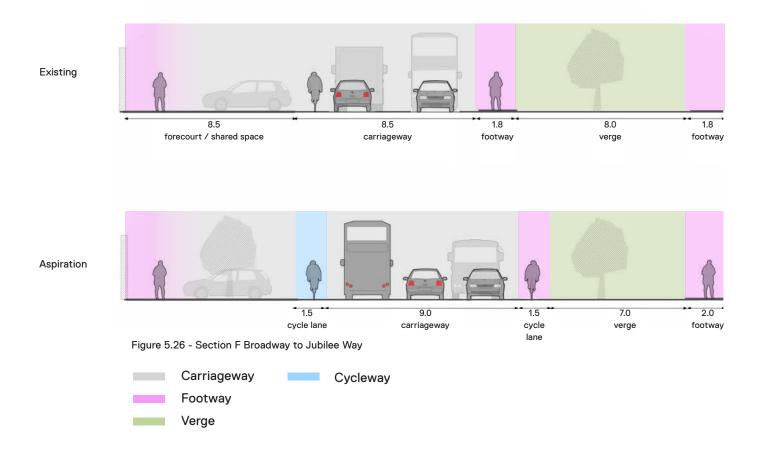


Figure 5.24- The Cultural Spine - a new multi-use street at the heart of Didcot town centre

Cultural Spine - Movement character area E



Cultural Spine - Movement character area F



5.1.5 Increased investment in public transport

Currently, bus services in the town are a combination of inter-urban services, local loop services and a dedicated private service between Didcot Station and Milton Park.

A strategy for improved services has already been proposed by Oxford County Council and is to be implemented as part of the S106 planning agreements reached with various developers. Clearly this is a very positive start to the important process of encouraging more car journeys to be replaced by bus in future. The routing of future services has been included in the garden town masterplan.

In support of the bus strategy the Didcot Garden Town team believe that there are simple measures that can be put in place to both improve bus patronage and increase the status of public transport in the town. Often the journeys we take by bus are mixed and interrupted by simple issues that break our journeys into unconnected pieces. Walking to the bus stop, waiting in the cold, and having no place to leave a bike.

Micro hubs can transform bus stops into places of movement interconnection with the following attributes:

- Focused on micro interconnection
- Bike bus interchange with e-charging points and secure parking
- High quality shelters that can act as meeting places for social interaction

Another 'early win' in making the transition from a dependence on individually owned private cars could lie with car clubs, car pooling or the introduction of easily available short term hire cars.

Micro hubs - developed around the town at places like school gates where people meet.

Places that form the focus for social interaction.

New local urban centres that can bring together:

- Cycling and e-bike charging points
- Comfortable places to wait for your bus
- Information about local transport within one place



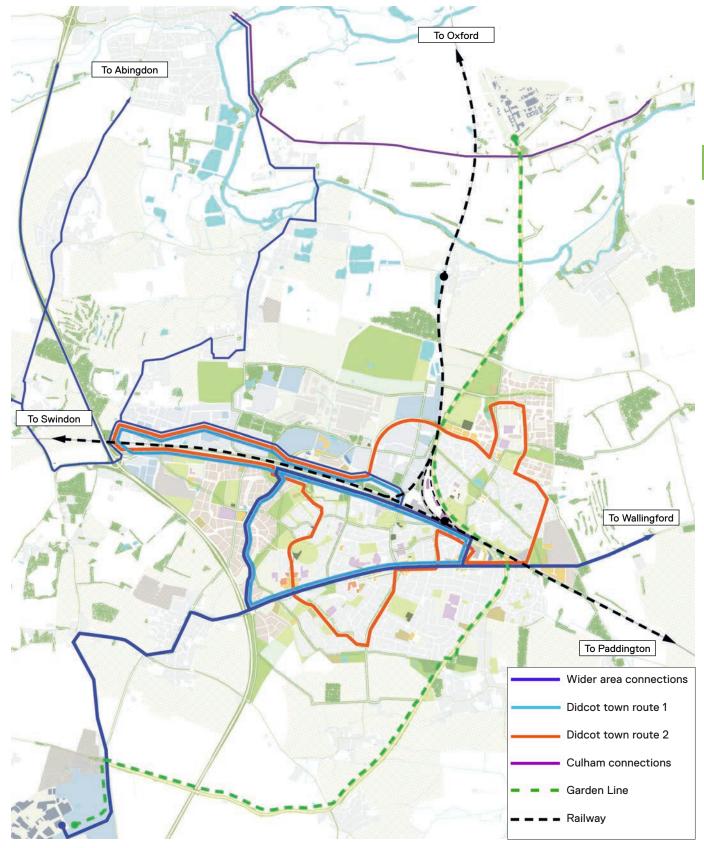


Figure 5.27 - Bus network

5.1.6 Enhanced cycling opportunities

Cycling within the town

There are major opportunities to promote cycling within the town and in the wider region. This untapped potential could form the movement backbone for the garden town. The size and topography of Didcot are ideal for cycling and its location is excellent to promote cycling as a preferred mode of transport around the town and beyond. The routes are also ideal to connect places, both north/ south and east/ west.

As well as improving routes within the garden town, improving routes into the countryside and nearby towns, such as the Didcot to Abingdon cycle route will also be important.

Whilst there are some good cycle routes in the town at the moment, they are often unconnected and contain potential hazards - simple points that are easy to fix. So these proposals are based on improving the existing network with enhancements and additions in several places.

Connecting Culham and Harwell - the Garden Line

Part of the cycling network is a new connection between Harwell with Didcot and Culham. The Garden Line is a new cycle route between these



Cycle hire can evolve to e-bike hire and charging © UES

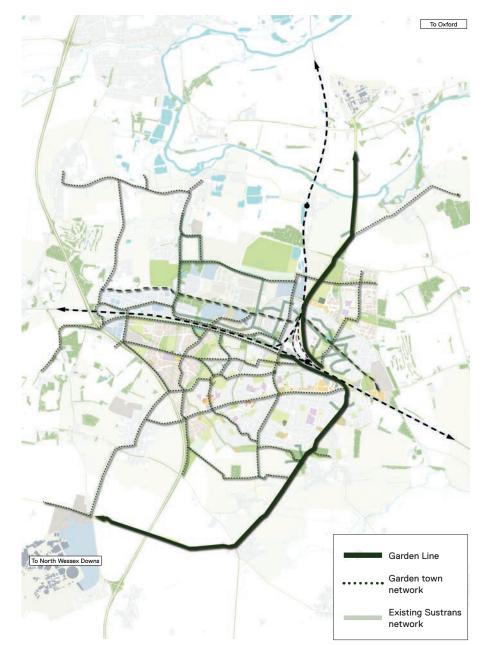


Figure 5.28 - Proposed cycling network



E-bikes in Copenhagen © Jon Ram Bruun-Pedersen

places. Much of the route to the south of the River Thames exists and only requires comparatively modest infrastructure intervention to make it very attractive to use.

Improvements to the cycle network are:

1. New river crossing and upgrading route to Culham

2. New bridge over Oxford railway line to connect northern areas of Didcot

3. Improvements to route under northern perimeter road including widening and installation of lighting

4. Widening of wheeling channel over new railway bridge

5. Upgrading of Cow Lane underpass to provide pedestrian and cycle only route

6. Improvements to connection between Hadden Hill, Jubilee Way and Broadway

7. Improvements to route, including widening, resurfacing, connections to adjacent residential areas and installation of intelligent lighting

8. Improvements to track connecting to Blewbury

9. New ramp connection between cycle route and main road

10. Improvements to track over A34 and link to Harwell

11. General improved provision for cycling across the garden town that includes:

 Covered and secure cycle parking facilities at all key destinations, including shopping areas, bus stops, businesses and the station

- Development of the cycling network to promote e-bikes, including facilities for communal charging of electric bikes in public places, in new homes and at key employment, shopping and leisure destinations
- Improvement of the existing cycle hire scheme based at Didcot station
- Long term proposals to improve the route between Didcot and Milton Park to premium cycle route standard also exist. These propose a new section of cycle track along the B4493 to provide a better alternative to using Basil Hill Road, where the railway bridge creates less than ideal conditions for cycling. The link through from the A4130 has been secured as part of the Didcot A development.

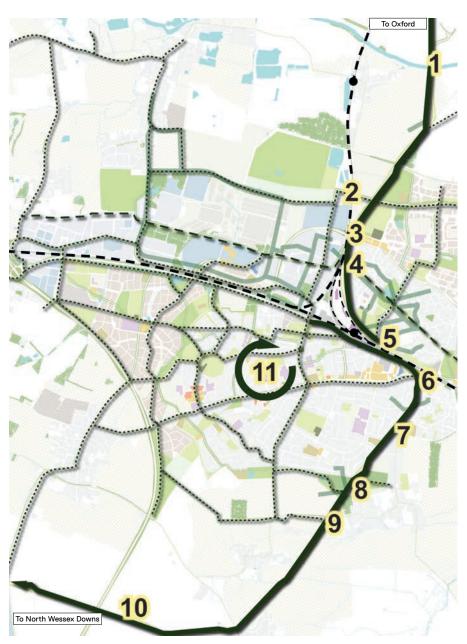


Figure 5.29 - The Garden Line A new cycling route between Harwell, Didcot and Culham

5.1.7 Technology and the future

The garden town team is the beginning of a technological revolution. Lives are changing quickly as new technology unfolds and gives access to an increasing platform of knowledge. Transportation technology is also moving at a fast pace, that in many ways is ahead of physical changes being made 'on the ground'. Private vehicles currently run on carbon intensive fossil fuels will soon give way to part automated vehicles powered by alternative sources, including electricity and hydrogen.

Now is the time for the garden town to embrace evolving technology to both enhance sustainable travel patterns and improve the quality of existing ones.

Smart travel

Smart travel is established within Oxfordshire. The garden town embraces that initiative and puts forward thinking in technology at the core of its transport strategy. For transport technology there are three areas requiring immediate development and investment They are information technology, connected ticketing, and future proofing. Given the right early investment, these are quick wins that offer much to a future of sustainable movement in the garden town.

Information technology

Journeys are often complex, potentially requiring the use of different modes of transport by different members of a household at different times of the day. That complexity can easily lead to a simple choice of traveling by car: a choice that is often made because of lack of information on alternative ways to travel. The plan recognises that information needs to be available to all when choosing how to travel.

The garden town vision offers the opportunity to develop information systems that are being established across the county and are now common in larger towns and cities. These systems can form the basis for future travel: an information system that "optimises everything that moves people and goods around the UK".



Smart, multi-use integrated ticketing, Oyster in London and Swift in West Midlands © UES

Connected ticketing

Connected ticketing is now common place in many towns and cities. The Oyster card in London is one example of a system that allows a user to make a single purchase for many journeys. It enables a single means of payment for combined trips by different modes and by different operators to simplify journeys. Linking to information technology through journey planning added gives benefits allowing comparisons be made between the cost of making a similar journey by private car (running costs, parking charges, etc). It facilitates simple informed choices on the most economical way to travel.

Future proofing - autonomous vehicles

The garden town is also at a point of change in vehicle technology. New infrastructure needs to accept that vehicle types will change and adapt. Automated vehicles are already under trial on the Greenwich Peninsula and driverless cars are under development now. It is highly likely that technologies associated to these new forms of transport will progress rapidly over the next few years and their acceptability will grow. The garden town team have developed an infrastructure strategy that can adapt and grow to meet these changes. The Garden Line provides an ideal opportunity for movement to evolve from a walking and cycling link to a dedicated route for autonomous vehicles, making direct links between Harwell, Didcot and Culham via a new Didcot Station. The Cultural Spine and Station Road will also have flexibility to accommodate change over time.



Car clubs are now common across the UK, autonomous vehicles are being tested on the Greenwich Peninsula in 2016 © TFL Gateway Project

Traffic modelling

Our understanding of movement patterns is changing. The garden town recognises that one key challenge in the future lies in obtaining a better understanding of movement patterns.

A detailed micro simulation traffic model is currently being commissioned to assess growth and phasing. This model will form the foundation for future work on movement. The model will be unlike traditional traffic models that provide an aggregated representation of traffic, typically expressed in terms of total flows per hour. Here the garden town team will have the ability to analyse complex highway junctions and congested networks by giving a visual representation of the proposed effects on traffic operations. It will be a model that is understandable by all. Through this new process the impacts of developments and the phasing of new infrastructure will be analysed in much greater depth. Options can be assessed for effectiveness and the impacts of alternatives to the car can be compared so investment streams become optimum for the garden town vision.

This type of modelling is also particularly suited to development, testing and evaluation of the intelligent transportation systems (ITS) that are envisaged in the garden town. These systems can interact with vehicles providing responsive signal control, public transport priority and reactions to vehicles approaching junctions. The pace of technological development shows no sign of reducing (chapter 7). New ITS: road side instrumentation, satellite powered GPS, in-car equipment and roadside-car communications are also increasing, providing new opportunities for data collection that can be used for much better model calibration and detail.

These sources of greater knowledge and information will grow as part of the increased awareness in technology within the garden town. That knowledge will give much greater certainty on infrastructure choice and support funding choices that is needed for delivery.



Intelligent traffic modelling will change movement patterns and travel choices © UES

Parking

Most of Didcot's urban environment is currently dominated by space taken up by parked cars. The change from a 'carless' society to a car dominated one has happened in less than 60 years. But the urban legacy that car dominated planning will leave will last much longer. The next few decades will see great changes in our attitude to cars. Driverless car technology is well advanced and autonomous vehicles will be a normal sight our streets within a lifetime. The garden town recognises that our approach to car parking needs to change.

In the short term the need remains to park cars efficiently within both residential and commercial areas. The design and planning of these areas, however, should allow for future adaptation to changing modes of transport and travel patterns. The garden town promotes plans that can accept present conditions but are also adaptable to change in the future. These places should incorporate the best in parking management and technology. From the widest perspective, parking should promote movement for all, including the Oxfordshire County Council's blue badge system, along with pre-booking management at public facilities and information technology on space availability.

In the medium and longer term the garden town will have parking schemes that are more common place in many developed urban centres, whereby land values create dense urban spaces and spaces are shared between different users.

We are seeing this change happen in Didcot, as decked parking is coming forward at the station. Elsewhere car stacking and modular car parking are common place. As well as altering our behaviour and attitudes to parking, these developments allow more compact and walkable places to evolve. These types of developments are at the core of the garden town's long term vision.



The Garden Line

The Garden Line can be phased, so the first part between Harwell and north Didcot is an 'early win'. This project can

adapt and grow as a new autonomous vehicle route between Harwell, Didcot and Culham at a later stage. More information about this project is set out in the chapter 9.

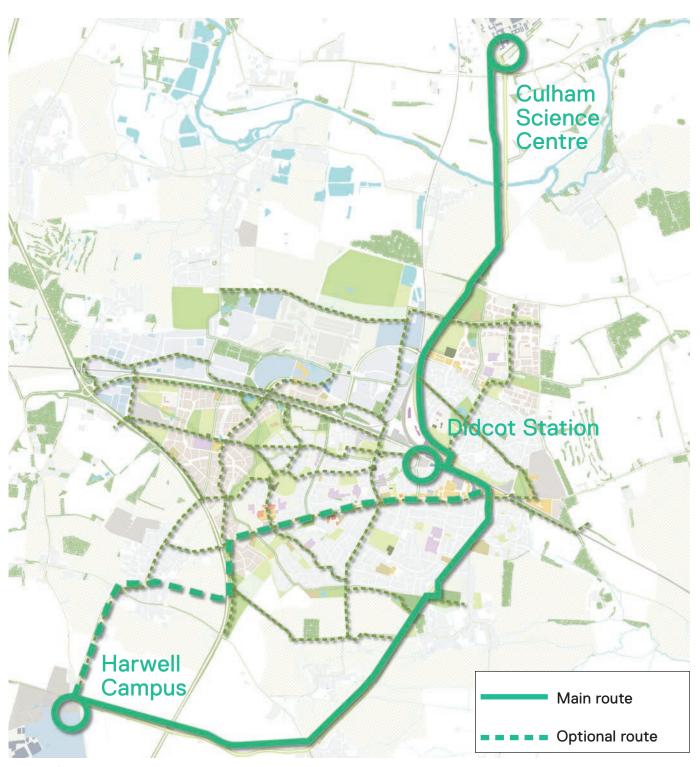
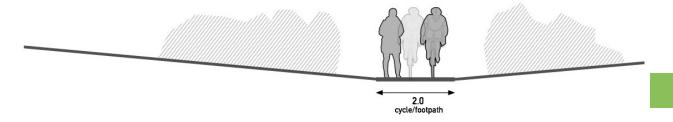
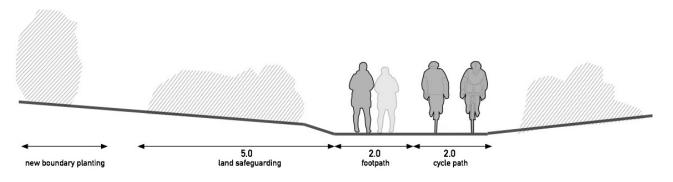


Figure 5.30 - Autonomous vehicle routes

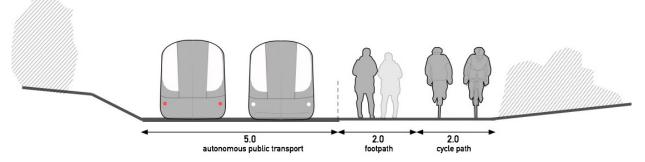
Existing



Improved cycle route



Autonomous vehicle route



5.1.8 Transport infrastructure phasing

The transport infrastructure associated with the growth of Didcot will be phased over the plan period. There is a strong link between the delivery of infrastructure and the acceleration of housing growth and economic development in areas of high growth like Didcot. Infrastructure projects range from quick wins, like cycling improvements, that can be completed in the short term through to more significant changes such as the River Thames crossing which will come later. The garden town team have summarised the proposed infrastructure phasing in three periods: the first a five-year period from 2016 to 2020, the second a ten-year period from 2021 to 2031 and the last one post 2031.

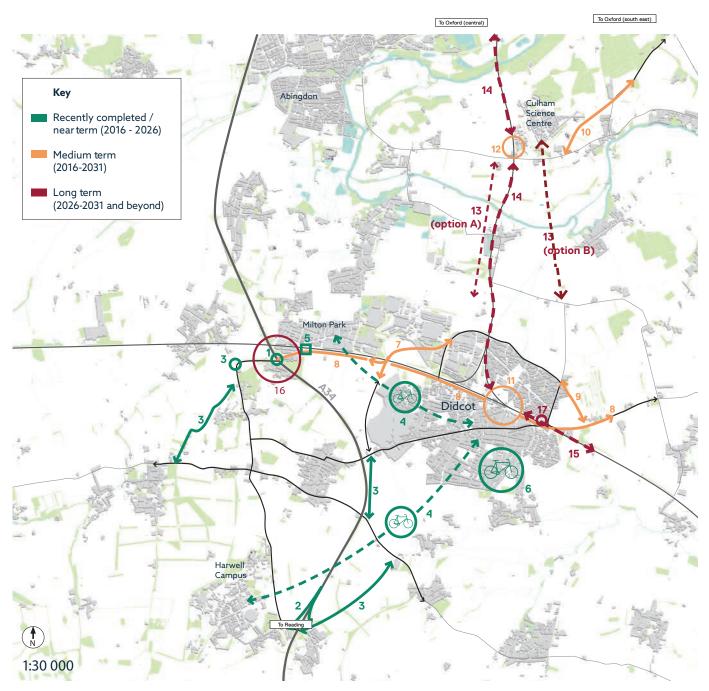


Figure 5.32 - Currently proposed infrastructure schemes

Infrastructure schemes - present and future

Recently completed/ near term (2016 - 2026)

- Milton Interchange junction improvements
- 2 Chilton interchange junction improvements
- Access to EZ areas, including Hagbourne Hill, Featherbed Lane & Steventon lights, Harwell link road
- Ocycle network improvements to Harwell Campus and Milton Park
- 5 Backhill Lane cycle/ pedestrian scheme
- Sustainable transport package: Cycle route maintenance and improvements within the garden town

Recently completed / near term (2016 - 2026)

Significant highway improvement projects and the start of improved cycling and public transport initiatives.

Medium term (2016-2031)

- Didcot Science Bridge A4130 capacity improvements
- 8 Central Didcot transport corridor
- (9) Didcot northern perimeter road
- 10 Access to Culham Science Centre
- 1 Didcot Station interchange
- (12) Culham Station improvements
 - Public transport infrastructure within the garden town
- Implementation of car parking strategy within the garden town

Medium term (2016-2031)

A balance of investment in highway and more sustainable forms of movement.

Long term (2026-2031 and beyond)

- 13 New River Thames crossing
- Four tracking railway between Didcot and Oxford
- (15) Railway junction grade separation, east of Didcot

Not currently planned or set out in the existing infrastructure delivery plan:

- Milton Interchange north facing slips directly linking A34 and Milton Park
- Redevelopment of existing Didcot Station or potential relocation to the east

Long term (2026-2031 and beyond)

Highway and railway investment in regional connections with a greatly enhanced investment strategy for sustainable forms of movement within the garden town.

Additional garden town infrastructure

Quick wins

- Multi-use transport model for the town to assess overall phasing and delivery
- Enhanced cycling network Implementation of micro hubs

Near Term (2016 - 2026)

- First phase of the Garden Line (Harwell to north Didcot)
- Implementation of smart travel with a package of investment in new technology

Medium Term (2016-2031)

- Second phase of the Garden Line (north Didcot to Culham)
- The Cultural Spine
- The Gateway Spine
- The east-west movement corridor

Long Term (2026-2031 and beyond)

Development of the Garden Line for autonomous vehicles

5.2 Grey infrastructure

Berks Bucks and Oxon Wildlife Trust Lake and Didcot Power Station © RWE

10 10

5.2.1 Utilities

With significant growth planned for Didcot Garden Town, it is essential that the utilities infrastructure can support the increased demand for connections and capacity.

A review of the baseline situation has been carried out followed by an assessment of the impact of the proposed growth on the utilities networks. The key utilities companies have been consulted to understand what upgrades are proposed to support the growth and to ensure that they are fully informed about the scale, locations and build programmes for the growth to allow them to plan their asset management effectively.

Existing utilities

Sewerage network

The majority of the sewerage infrastructure is the responsibility of Thames Water with the exception of the partially completed Great Western Park development which is currently serviced by SSE Water.

The Didcot drainage catchment is approximately 45 km2 and is situated approximately 16 km south of Oxford. The catchment includes Didcot town centre, Blewbury, Chilton, Dene Hollow, Harwell, Milton Hill, Upton and both East and West Hagbourne.

The majority of Didcot town sewers drain under gravity via three crossings underneath the west coast mainline railway (375mm, 600mm and 1200mm diameter) before discharging at the Sewage Treatment Works (STW) which is located between the power station and the railway station. Flows from Milton and Ladygrove require pumping stations to transfer the waste water to the STW.

A drainage strategy for Didcot was undertaken by Thames Water which identifies the catchment system to be foul only. However, over time this has suffered with ingress from groundwater and surface water connections, which means that the sewage treatment works has to deal with additional flows that may not require treatment.

Didcot STW deals with the domestic and industrial flows from Didcot as well as outlying villages. The STW currently serves a population equivalent of 37,000 and provides preliminary, primary and secondary treatment as well as biogas generation.

Surface water network

The data received from the utilities companies indicates a limited surface water network within the town, with the exception of the Ladygrove development. It is likely that where there are drains, these discharge to local drainage ditches and culverts throughout the catchment. The network at Ladygrove is shown to discharge via multiple outfalls to Ladygrove Brook. Details of the highways drainage network are not available but these are thought to discharge to the Thames Water sewerage network.

Potable water

The majority of the potable water network is the responsibility of Thames Water with the exception of the partially completed Great Western Park which is the responsibility of SSE Water.

Didcot is supplied by several strategic water mains from the south-west and north-east ranging in size from 300mm to 400mm and are identified as ductile iron pipelines. These then feed into distribution networks throughout the town. There are currently three crossings of the west coast mainline railway through underpasses at Broadway, Cow Lane and Hitchcock Way. There is another crossing of the railway through a culverted watercourse.



Electricity

The regional electricity distribution infrastructure is the responsibility of Scottish and Southern Energy (SSE) for the Didcot Garden Town area. There are also National Grid owned assets for very high voltage electricity transmission across the country.

A feasibility study for the Planned Housing Growth in Oxfordshire 2015 to 2031: Impact on the Scottish & Southern Electricity Networks Distribution Network issued by SSE in October 2016 stated that the Oxfordshire area is fed mainly from the 400/132 KV grid supply point at Cowley, which is operated by National Grid.

The feasibility study states that 132kV networks supply the Bulk Supply Point (BSP) at Drayton approximately 9km north of Didcot. At the BSP the supply is then reduced from 132kV to 33kV and supplied to the Milton primary substation approximately 3km west of Didcot town centre. At Milton primary substation 33kV is further reduced to 11kV and distributed through Didcot to local substations before being distributed to properties.

There is currently only one electrical vehicle charging points identified on the data received which is located at Orchard Centre near station road. The charging point is equipped with three pin 3kW and type two 7kW supply.

Gas

The regional gas infrastructure is the responsibility of Scotia Gas Networks (SGN) for the Didcot Garden Town area.

There are also National Grid owned assets for high pressure gas transmission across the country.

There are currently several national high pressure gas mains (responsibility of National Grid) crossing the Didcot Garden Town masterplan boundary from the north-east connecting to Didcot B Power Station (Didcot B). Didcot B is a natural-gas power generation plant supplying national grid.

There is an intermediate pressure main crossing from the west to the north through the town with a range of medium and low pressure gas mains shown throughout the town. These are used for distribution of gas to properties and are therefore the responsibility of SGN.

The records show a gasworks site which lies adjacent to the southwest of Ladygrove East. Further to discussion with National Grid gas and SGN it is understood that this site has been decommissioned as a storage site. However, all pipes crossing the site are still live.

Telecommunications

The existing UK telecommunications network is built up using a range of copper and fibre-optic cables with radio signals used for mobile phones. Fibreoptic broadband is the most reliable solution currently available within the UK. The existing town is served by both the Didcot and Rowstock telecommunications exchanges which are fibre enabled. Didcot exchange currently serves approximately 11,000 residential premises and 430 non-residential premises. The Rowstock exchange serves approximately 3.400 residential 360 non-residential premises and premises. These exchanges are owned by BT Group and both of these exchanges are fibre enabled. The system comprises a fibre to cabinet system with copper cables from the cabinet to each property (FTTC). The existing network delivers fibre broadband from a range of providers and broadband speeds can be as high as 100Mbps, depending upon location and provider.

Openreach announced in November 2016 that they would deploy fibre to the premises (FTTP), free of charge, into all new housing developments of 30 or more homes. FTTP is a fibre-optic cable connection running from the telecommunications exchange directly to the user's home or business, providing a choice of broadband speeds up to 330mbps. It is understood that FTTP is available already in the Great Western Park new development.

The majority of the existing Didcot Garden Town masterplan boundary is served by the Virgin Media fibreoptic network. Virgin Media owns and operates one network, which it exclusively uses to deliver FTTP broadband at speeds up to 100Mbps to large parts of Didcot, and up to 120Mbps in upgraded areas.

The mobile network coverage is variable in the area, with the four major mobile network providers having masts within the town. Vodafone has ten masts in the area and provides the best coverage, with O2 also providing good coverage despite only having three masts within the area. EE and Three have a number of areas of poor coverage with the town.

Capacity for proposed growth

Sewerage network

Thames Water has confirmed that the wastewater network in this area is unlikely to be able to support the demand anticipated from the Didcot Garden Town developments, without upgrades and additional pipes being laid. These requirements are dealt with for each individual development through liaison with the developers to ensure that the necessary upgrades are installed so the network will have sufficient capacity when the developments are built.

To support the Great Western Park and Valley Park developments to the west of the town, a new sewerage tunnel has been installed under the railway, together with a pumping station, which is due to be commissioned early in 2017. The capacity of the sewage treatment works is planned for more strategically within the asset management plan of Thames Water. The sewage treatment works was upgraded in 2009 and currently has capacity to serve a population of 38,112. There is scope for further upgrades in line with planned growth to serve a population of 53,877 by 2021 and 63,392 by 2026. Section 5.3).

Potable water

Thames Water has identified potential concerns with the existing potable water network for some recent planning applications. There may be some upgrades to the network required locally to provide adequate capacity within the pipes for new developments. Thames Water resource management plan 2015-2040 has identified that there is a predicted water deficit in the region from 2020 onwards. The proposed mitigation is primarily demand management by metering and use of water saving devices, and also through leakage reduction within their own network.

There is currently an area 7km north west of Didcot which is safeguarded for a potential reservoir. This is a proposal that has been considered on a number of occasions to increase supply to the south east Thames Valley region, in particular London. The proposed growth in Didcot is small by comparison to the growth in the south east and does not increase the likelihood of this reservoir being constructed.



Electricity

SSE completed a feasibility study reviewing the impact of proposed growth on their network in October 2016. The feasibility study indicated that the existing Milton transformers will need upgrades to provide sufficient capacity. These upgrades are planned to start in 2017 for completion in 2019 and based on planned growth will have sufficient capacity to support the Didcot Garden Town.

Gas

There are no known capacity issues for gas supply in the area and no known plans for upgrades.

Telecommunications

There are no known issues with capacity within the existing catchment area for the Openreach network or the Virgin Media network and no known plans for upgrades at this stage.

The network providers will install the required cabling for each development as required and early consultation is key.

Opportunities

With a view to promoting sustainable growth and development there are several opportunities to mitigate the impact of the scale of growth in Didcot in terms of utilities. These include:

- Reduce the demand for potable water supply and foul drainage by use of water saving devices
- Reduce the demand for potable water supply by rainwater harvesting
- Reduce the demand for potable water supply and associated foul drainage by water metering

- Make use of renewable energy sources to reduce electricity and gas demand (see later section on renewables)
- Provide electric vehicle charging points using solar power generation
- Reduce demand for gas by increasing thermal efficiency of buildings
- Use FTTP technology in preference to FTTC as faster data speeds, which could encourage home working and reduce traffic
- Construct new mobile masts in the region with provision for shared use by different mobile companies.
- Assess the potential for local heat and electricity networks

The key to ensuring that the development and rate of growth of the garden town proposals is deliverable

is early consultation and engagement with all utilities companies. This will mean that the companies will have access to the best and most up to date information on the build programmes and will allow them to plan effectively for the planned growth. The statutory undertakers have an obligation to provide connections to new developments, but the length of time that is needed to implement these upgrades means that it is vital for developers to consult with the companies at the earliest possible opportunity. As part of the Didcot Garden Town Delivery Plan the sharing of build programme information will be facilitated. The required information will be gathered by the garden town team for issue to the utilities companies at regular intervals.



5.2.2 Waste

The treatment of waste within the town, and the ability of the existing operations to grow to suit the proposed growth of the town, is key to delivering the garden town.

With significant growth planned for Didcot Garden Town, it is essential that the utilities infrastructure can support the increased demand for connections and capacity. A review of existing and required waste management infrastructure, existing and ongoing environmental services delivery and future utilisation of technology and innovation to support and enhance service delivery in a garden town environment has been carried out.

Policy background

As the waste collection authority (WCA) and principal litter authority (PLA) for the Didcot area, Vale of White Horse and South Oxfordshire District Councils have a statutory duty to ensure the collection of controlled waste and to keep its relevant land clear of litter and refuse as far as is reasonably practicable (as defined in section 89(1) of the Environmental Protection Act 1990). Oxfordshire County Council, as waste disposal authority (WDA), has the responsibility for the treatment and disposal of material collected by the WCA. Consideration is given to both national and local waste management policies and strategies in order to support and promote sustainable waste management practices within garden town developments.

At EU and national level this includes targets for recycling, and reducing waste to landfill, as well as legislation for controlled waste and waste separation.

At a local level, Oxfordshire's joint municipal waste management strategy aims to promote waste reduction and treatment of waste before disposal, as well as joint working across the area to save money.

Planning policy requirements for new developments are outlined and include:

- Details of waste containment to be provided to each property
- Confirmation that all waste containers must be stored within property boundaries without the need to go up/ down steps or through the property, and with suitable access points to allow for the presentation of waste for collection
- Consideration of internal methods of waste separation to support collection services, such as a two-bin system in kitchen areas for waste and recyclable material
- Accessibility to bin storage areas by all residents, including those who are less mobile

- Provision of a suitably clear and wide path from any bin store to the collection point
- Confirmation that waste should be presented no more than 25m away from the nearest accessible point for a collection vehicle
- Road design should address minimising the need for vehicle reversing, and construction should be suitable for a full sized refuse collection vehicle, both in terms of width and in terms of suitability to accept vehicles of 32 tonnes gross vehicle weight



Waste collection containers used by Vale of White Horse District Council

Existing environmental services provision

Waste and recycling collection services

Oxfordshire is a high performing county in terms of municipal waste recycling. For the 2015/ 16 annual period the waste collection authorities of South Oxfordshire and Vale of White Horse District Councils achieved preliminary recycling figures of 66.5 per cent and 64.8 per cent respectively, placing them



in first and second place in the national recycling league table. This level of performance means that both councils are already achieving the 2020 target of 50 per cent set by the EU Waste Framework Directive, and together surpass the circular economy target for 2030 of 65 per cent recycling.

South Oxfordshire and Vale of White Horse District Councils have jointly procured and manage waste collection services, currently provided by Biffa, under a contract that has been extended to run up to 2024. No further extension will be permitted and therefore the contract will need to be tendered in advance of 2024. This contract also includes street cleansing services, dog and litter bin servicing, and fly tipping removal.

Street cleansing and grounds maintenance services

A good level of street cleanliness is being achieved in the South Oxfordshire and Vale of White Horse area, with NI 195 measurements sitting at 3 per cent for litter and 11 per cent for detritus, against targets of 4 per cent and 7 per cent respectively. The target for detritus is not currently being met, largely due to the rural nature of the area. Street cleansing is a contracted service, currently undertaken by Biffa. This service attends to the cleansing of inner and outer town centre areas and car parks, large and small villages, and is undertaken under schedule utilising both manual and mechanical sweeping methodologies. Grounds maintenance is also a contracted service, currently provided by Sodexo. Waste arisings from grounds maintenance operations are the responsibility of the contractor. Sodexo ensure that all grounds maintenance waste is composted off site.

Waste disposal arrangements

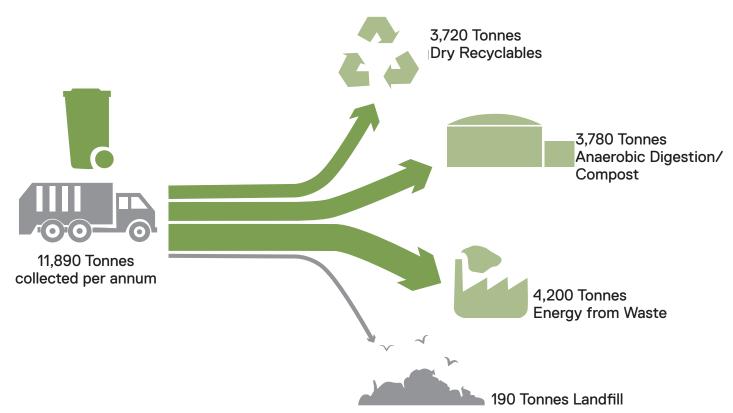
Oxfordshire County Council has a contract with Viridor, due to expire in 2040, for the processing of residual waste. This contract has an exclusivity clause whereby all residual waste for which Oxfordshire County Council has responsibility for must be processed by Viridor through their Energy Recovery Facility (ERF) at Ardley.

Similarly, there is agreement between the county council and all waste collection authorities to ensure that all collected residual waste is to be managed by the county council. Therefore, there is full exclusivity in the management of this material stream. Dry mixed recyclable material is currently deposited at a waste transfer station at the 'Culham No 1' site, approximately three miles north of Didcot. From this site material is bulk hauled to materials recovery facilities in North London and the West Midlands. There are a number of in-vessel composting and anaerobic digestion plants that are used to receive organic waste, and minimal waste is transferred to landfill.

Oxfordshire County Council also provides a network of Household Waste Recycling Centres (HWRC) but some of these are reaching capacity and are in need of refurbishment. The closest HWRC site to the Didcot area, in Drayton, has an annual throughput of approximately 10,000 tonnes per annum and achieves a 60 per cent recycling rate. However it suffers as a result of limited space and high usage, resulting in regular queuing on site.



Didcot Biogas to Grid Plant © CNG Services



Impact of proposed population growth

The level of development planned for Didcot will result in an inevitable growth of waste arisings for that area which must be incorporated into existing or new waste management infrastructure. The anticipated growth in waste arisings for each waste stream is shown in the image below. This increase will require additional vehicles to collect and transfer the waste within the town and this is calculated to be an additional three vehicles in total. The existing collections contract has provision for increases such as this by way of a contract variation. The increase in vehicle movements around the town is not considered to have a significant impact. The receiving facilities for the waste (Ardley ERF and anaerobic digestion or composting plant) are all confirmed to have sufficient capacity for the increase in waste throughput.

the existing HWRC However. infrastructure is struggling and the proposed growth is anticipated to increase the waste throughput at Drayton HWRC by 33 per cent. As this site is already under pressure this increase would not be sustainable. The current contract provision of HWRCs was renewed for a seven year period in 2017. For longer term provision, the Oxfordshire County Council HWRC Strategy sets a site rationalisation approach moving to fewer but larger sites close to population centres creating an opportunity for a new HWRC to serve Didcot and surrounding areas. Further enhancements could be realised by providing a facility to promote more sustainable waste management on a local level, for example with a 'reuse' shop on the site and community initiatives to repair broken goods.

Innovation

Core to the principles of garden town developments is community engagement and involvement, and the creation of an environment where residents want to feel part of the community. From a service provision perspective these principles are supported by ensuring that services are easily understood and convenient to participate in.

Best practice in design

Engagement and participation in waste and recycling collection schemes is best promoted at property level through direct communication with residents, however, there is considerable benefit from promoting the separation of waste and recyclable material through the inclusion of waste segregation containment systems at the development stage of property design.

In particular, the following principles should be considered and implemented to support service delivery and provide best value solutions:

- The provision of in-premise storage for each material stream collected as part of a kerbside collection scheme
- Suitable and adequate storage (individual and communal) for waste and recyclable material
- Adequate and convenient access to services for all residents
- Adequate and accessible space for waste containment, allowing full access to the point of presentation for collection
- Consideration of underground waste storage to minimise environmental impact
- Provision of durable, low maintenance and clean facilities

 Ensuring that facilities take into account noise, odour and fire safety.

Balancing service provision methodologies with innovative building design means that new and smart waste solutions should be incorporated into design principles in order to meet residents' needs and ensure that solutions are forward facing and future oriented.

The inclusion of embedded and well-designed waste management systems can bring benefit to the local community, service delivery companies and the environmental outlook of an area. The use of underground or semi-underground waste storage systems can both keep streets and garden areas free from wheeled bins and reduce vehicular movements around housing areas. Due to 60 per cent of the container being underground, the visual impact of these systems is considerably less than



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that of traditional wheeled bin style communal bins. In addition, building such collection systems into the design of housing areas can ensure ease of access to all residents. Underground storage systems bring further benefit in the form of a reduction in odour due to cooler storage conditions, reduced manual handling for collection staff, and collection of waste and recyclable material from a single location, rather than individual households.

Best practice in service provision

Recognising that the South Oxfordshire and Vale of White Horse District Council areas are the top performing areas in England for recycling, and that service delivery methodologies are limited by the contracts held by private contractors, best practice is, in essence, already being achieved. Any further step-change improvement in recycling performance will likely require a fundamental change to either the frequency of residual waste collection (for example from fortnightly to threeweekly) or a restriction in residual waste collected through provision of smaller waste bins. Neither options could be implemented for Didcot Garden Town alone due to the perceived imbalance of service levels being received within a single local authority area and also due to the contractual and service complications that this would cause.

Participation in recycling schemes will support the sustainable principles of the garden town and as such the available services should be promoted to new residents within the garden town, Science Vale and area of influence, using direct communication to ensure that knowledge of services is in place as soon as a new resident is occupying their property. This will maximise participation in recycling schemes and minimise confusion that can lead to recyclable material becoming contaminated.

Progressive sustainable practice

Over and above the core services delivered to all residents, a number of initiatives could be considered for the integration of sustainable practices within the community of Didcot Garden Town.

Recommendations

 Community engagement and service development – e.g. community groups promoting reuse and repair, and engagement with the third sector

- Community development e.g. community composting schemes, food redistribution, a sustainability hub
- Incentives e.g. financial incentives to maximise recycling
- Connectivity e.g. 'smart bins' to report on fill rate of litter bins, or damaged infrastructure
- Streetscene enhancement e.g. community litter picking, apps to allow public to report environmental issues



Solar compactor and recycle bin

5.2.3 Energy and renewables

In keeping with the sustainability principles for the garden town there is a desire to provide sustainable solutions for the growth in energy requirements to support the growth of the town.

The baseline situation for energy use has been considered, together with the forecast for energy use and the opportunities for introducing additional and new renewable energy options.

Baseline situation

The figures below indicate the existing energy consumption of different energy supplies for both Industrial and domestic use in the Didcot region. Natural gas and electricity are the main demand sources for both subsets of consumers. Other data indicates that there has been steady decline in gas use over the last ten years, whereas electricity use has remained relatively constant.

Increased demand

The proposed growth of the town will increase demand for energy but there

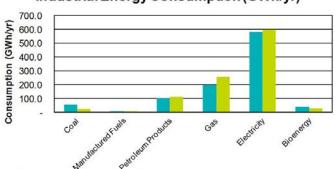
is uncertainty around the scale and nature of this. To meet the anticipated increase in demand the challenge is to:

- Diversify supply sources to promote de-carbonisation of electricity supply
- Enhance thermal energy efficiency (such as building fabric and boiler efficiency)
- Consider the potential for local heat and electricity networks
- Diversification of heat sources
- Encourage individuals and community groups to improve their awareness of energy efficiency and impact they can make in reducing energy use

Long term trends in energy consumption for residential and non-domestic buildings show that demand for heat is reducing due to greater efficiencies in both providing heat and retaining heat. At the same time electricity consumption continues to rise or is at best remaining constant. Demand-side management could offer a solution to the peak demands that are currently experienced for grid electricity as well as the peak supplies from certain sources (e.g. solar energy). This can take several forms, but includes provision of battery storage within individual dwellings or for larger scale installations.

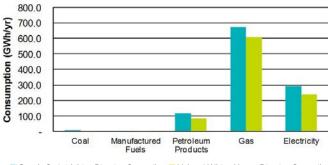
From a consumer engagement viewpoint, the ability to collate large amounts of data sources via online applications and web-based tools offer new avenues by which the benefits of energy efficiency and low carbon energy sources can be shown. Initiatives such as the Community Action Platform for Energy (CAPE) offer potential routes to engage and empower local energy users to seek

Industrial Energy Consumption (GWh/yr)



South Oxfordshire District Council 📒 Vale of White Horse District Council





South Oxfordshire District Council

innovation and alternative solutions to meeting their energy needs.

The vision for the garden town focusses on greenways and sustainable travel routes as a crucial element in integrating the diverse areas of Didcot into a holistic living space. The provision of charging points for both electric vehicles and e-bikes then becomes an important element to overall urban design which needs to be accounted for by:

- Charging of electric vehicles at home and allocation of space for parking such vehicles
- Public access charging areas within central areas (vehicles and e-bikes)
- Community parking areas with access to charging points where density of development precludes space for vehicles at individual dwelling level

The most feasible way to support this is through solar energy which can be provided by:

- Small scale solar photovoltaic panels
- Dwelling scale solar photovoltaics
- Solar canopies within car parking areas
- New technology including photovoltaic road surfaces



E-bike charging points in Copenhagen

Local Renewable Energy

Ongoing work at UK level seeks to deliver an increasingly de-carbonised energy mix, in terms of both electricity and heat. While large scale assets, particularly in the context of traditional 'top down' supply models, remain a part of the future energy supply mix, there is increasing recognition of the need to seek low carbon energy supplies at a localised level, closer to end users, in order to achieve overall carbon emission reduction targets.

There is no single prescription that will serve the needs of all the consumers within the expanded garden town. However, it is useful to consider, in broad terms, how significant contributions to local energy supply mixes could be achieved.

Solar

Within the OX11 postcode area there are 369 existing small scale (0-5kW) solar installations and 16 existing medium scale (5-50kW) solar installations. This gives a total capacity of 1,593 kW for existing solar generation. There is potential for significantly growth in retrofit or new build installations on residential properties or for non-domestic users.



Example of solar canopies

The take up of this can be supported by due consideration of the roof orientation (preferably south or south west/ south east) and avoiding potential overshading issues for new developments.

Oxfordshire County Council has an existing position paper setting out guidance in relation to large-scale ground mounted solar arrays, which is broadly supportive of solar photovoltaic (PV) development in principle. In the first instance, such developments should look to brownfield or industrial sites, and while greenfield sites can be considered, these should avoid high grade agricultural land where possible. Large numbers of groundmounted solar PV arrays are not proposed, but an opportunity has been identified at the existing landfill site at Sutton Courtenay, which is scheduled for closure in 2030. At present the commitment from the operator is to restore it to agricultural grade use. An alternative option, used in several other cases with capped landfill sites, is to develop a ground-mounted array. The scale of array could be in the range two - three mega watt (MW), with an associated output of around 12 - 18 giga watt hours (GWh) per year.

There are several innovative solar technologies that are emerging including:

- Solar roof tiles
- Solar floors
- Solar windows
- Photovoltaic road surfaces

These products offer on-site generation solutions that provide for aesthetic qualities and can therefore be used in a variety of settings to enhance on-site energy generation for both retrofit and new developments.

Fuel cell combined heat and power (CHP)

The vast majority of combined heat and power plants presently operating in the UK typically use natural gas as the primary fuel source to feed either reciprocating engines or gas turbines. Penetration of alternative fuel source systems, such as biomass or fuel cell technologies remains low. Fuel cell CHP systems offer potential for low emission heat and power generation, and significant flexibility in the source of input fuel that is used.

The DIMES (distributed integrated multi use energy system for urban developments) feasibility project is an ongoing piece of work looking at supporting low carbon ambitions within the Bicester area. The proposed fuel cell CHP will supply 10 MW via a private wire network to local consumers. Heat available from the CHP will be supplied to a planned district heating network. There is also opportunity to use the hydrogen, reformed from processing the waste gas, as a fuel supply for transport.

This multiple energy supply solution has potential value for the proposed Didcot Garden Town, in offering a means of generating low carbon electricity, alongside high grade heat for use in heat networks and (potentially) a source of hydrogen as transport fuel.

While there are consumables associated with the operation of any proposed fuel cell system, there is no significant direct combustion processes. This is a considerable advantage in an urban development setting, in comparison to natural gas fuelled CHP systems, since it means no local emissions of nitrogen oxides, sulphur oxides or particulates.

Anaerobic digestion

There is limited opportunity to use waste to generate further energy within the Didcot area as residual waste collection is currently tied into a services contract with Viridor. Residual waste is taken from the area to the Ardley Energy Recovery Facility (ERF) for processing. There is no current opportunity to use this resource in a local energy generation scheme.

However, food waste is subject to contractual obligations. The county council, as the waste disposal authority, has a contract with Agrivert at the Wallingford and Cassington anaerobic digestion plants to take food waste which is collected separately from garden waste in South Oxfordshire and Vale of White Horse District Council areas. This is a minimum tonnage contract to 2026 with an option to extend by up to 5 years. As a result, food waste arising from Didcot will not be available for other methods of treatment during this time. The Wallingford plant has a capacity of 50,000 tonnes per year, generating 2.4MW of electricity and producing a biofertiliser. The garden waste composting contract has no minimum tonnages but creates a compost like material so would not be suitable for creating renewable energy.



An anaerobic digestion plant © Daniel Ullrich, Threedots

Biomethane

Didcot sewage treatment works (STW) was the site of the first UK biogas plant to carry out biomethane injection to the national grid network. Anaerobic digestion results in a biogas, predominantly consisting of methane and carbon dioxide, with additional impurity levels of siloxanes, hydrogen sulphide and nitrates. Cleaning this gas mixture results in a biogas that can be injected into the national gas grid. Biomethane injection can be into the national high pressure gas transmission grid or a local low pressure gas distribution network. The advantage of using by-products from processes at the STW is that is provides a constant supply of input fuel. As this plant is already in operation, there is no further opportunity for additional generation from this source, other than an increase in the quantity of sewage which will arise from the growth of the town.

Decentralised heat networks

Space heating and domestic hot water needs are predominantly met in the Didcot area through the use of natural gas as the primary fuel source and there are no decentralised heat networks operating within the town at present. A study is underway to carry out a heat mapping study for the garden town area to identify potential small scale networks for heat which will be used to determine the feasibility of such schemes.

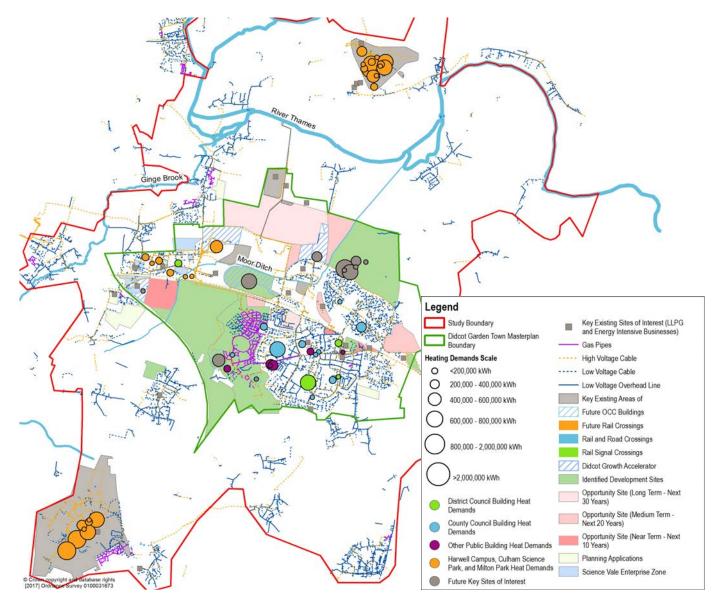


Figure 5.37 - Decentralised heat networks heat map study

The study team have begun working with key stakeholders gathering information for existing public and private sector buildings and sites in the Didcot Garden Town and Science Vale wider area of influence, as well as modelling the potential heat demands for proposed new garden town developments. This data is being used to produce detailed heat maps of the area, an example of which is shown below, which illustrates the estimated heat demands of existing and potential buildings and sites and the location of existing or potential sources of low carbon or low cost heat. This visual representation can help to highlight areas of most promise for heat networks, due to the density of heat demands, and/ or the proximity to potential sources of heat.

Considerations will include:

- The location and energy demands of key consumers
- Available low carbon and waste heat sources
- Suitability of energy supply options (e.g. gas CHP, biomass, etc)
- Sizing of plant and heat network
- Integration of heat network routes with proposed masterplan developments
- Network design including tempreatures, flow control and minimising heat losses
- Impact assessments and risk analysis
- · Fair treatment of customers
- Reducing energy costs and greenhouse gas emissions

The next steps for the work will be to use the heat maps to help identify the areas, or 'clusters', with the greatest potential, so that these can be taken forward for technical and financial feasibility analysis. It is important to recognise that the proposed heat networks could have implications for the existing masterplan. As a result, the study will consider aspects such as the integration of heat network pipes with the proposed infrastructure from the masterplan and whether particular routes could be safeguarded to ensure that existing or future buildings can be connected to the network. Further work will be undertaken to identify critical heat loads and carry out more detailed analysis on the various advantages and disadvantages of each potential scheme. After completion of the heat mapping and energy masterplanning study, subsequent heat network delivery unit development include stages more focused feasibility studies, detailed project development, financial modelling and commercialisation.

Other technologies

Other options considered, but discounted for suitability and viability reasons, include: wind, hydro, standalone large scale thermal storage (independent of any proposed district heating networks) and geothermal.

Key opportunities

Within Didcot Garden Town the key opportunities for increasing the proportion of energy supply from low carbon and renewable sources are considered to be:

- Provision for battery storage to complement roof mounted solar PV array (new domestic and non-domestic developments)
- Provision of electric vehicle charging points at home with allocation of space for parking such vehicles, or community parking areas with access to charging points where density of development precludes space for vehicles at individual

dwelling level (new developments)

- Public access charging areas within central areas (vehicles and e-bikes)
- Use of solar panels to power electric vehicle charging points
- Use of the landfill site at Sutton Courtenay as a ground mounted solar PV array, following closure as a landfill site in 2036. This could have an energy generating capacity of 12-18 GWh per year
- Solar innovation making use of new technology in building, eg. solar tiles, solar floors, solar windows
- Potential to integrate a fuel cell CHP system at the Harwell Campus or Culham sites
- Potential for development of low carbon or renewable-fuelled district heat networks in and around the Didcot Garden Town masterplan boundary area
- The operations management and business development team at RWE are open to discussing further additional sustainable energy production and storage at the Didcot power station site based round the potential extension of the existing gas turbines

Didcot Railway Centre carriage shed solar panels © Frank Dumbleton

5.3 Blue infrastructure



5.3.1 Flood risk and sustainable drainage

With the proposed growth of Didcot Garden Town, it is important to assess adequately the potential sources of flooding that might pose a risk to new developments but also how new developments might influence the water environment upstream and downstream. The selection of appropriate mitigation measures to minimize the impacts and the promotion of Sustainable Urban Drainage Systems (SuDS) is fundamental to manage surface water and face the new challenges posed by climate change.

The historic and existing situation has been reviewed and considered with a view to the most recent data for flood levels with regards to climate change. Opportunities for strategic initiatives to improve flood risk and implement sustainable drainage in the garden town as a whole have also been considered.

Planning and policy

Flood risk

In Didcot, Oxfordshire County Council is designated as the Lead Local Flood Authority (LLFA), under the Flood and Water Management Act (2010). As the LLFA, Oxfordshire County Council is responsible for co-ordinating the management of local flood risk from surface water, groundwater and ordinary watercourses. The Environment Agency has responsibility for flooding from main rivers, reservoirs and from the sea.

The National Planning Policy Framework (NPPF) issued in March 2012 requires that flood risk must be taken into consideration during the planning process. The NPPF states that development in areas at risk of flooding should be prevented and development should be undertaken on sites at lower risk of flooding. If development is necessary in flood risk areas then care should be taken to ensure the development is both safe and does not increase the risk of flooding elsewhere.

The NPPF indicates that local plans should be supported by a Strategic Flood Risk Assessments (SFRA) and should develop policies to manage risk from all sources, taking advice from flood risk management bodies, in particular the Environment Agency. The NPPF states that planning authorities should apply the precautionary principle when considering flood risk to locations of proposed development, using a risk based approach to avoid flood risk wherever possible and managing it elsewhere, applying the sequential test, and applying the exception test where necessary. Land that is required for current flood management should be safeguarded from development and opportunities offered by new development which have potential to reduce causes and impacts of flooding should be pursued.

SFRA have been undertaken for Didcot and the surrounding areas to support recent local plans and have been updated to meet the guidelines as appropriate. latest The 2007 SFRA included hydraulic and hydrological modelling of the Moor Ditch and Hakkas Brook systems to provide improved flood mapping for these catchments. An update was carried out in 2013 to collate information from different sources and updated information from the Environment Agency. This is the most recent SFRA at the time of producing this delivery plan and the recommendations from it are:

- Development should be sequentially located away from Flood Zone 2 and 3, and located in Flood Zone 1 where possible
- Development should be located away from small watercourses, but if development is necessary then a site specific flood risk assessment should be undertaken to understand the potential level of flood risk
- Development should not interfere with existing surface water flood risk or flow paths

Sustainable Drainage Systems (SuDS)

For the Didcot local area, South Oxfordshire District Council and Vale of White Horse District Council have the duty to ensure that fit for purpose SuDS schemes are delivered. The lead local flood authority, Oxfordshire County Council has taken on the role of statutory consultee. South Oxfordshire District Council's Local Plan 2032 proposes that any development taking place has to be on flood zone 1 land and permeable surfaces with SuDS incorporated into them according the climate change regulation and meeting prescribed standards of good design. A SFRA produced by the council should be used to determine the best approach depending on the requirement of each area. Vale of White Horse District Council's Local Plan 2031 establishes policies where national guidance alone is not sufficient to deliver the council's vision. All development will be required to provide a drainage strategy. Developments will be expected to incorporate SuDS and ensure that run-off rates attenuated to greenfield run-off rates. Higher rates would need to be justified and the risk quantified. Developers should strive to reduce run-off rates for existing developed

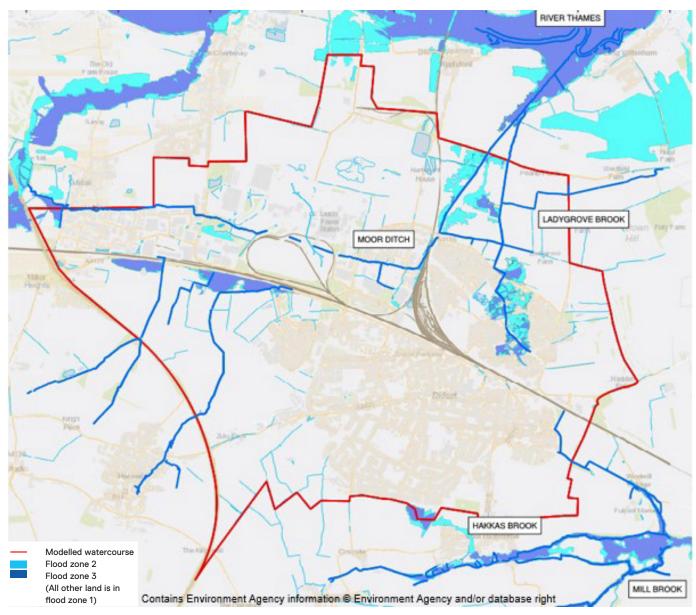


Figure 5.38 - Designated main rivers taken from the Environment Agency website.

sites. SuDS should seek to enhance water quality and biodiversity in line with the water framework directive.

Baseline information

In the north eastern quarter, Didcot is relatively flat at an approximate elevation of 55 metres above ordnance datum (mAOD). South of the railway line in the south east quarter, the elevation slopes to an elevation of 72mAOD before levelling out and forming a plateau. The north western quarter has a gradual slope from an elevation of approximately 55mAOD at the northwards railway line, to an elevation of approximately 60mAOD at the western extent, in the vicinity of Milton. The south western quarter is at approximate elevation of 58mAOD along the A4130, before rising to an approximate elevation of 80mAOD in the vicinity of the B4493. This means that generally, elevations increase from north to south and from east to west, with the north eastern quarter having the lowest elevation, and the south western quarter having the highest elevation.

There are two main types of bedrock geology in Didcot – calcareous sandstone and siltstone to the south and mudstone to the north. There are three main watercourse systems in Didcot:

- Moor Ditch covering the west and north west
- Ladygrove Brook covering the north east
- Hakkas Brook covering the south

All three are designated 'main rivers' by the Environment Agency. Historically, Didcot has had problems with flooding, although modern drainage has alleviated the some of the problems. The location of Didcot, lying at the southern edge of the River Thames floodplain with hills and slopes to the east and south makes the town prone to flooding. The area to the north of the railway line, on what is now Ladygrove Estate, was historically part of a marsh associated with the River Thames floodplain. The Romans did much to aid drainage in the northern area of Didcot, canalising what is now known as Moor Ditch in order to drain the marshy area.

Much of the historical flooding to the south of the railway line only occurred in the years 1970-1990. After 1990, the main areas that have experienced flooding are the industrial estate to the north west of Didcot town centre, and to the south of Didcot in the vicinity of West Hagbourne. The industrial estate to the north west of Didcot town centre is associated with the Moor Ditch floodplain, and flooding is believed to be related to new development both in this area and further upstream. As hydraulic modelling does not suggest flood risk, the flooding at this location may be as a result of culverts being blocked by debris. It is unclear why the area of West Hagbourne floods, although it is theorised that flooding is as a result of changing farming practices, leading to less infiltration of water into the ground, and hence more runoff. However, the importance of the Hakka's Brook is noted in relation to any future development south of Didcot and some further investigation may be required to confirm whether or not the brook will need to be upgraded, if further development takes place south of Didcot town centre.

Ladygrove estate in north east Didcot experienced flooding in July 2007, believed to be caused by backing up of the culverted Ladygrove Brook and sewer outfalls, worsened by poor maintenance and blockages from build-up of silt. In more recent times, in September 2016, Didcot Parkway railway station flooded. Heavy rain starting on the evening of the 15 September 2016 and continuing overnight until early morning on the 16 September 2016 led to flash flooding in Didcot and inundation of the station underpass, causing the north platform to become inaccessible to passengers. This occurred despite recent improvements to the station forecourt. This flooding was caused by increased surface run-off and high water table. The station and station subway are at a lower elevation than the land to the south, so water flows downhill and can inundate the station.

Impact of proposed developments

The garden town proposals will promote the opportunity to use SuDS as a means of reducing the flood risk to Didcot. SuDS features such as swales, green roofs, tree pits and rain gardens can increase the amount of visual and environmental benefits and can also positively affect water quality by providing an early treatment step. SuDS features also reduce flood risk by attenuation of surface water or rainwater and can result in less water going into surface water sewers which reduces the overall volume of water going to water treatment stations.

There are a number of development sites which are already consented. These have the approval of the relevant planning authority and the drainage strategies have been reviewed as part of the applications. In some areas there are potential opportunities for watercourse enhancements which would provide for some SuDS relief as well as improving the biodiversity of the watercourses. The Environment Agency is being consulted regarding these opportunities.

Strategic proposals

Flood risk

Improvements to drainage and flow of water in Didcot have been identified and separated into five main strategic areas for improvement.

Strategic area 1

The proposed development allows for green corridors to the north of the site, parallel to the A4130 on the south side. Proposed built development in the north of the site has been located away from areas of Flood Zone 2 and 3. However, the flooding extents are subject to change following updates to climate change allowances.

The proposed development has taken into account the presence of existing watercourses on the sites and green corridors have been maintained along these watercourses.

SuDS features will provide added value to the surface water management in this areas and will tie in with the landscape proposals along the gateway spine, as described in chapter 8. There are potential opportunities to improve the weirs, valves and culverts along the southbound drainage ditch and improve the connectivity between the culverts beneath the A4130 and the railway line.

Strategic area 2

There are areas designated as green infrastructure corridors that will eventually discharge into the River Thames. Restoring the rivers to their natural state will provide an important link to the River Thames.

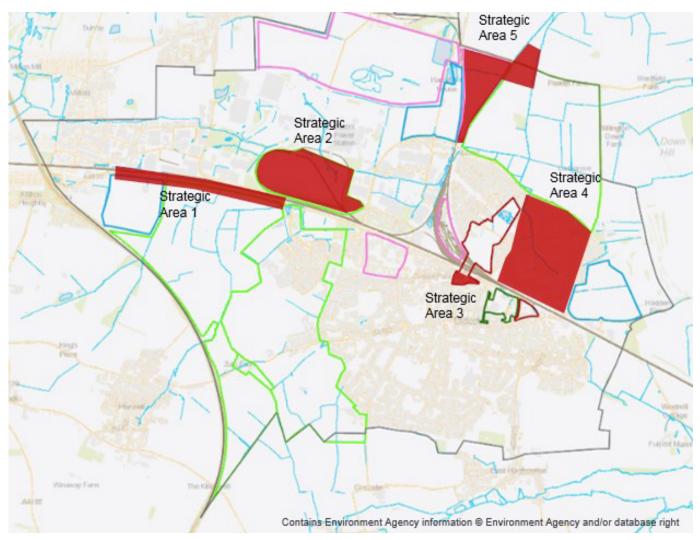


Figure 5.39 - Strategic areas for floor risk improvement

Strategic area 3

Didcot Station is of crucial importance for commuters living in Didcot and travelling to London on a daily basis, and disruption to travel caused by flooding of the station is not acceptable. Initial layouts of the south development show open green spaces where SuDS will be accommodated, though lack of available space may remain a constraint.

Strategic area 4

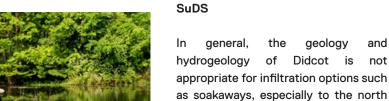
While there are options for improving flood risk in the Ladygrove estate area,

consideration of downstream effects must be taken in order to not exacerbate flooding issues downstream.

Strategic area 5

There are currently no plans for proposed development in this location. The route of Moor Ditch and Ladygrove Brook through this site has been identified as a green infrastructure corridor and it could potentially connect to the River Thames. Further description of what is proposed to the centre of the site in the vicinity of Ladygrove Brook will be required to assess vulnerability of the development. This would need to be assessed along with a potential Flood Alleviation Scheme.

The proposed development in this area has taken into account the presence of watercourses on site and does not disrupt their route. During detailed design this will need to be granted. The proposed development has taken into account areas of Flood Zone 2 and 3 and has located built development away from these zones. A small area of leisure centre sports pitch is in Flood Zone 3, however national planning policy permits 'less vulnerable' development to be located in this zone.



Possible options for SuDS include the following:

of Didcot where water levels are high.

the

geology

of Didcot is

- Detention and wetland areas
- Permeable paving
- Green and brown roofs
- Tree pits
- Swales



Swale at Waddesdon Manor

Wetland



Permeable paving



and

not

Opportunities

There is potential to improve the flooding issues in several areas of Didcot. A maintenance management plan and regular cleaning of culverts, gullies (drainage assets of the county council, district councils, and Network Rail) would remarkably improve some of the pluvial and fluvial issues in Didcot.

Improvements in the surface and foul sewer Thames Water networks might also improve some of the flooding issues in Didcot.

Potential opportunities for SuDS have been identified for Didcot. The adequacy on the selection of the different features will depend on the geology and existing land use conditions. The use of SuDS attempts to mimic the existing flow regime of the undeveloped thus reducing the impact of the new developments on the hydrology of the undeveloped catchment. With regards to land uses, it is deemed appropriate that ponds and swales (features that require a bigger land take) are proposed in greenfield sites whereas permeable paving, tree pits green roofs and brown roofs would be considered more appropriate in more urbanised areas of the town.

It is highlighted that a consistent approach should be provided to developers in the future in terms of design criteria for the climate change allowances to consider for rainfall, as well as the discharge limitations when designing SuDS.

Thames Water has identified that could have issues for the existing surface water infrastructure to accommodate the discharge flow produced by runoff on the new developments. They shall be consulted at an early stage to ensure that sufficient capacity is available in the existing drainage system, and agreeing the discharge rates.

Example of a green roof

5.4 Social infrastructure

5.4.1 Introduction to social infrastructure

Social infrastructure provides everyday services to the local community, examples include schools, healthcare facilities and community buildings. Didcot is changing and growing. Its population at the time of the last Census (2011) was just over 25,000 people¹. With plans for in the region of 15,000 new homes to be added to the town in the next 15 to 20 years, that population is expected to grow by approximately 37,000 people.

The new communities brought to the area by these new homes will require facilities and services to meet their day-to-day needs - this includes schools, healthcare, leisure and retail facilities. The timely provision of new facilities will be vital to ensuring that additional residents do not overburden existing facilities. New infrastructure will need to complement existing facilities rather than compete with them and be provided in a way which enhances the quality of life for existing residents as well as new ones. These facilities will help deliver walkable, social and vibrant neighbourhoods and enable people to have choices in regards to their health and well-being, their education and how they spend their free time.

The Garden Town masterplan provides an overview of how Didcot could look in 20 years time. It considers how the town will function as one entity rather than a collection of communities that do not relate to one another.

Planning for social infrastructure provision is complex for a number of reasons. Firstly, it is important to time the provision of facilities carefully, both to avoid over-burdening existing provision or undermining through competition/ over-capacity. This can be made difficult by fluctuations in housing delivery rates which can be influenced by external factors, particularly the economic and political climate. Secondly, many public

services are planned and funded on relatively short-term cycles of up to three years compared to a 15 to 20 year planning and development time-scale. Thirdly, other important facilities such as culture and leisure are partly driven by demand and there are no standard benchmarks for the level of provision that should be planned for.

The planning and delivery of facilities is also influenced by how development comes forward, whether in largemasterplanned scale communities or through smaller in-fill sites and everything in between. The c.15,000 new homes planned for Didcot are expected to come forward in a number of settings including as significant strategic extensions to the town (such as at Great Western Park, North-East Didcot, Valley Park and Ladygrove East) and also as smaller pockets of development (such as Gateway South or the former Didcot power station dite).

The larger, strategic sites (in some cases delivering several thousand homes) will generate significant demand for facilities and will be expected to mitigate that demand in full – either through on-site provision of facilities or through financial contributions to improve and expand nearby facilities.

The smaller sites may not, when considered in isolation, generate sufficient demand to justify the

provision of on-site facilities. However, when assessed alongside other smaller schemes, the cumulative demands can place significant pressure on existing services if not anticipated and closely monitored. In these cases, it is usual practice for the local planning authority to require a section 106 payment to go towards the improvement and expansion of a nearby facility(ies). However, with the introduction of 'pooling restrictions' on section 106 payments as a result of the Community Infrastructure Levy (CIL) regulations in April 2016, the ability of a local authority to collect monies for a particular infrastructure project is limited to just five payments. Therefore, if for example, there were proposals for a school to be expanded to meet additional demands arising from a development, the local authority would need to ensure it was able to generate a sufficient level of funds from no more than five developments or else face a potentially significant funding gap on the project.

This is a challenge which many local authorities are facing. In Didcot, the challenge is more difficult given it sits on the boundary of two local authorities – South Oxfordshire and Vale of White Horse District Council. Whilst the majority of Didcot's existing built up area is within South Oxfordshire District Council, a significant proportion of the new housing proposed for the town is within the Vale of White Horse District Council boundary. This indicates the need for close working arrangements between both district councils.

This section of the Didcot Garden Town Delivery Plan looks at a range of education (primary and secondary), healthcare and cultural and leisure facilities. Where they exist standard benchmarks have been applied to identify the level of provision that is likely to be required to meet the needs of the growing population. A comparison exercise has also been undertaken looking at settlements of the size that Didcot is likely to become and identifying potential gaps in the provision of cultural and leisure facilities. There is then commentary on how the masterplan responds to the needs identified (including development sites that are already being developed or in the planning pipeline).

This work has been informed through a range of data analysis, desktop research and engagement with the local communities and key stakeholders. A number of consultation events have been held to facilitate public feedback on the garden town masterplan as it has evolved. A number of meetings and interviews have also taken place with key stakeholders within the education, health and leisure community including school leaders, the county council and healthcare providers.



Cornerstone Arts Centre © South Oxfordshire District Council

5.4.2 Education

Didcot is currently home to several primary schools (see Figure 5.40), three secondary schools and UTC Oxfordshire (see Figure 5.41). The majority of these schools are achieving excellent standards of education provision.

Based on analysis of Annual Schools Census data, there is assessed to be capacity across these schools to accommodate some increases in demand over the short term. In the longer term, more capacity will be required at both primary and secondary level. Delivery of any new capacity should be carefully phased and planned so that existing schools are not undermined.

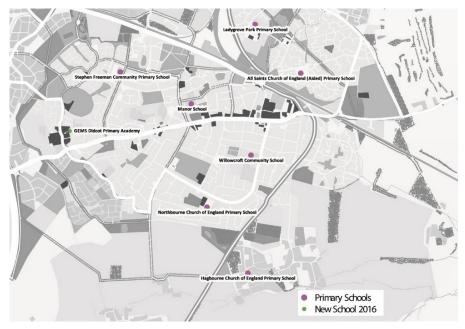


Figure 5.40 Existing primary schools in Didcot

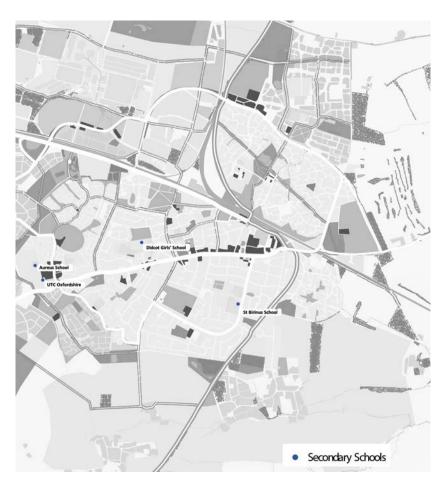


Figure 5.41 Existing secondary schools in Didcot

Delivering education

Planning for education has changed significantly in recent years. Whilst the responsibility for ensuring that there are school places for every child remains with the relevant authority (in this case, Oxfordshire County Council), the ability for that authority to control the delivery of new schools and new school places has diminished. There is now a presumption in favour of academies and free schools which means that academy operators and community/ parent groups are able to apply directly to the Secretary of State (via the Department for Education and the Education Funding Agency) to open a new school and do not need permission from the authority to open (apart from the necessary planning permissions). Multi-Academy Trusts (MATs) have a fast-stream application process. If an authority needs to open a new school it must identify an academy/ free school operator to run it. The authority can only open a new school itself if no academy or free school can be found.

As part of the work to inform the Garden Town Masterplan, a high level review was undertaken to understand the level of demand for school places arising out of planned housing growth and to identify whether sufficient new facilities or section 106 contributions have been planned to enable these demands to be mitigated. A total of seven new schools (six primary and one secondary) are proposed as part of consented and pipeline development in Didcot. There are also proposals to expand several existing primary schools to provide additional forms of entry to meet demand.

The outcome of the review suggests that overall there will be a sufficient number of school places available to meet anticipated need through existing plans for new schools or contributions towards off-site facilities. However, what did become clear through the review was that several of the smaller sites, which do not in themselves generate sufficient demand to support a school building on their site, rely on the delivery of new school premises on nearby strategic development sites. This will require monitoring and jointworking by Oxfordshire County Council, South Oxfordshire and Vale of White Horse District Councils with education providers and landowners to ensure school places are provided in the right places and at the right times.

The garden town masterplan does not include additional school sites beyond those planned. If housing numbers increase significantly (e.g. as a result of new development sites being identified or an intensification of housing development on identified housing sites) then additional school provision may need to be planned for. This situation will require monitoring by the county council and the local planning authorities.



Students at UTC Oxfordshire

5.4.3 Healthcare facilities & healthy active lifestyles

According to NHS Choices data, there are currently three GP surgeries (Didcot Health Centre, Woodlands Medical Centre, Oak Tree Health Centre – all of which are purpose-built facilities), five dentists, seven pharmacies, three opticians, and a community hospital located within Didcot (see Figure 5.42).

As with education, planning for healthcare facilities is often complex, involving a range of stakeholders and subject to changing funding and organisational structures. It is generally accepted that healthcare facilities such as dentists, pharmacies and opticians tend to be provided by the market depending on the level of demand in an area. GP provision tends to be driven more by population numbers and is the responsibility of Clinical Commissioning Groups (CCGs).

Didcot is covered by the south west locality of the Oxfordshire CCG (OCCG). Based on discussions with OCCG, it is understood that current GP facilities in Didcot are expected to reach full capacity in 2018/19. There is recognition of the demand for facilities arising from the growing resident population of Didcot. Part of the response to this has included the expansion the existing Woodlands Medical Centre to provide six new consulting rooms as well as some ancillary facilities. With c.15,000 new homes and a further c.37,000 new residents, Didcot will need to plan for additional GP services. Based

on standard benchmarks, this new population could generate demand for approximately 18 GPs.

The councils are currently seeking to agree plans for a health centre at Great Western Park. A section 106 obligation required the developer to make available a site suitable for the delivery of a health centre that could accommodate a minimum of four GPs and pay the capital costs of that facility. However, since that section106 Agreement was signed, the model of GP service provision in Oxfordshire and across the UK has changed. As a result, that facility is no longer anticipated to be preferable for OCCG to run.

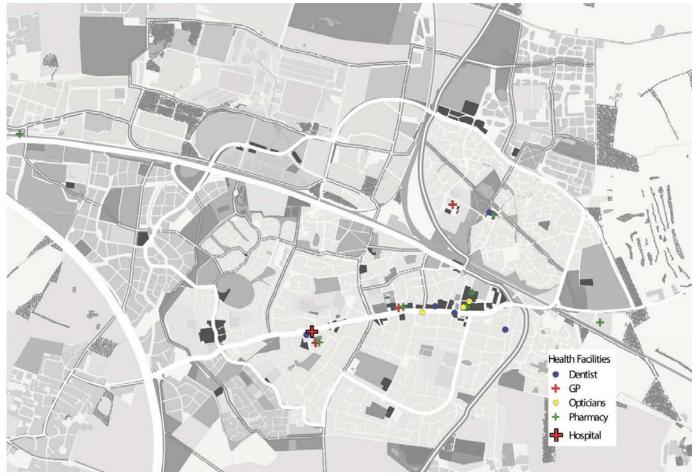


Figure 5.42 Existing healthcare facilities in Didcot

At the date of publication of this report, it is understood from OCCG that discussions are in progress between OCCG, NHS Property Services, the developer and the councils to secure a healthcare facility on the GWP site that the NHS is able to make a long-term commitment to. Such a facility would be expected to serve not just the needs of communities at GWP but across a wider area too.

A review of other planned development sites across Didcot suggest that there are no plans for any other new GP provision although this may not be necessary should on-going discussions regarding the facility at GWP lead to a sustainable solution. The local planning authorities should look to engage closely with OCCG and early in the planning process in order to ensure requests i.e. those that meet the Regulation 122 tests for developer contributions can be met. There is also a need for those bodies to work closely together in updating the Infrastructure Delivery Plan (IDP) which informs the Community Infrastructure Levy (CIL) charging schedules of the local planning authorities. This will ensure that where additional facilities are required, their cost is taken into consideration when identifying the overall cost of infrastructure required across the district.

The need to provide services to meet the needs of the UK's growing elderly population is well recognised by OCCG. OCCG has ambitions to promote the concept of 'supported housing communities', a number of which are currently operational in mainland Europe and North America. These villages essentially provide an alternative to standard nursing/ care/ residential home provision for people suffering from dementia. Support housing communities are effectively adapted environments that allow dementia sufferers liberty to come and go at will but in safe surroundings (see Appendix I). Again, this is a longer term project that the garden town masterplan is seeking to provide the flexibility to enable.

Delivering primary healthcare

As with education, planning for healthcare facilities is often complex, involving a range of stakeholders and subject to changing funding and organisational structures. It is generally accepted that healthcare facilities such as dentists. pharmacies and opticians tend to be provided by the market depending on the level of demand in an area. GP provision tends to be driven more by population numbers and is the responsibility of clinical commissioning groups. However, the garden town team will work with the clinical commisioning groups to improve quality of local health services, to match other improved infrastructure provision.



Children running at Berks, Bucks & Oxon Wildlife Trust Sutton Courtenay © Ric Mellis

5.4.4 Cultural and leisure facilities

Didcot is home to a range of existing cultural and leisure facilities. There has been significant recent investment in the Cornerstone Arts Centre, the Orchard Centre (phase one and two) and Cineworld. The town also has three leisure centres, Didcot Railway Centre, a library, a civic hall and a variety of community facilities.

Facilities such as these – along with new provision – are crucial to supporting a high quality of life that will ensure people want to live, work and invest in Didcot. Without them, the town will struggle to achieve its full potential as a high quality living environment for both existing and new residents.

Unlike the provision of statutory public services like education and healthcare, there are no clearly defined benchmarks of what number, type and scale of cultural and leisure facilities are required to support a population of the size that Didcot is currently and the size that Didcot will grow to in the next 15 to 20 years. Some provision has historically been driven by the public sector but is increasingly driven by the private and voluntary sectors depending on viability and needs.

Local planning policy and evidence base documents suggest that when Didcot is compared to other settlements in the local area it has a relatively low amount of facilities for its population size.³ There is also recognition of the need to expand the retail offer of the town centre to include more comparison retail including independent shops and bars, restaurants and pubs.⁴

A number of comparator towns have also been studied to consider current and potential future gaps in provision to be identified (see Appendix H). These gaps have focused on facilities that provide an exciting and vibrant environment where people want to live, work, and visit. The comparator towns were selected on the basis that their resident population is of a similar size to the level at which Didcot is currently at and also the population number it is anticipated to reach in 20 years time.

This analysis highlighted that Didcot could benefit from a range of additional or enhanced provision including:

- Expanded retail offer including specialist/ independent/ boutique shops
- Improved night-time economy offer

including bars, restaurants, pubs

- More cinema screens
- Enhanced library provision
- Enhance leisure offer
- · Commercial leisure e.g. private gyms
- Gallery space
- Hotel accommodation (and associated facilities such as conference space, spa facilities, gyms)
- Additional community spaces (potentially co-located with other new facilities)
- Increase the range of cultural/ heritage attractions – potentially relating to the military presence in Didcot, a learning resource focused on Didcot's role in energy generation etc



© South Oxfordshire District Council

3 South Oxfordshire District Council (June 2016) settlement assessment background paper

4 South Oxfordshire District Council (May 2016) South Oxfordshire District retail and leisure needs assessment

- Higher education or additional further education presence⁵;
- Destination attractions e.g. climbing centre, sculpture park, urban farm, measured walks and jogging trails throughout the town, cultural route through the town and surrounding area etc

A number of these facilities are expected to be delivered by development sites that are already permitted or in the planning pipeline. For example, there is a potential opportunity for a new leisure centre to be provided as part of the North East Didcot site and the Orchard Centre phase two will provide an opportunity to further expand Didcot town centre's retail offer.

A review of proposed development (both consented and pending determination) across Didcot shows that a number of sites are providing floorspace that could be used to accommodate smallscale community facilities particularly where they are of a scale which requires provision of 'local' or 'neighbourhood' centres to serve the day-to-day needs of new communities. A number of the larger strategic sites are also expected to make financial contributions to enhance existing facilities in the Didcot including: Didcot Library, Didcot Day Centre and Didcot Wave. During the public consultation exercise for the delivery plan it was suggested that the possibility of providing a running track in Didcot be explored further. This will be incorporated into a proposed 'cultural, leisure and recreational provision study' for the garden town.

There is also likely to be a need for the council to update its own evidence base documentation and commission studies to identify demand for specific facilities. This will require joint working with existing stakeholders, organisations and strategic partners including Sport England.



© South Oxfordshire District Council

5 Abingdon and Witney College is currently based in Abingdon but may consider the option of opening a Didcot-based satellite campus in the longer term to meet demand expected to arise from the growing population. The college is keen to establish a presence once again in the town potentially through a training facility in/close to the town centre

5.4.5 Masterplan response

The masterplan for the garden town shows how Didcot could look spatially once proposed housing and economic growth has taken place and seeks to define a role for different parts of the town and how they then relate to one another. The different components of the town and how these could respond to different infrastructure requirements are set out below.

Didcot town centre

The masterplan envisages the expansion of the town centre to support the completion of the Orchard Centre project. This could involve the development of the Rich's Sidings site which is adjacent to Orchard Centre (phase two) to provide a mix of uses including offices, small retail units, and new homes. A mixed development in this location will help to further animate the area by providing non-residential ground floor uses. Providing office floorspace in this location also fits with the economic strategy to encourage more commercial activity in the central core of Didcot. Introducing new homes to this part of the town, will increase the resident population of the town centre which will be vital in achieving the critical mass needed to support a greater range of shops, bars and restaurants. The town centre has also been identified as an appropriate location for a new cultural centre adjacent to a new public space that would complement the existing offer of the Cornerstone Arts Centre. Further studies will be required to identify an occupier for that space.



Enhanced retail offer © VS-B

Didcot Road, Wantage Road and Broadway - Cultural Spine

The garden town masterplan seeks to strengthen the role of the east-west route formed by Didcot Road, Wantage Road and Broadway. A number of Didcot's key community facilities are already located along this route including Didcot Library, Didcot Civic Centre, Didcot Health Centre, and Didcot Community Hospital. It is envisaged that footfall along this route could be enhanced by a series of new cultural features and public space improvements to make that route more attractive to users. The nature of the cultural features along the route are yet to be confirmed - different opportunities are likely to be identified over the delivery plan period - but could include a new cultural centre (identified as part of the expanded offer in the town centre), a new public open space (Didcot town square), café associated with the allotments that are currently located along the route, and public art.

North East Didcot - health and wellbeing

The vision and principles guiding the masterplan for Didcot Garden Town have health and well-being at their core (see healthy active living below).

The masterplan intends to create a health and well-being 'hub' focused around the North East Didcot development which will see the delivery of up to 1,880 new homes. The site may also be the location for a new leisure facility for the town. The site will become an integral part of the Garden Line that will provide a northsouth route dedicated to sustainable modes of transport such as cycling, e-bikes and potentially autonomous pods for mass transport. This route will not only make clear connections between Didcot, Culham and Harwell, it will also provide direct links to the countryside beyond the town's boundaries at Long Wittenham and also the Mowbray Fields Nature Reserve.

The provision of high quality public open spaces and a clearly defined green infrastructure network will also play a significant role in encouraging people to get active outside whether that be through walking, jogging, using trim trails or gardening. Green infrastructure is considered in chapter 8 of this delivery plan.

Other specific projects relating to health and well-being include identifying suitable locations for new GP provision and a community hospital as more details of the specification of these two facilities becomes available and investigating the potential to utilise science and technology through 'smart' solutions for the benefit of people suffering from specific health issues. This aspect is considered in Chapter 7 of this delivery plan.

Gateway South - public space and culture

The area surrounding Didcot Station is recognised as being vital in influencing perceptions of the town. It is important that this 'arrival space' communicates what a vibrant, high quality, well-connected and innovative place Didcot is and entices people to explore further by providing clear signposting to other parts of the town – in particular the town centre. As such, the masterplan identifies a number of potential 'opportunity sites' including Gateway South.

Gateway South, is already the subject of an existing planning permission but there is an opportunity to revisit and optimise this in light of the garden town objectives. Therefore, the masterplan proposes that this site should deliver – in addition to new housing – a new arrival square immediately in front of the station building, a new facility for



Links to green infrastructure © South Oxfordshire District Council

Didcot Railway Centre and potentially an exhibition/ business/ events space which could complement the existing offer at the Cornerstone ⁶.

Local and neighbourhood centres in new developments

As noted earlier in this chapter, a number of the planned extensions to Didcot propose local, district and/ or neighbourhood centres. Typically, these centres are planned to potentially provide a range of small-scale retail units and community facilities to meet day-to-day needs of residents. Although the majority of these sites are at the outline stage of the planning process and are, therefore, subject to change, a list of the centres they propose and their content is provided below:

 Great Western Park – two neighbourhood and one district centre comprising of local shops and community buildings

- North East Didcot one neighbourhood centre approximately six units to accommodate shops, cafés, restaurants and a pub, crèche/ day nursery, hotel and community hall
- Valley Park two small local centres (north and south) – content yet to be defined
- Ladygrove East no defined centre but could potentially provide a new primary school and community centre (to be confirmed – this is based on an exisiting permission)

These hubs are not intended to compete with Didcot's main town centre but rather to enable localised provision of facilities that new and nearby existing communities require on a day-to-day basis. The role of the main town centre is to provide a more strategic function and facilities that require critical mass to support them.

6 Gateway South could potentially be considered for this

Healthy active living

One of the aims of the Didcot Garden Town masterplan is to create a place which provides people with the opportunities to make healthy lifestyle choices regardless of age, gender or income group. There are a number of features of the masterplan and delivery plan that could help to achieve this:

- Ensuring that key facilities and areas of employment are accessible by one of more of the following: by foot, bicycle and/ or public transport
- Reducing health inequalities through addressing wider determinants of health such as through the promotion of good quality local employment, affordable housing, environmental sustainability and

education and skill development

- Securing provision of health facilities so that people can get medical help when they need it to address health issues
- Providing convenient and equitable access to local healthcare services and social infrastructure
- Providing convenient and equitable access to a range open space and natural environments providing opportunities for informal and formal recreation for all age groups
- Providing opportunities for people to buy locally-sourced, healthy, fresh food
- Creating safe, accessible and well-designed built environment that encourages social interaction for all demographic groups including older people, vulnerable people, low

income groups and children

- Embracing the Smart Cities agenda by encouraging the incorporation and future-proofing of technology and innovation that improves health outcomes across a range of areas
- Working with stakeholders such as Sport England to maximise the opportunities for incorporating healthy active features and concepts within the town
- Considering the potential of co-locating existing and new community facilities to ensure their long-term sustainability and to bring different community groups together
- Providing high quality natural spaces, which is discussed further in chapter 8.



Opportunities to buy fresh, healthy, locally-produced food

5.4.6 Conclusions

Didcot Garden Town will see significant growth and change over the coming decades. For the garden town to achieve beneficial outcomes for the people who live and work there, it must be a place which provides a high quality of life. In the context of social infrastructure, this means ensuring the facilities that people need are available and are accessible, giving people a choice of facilities and the ability to walk or cycle safely to the facilities they need on a day to day basis and providing people with the opportunities to live healthy and active lifestyles.

It is important that the town grows into a whole rather than a collection of separate places. The Didcot Garden Town masterplan provides an overview of how the town could develop, taking into account the sites that already have planning permission or have existing proposals associated with them.

The development that is already planned for the town will deliver a range of community, education, cultural and leisure facilities – all of which are required to make the garden town a vibrant and enjoyable place to live. The Didcot Garden Town masterplan seeks to ensure that where there are gaps in current and future provision, that there is the opportunity and the flexibility to enable those things to come forward.

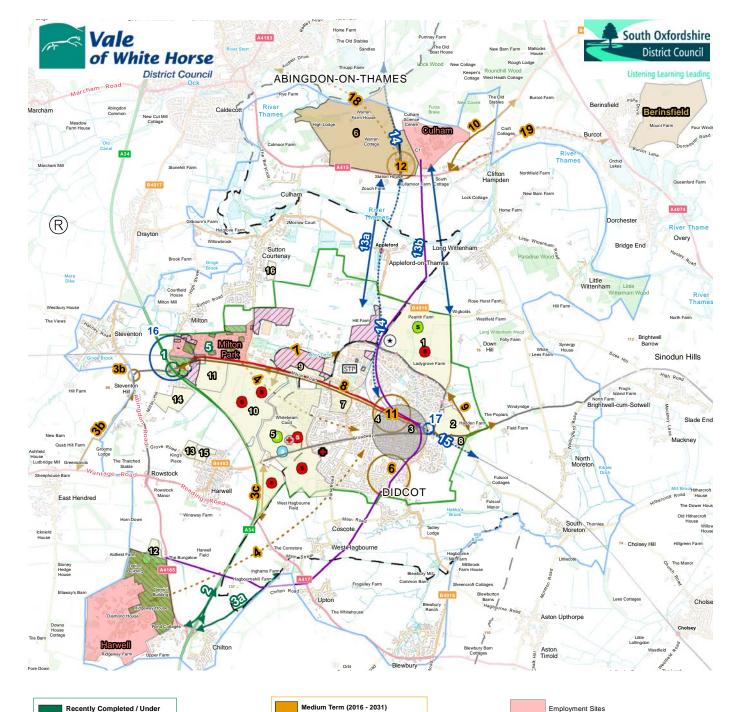
Figure 5.43 shows the extent of new infrastructure required to implement the delivery plan, and deliver over 15,000 new houses.

Recommendations

- · Joint working between the local planning authority and stakeholders (such as OCCG) to ensure their needs for new facilities in Didcot are taken into account through the plan-making and decision-taking process - key activities could involve identifying a robust formula for basing requests for section 106 payments to fund facilities and/ or considering the financial requirements of new facilities through Infrastructure delivery plans to allow the cost of these facilities to be reflected in future CIL charges for the town
- Monitoring of housing delivery to ensure that social infrastructure required to mitigate the demands from those sites is provided in time. This is particularly important where sites are relying on off-site provision from other new developments or where an expansion of an existing facility is necessary
- Joint-working between the local planning authority and OCCG and NHS England to identify an appropriate site and agree a brief and specification for a new strategic health centre
- Exploring the potential for additional innovative/ pioneering ways of providing residential accommodation for the elderly
- Feasibility study and discussions with providers to consider the potential to accommodate a higher/ further education institution at Didcot
- Promote town-centre living by introducing/ encouraging additional residential development
- Work with Sport England to update councils evidence base documents in relation to sports

and leisure facilities and to identify opportunities for healthy active living within new developments

- Commissioning further studies into the need for cultural, leisure and recreational facilities in the town. Studies identified to date include:
 - Opportunities for commercial leisure and professional team provision in Didcot
 - Opportunities for an integrated approach to health and leisure
 - Ways of working with developers to encourage 'age-friendly' design
 - Opportunities for an annual programme of Didcot-based cultural events e.g. festivals, markets, conferences etc.



Recently Completed / Under Construction (2016-2026)

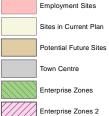
 1) Milton interchange junction improvements
 2) Chilton interchange junction improvements
 3a) Access to Enterprise Zone area: Hagbour
 5) Backhill Lane cycle / pedestrian scheme ne Hil

Long Term (2026 - 2031)

13a) New Thames crossing 13b) New Thames crossing 14) Four Tracking Railway between Didcot and Oxford 15) Railway junction grade separation, East of Didcot

Not currently planned or set out in the the existing LDP 16) Milton Interchange - North Facing Slips directly Inking A34 and Milton Park 17) Proposed relocation of Didcot Parkway Station

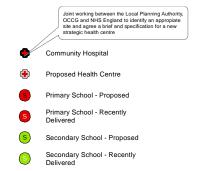
3) Access to Enterprise 20ne area: Featherbed Lane and Steventon Lights Sc) Access to Enterprise 20ne area; Har 4) Cycle network improvements 6) Sustainable Transport Package: Cycle route maintaince and improvement 6) Sustainable Transport Package; Cycle route maintaince and improvement 7) Didots Science Bridge A4130 capacity 8) Central Didott ransport corridor 9) Didott optimer nerimater and 8) Central Didoct transport comdor
9) Didoct northerm perimeter road
10) Access to Culham Science Centre
11) Didoc Parkway Station interchange
12) Culham Rai Station improvements
13) Culham to Abingdon cycle route
19) Culham to Berinsfield cycle route
19) Culham to Barinsfield cycle route
19) Cul

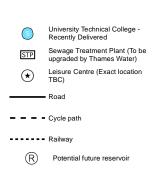


Potential opportunity to increase the number of homes emerging at the below sites to be explored further through the South Oxfordshire District Council's emerging Local Plan

	Site	Bid doc	Updated position	Status
	1. North East Didcot	2,100	2,030	Resolution to grant for 1,880 and remaining allocation
hire	2. Ladygrove East	700	642	Allocation for 642
ords	3. Rich's Sidings	300	400	Allocation for 300
South Oxfordshire	4. Gateway South	300	400	Resolution to grant for 300
	5. Great Western Park	3,500	3,300	Consented
	6. Culham No. 1		500*	Proposed allocation
	7. Vauxhall Barracks	400	300*	Allocation for 300
	8. Hadden Hill		74	Consented
Both	9. Didcot A	400	400	Resolution to grant
	10. Valley Park	4,300	4,254	Resolution to grant
lse	11. North West Valley Park	800	800	Allocation
P	12. Harwell Campus	1400	1000	Proposed allocation
hite	13. Harwell Village		100	Proposed allocation
of ∨	14. Milton Heights	450	458	Application pending
Vale of White Horse	15. West of Harwell	200	207	Consented
	16. East of Sutton Cour- tenay	200	200	Application pending
	Total	15,050	15,065	







6. Delivering a wider choice of homes

Housing is an important issue for local people who want a home to suit their needs and for businesses who must attract and retain staff. Housing was identified as an important concern during the community engagement process and this chapter looks at ways to respond to concerns, providing a better range of homes to rent or buy.

6. Delivering a wider choice of homes

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6.1.1 Housing for the future

Good quality housing is the foundation of a garden town. The right type of housing will support people at each stage of their life, offering young people a first home of their own, families a place to grow and older people different options to meet their needs. Housing is also key to a successful economy, businesses need enough homes at prices their staff can afford.

In the past Didcot has been successful in delivering new homes but these have not met everyone's needs or expectations. There is now an opportunity to build on work to date, introducing a greater variety of types and tenures and new design standards linked to the garden town objectives.



Trent Basin © Blueprint Trent Basin

6.1.2 Types and tenures of homes

Local policy

The housing market across the region was reviewed in April 2014 via the Oxfordshire strategic housing market assessment. The document provides a useful indication of housing need and identifies that between 2011 and 2031 around 775 new homes are required per year in South Oxfordshire District Council area and 1,028 per year in the Vale of White Horse District Council area.

Within the Vale of White Horse District Council area the recently adopted local plan seeks to achieve 35 per cent affordable housing, split between 75 per cent social/ affordable rented and 25 per cent intermediate. The emerging policy in the South Oxfordshire District Council Local Plan specifies 40 per cent affordable housing, split 75:25 between social rent and intermediate (though it is understood that affordable rent will also be incorporated as this tenure has been delivered alongside social rent since 2011).

South Oxfordshire and the Vale of White Horse District Councils regard affordable housing as a critical element of the housing mix and this is reinforced by the councils' emerging Joint Housing Delivery Strategy, which is expected to be adopted by both councils in December 2017.

National guidance

The recently published housing White Paper 'Fixing our broken housing market (2017)' sets out the government's plans to reform the housing market and boost the supply of new homes.

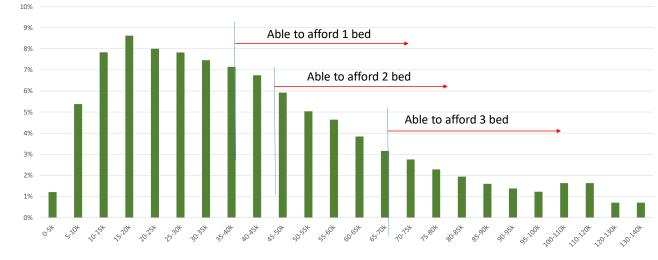
A central aim is to diversify the market by supporting custom-build homes with greater access to land and finance, encouraging more institutional investors into housing, including building more homes for private rent and continued support for affordable home ownership through starter homes and shared ownership.

Housing issues within Didcot Garden Town

Whilst the district councils' policies are useful, they are not necessarily aligned to the specific needs of Didcot Garden Town. Local people, businesses and other stakeholders have expressed a range of views on housing, recurring themes are:

- New build homes are often of a very standardised design which can be uninspiring
- Businesses find that a shortage of good quality housing is discouraging potential new staff
- There is a problem with affordability, both for local families and younger people moving to the area
- Older people or others with specialist needs have few options, resulting in some needing to move a long distance to suit their needs
- There is a general shortage of homes
- Urban apartments of good quality and with amenities are not available

Concerns about affordability are supported by analysis of household income data. Figure 6.1 indicates the proportion of households in each income band, annotated with the minimum income typically required to buy a one, two or three bedroom home. The calculations assume a 10 per cent deposit and that no more than 40 per cent of a household's net (after tax) income is spent on housing.



Didcot 4 Central wards household incomes

Around 47 per cent of local households would be able to afford a one bed home on the open market, with around 24 per cent able to afford a two bed and 17 per cent a three bed home. However, many households also find it difficult to save up for a deposit which typically ranges from around £19,000 to £34,000 for these property types. There are, of course, many households who already own a home but it is clear that affordability for many existing and newly forming households is an increasing problem.

Aside from affordability, other issues arising specific to the Didcot housing market include the following:

Bedspaces: the council's 2016 waiting list indicates that of people wishing to move to affordable housing in Didcot 47 per cent require a one bed home and 38 per cent a two bed home. Although there is a large demand for one bed homes, those under 35 on the housing register will only be permitted to receive a 'room rate' if they are on housing benefit. These people are therefore likely to increasingly need 'shared housing'. This is an issue recognised by the councils' housing team.

- Private rent: Didcot has slightly lower levels of private rented accommodation than national averages (15 per cent compared to 17 per cent). Overcrowding in private rent is relatively high at 7 per cent and rents have started to increase more steeply from 2014 indicating pressure on supply.
- Older people: between 2016 and 2032 the number of people over 75 in Didcot will grow by 76 per cent. Across South Oxfordshire and The Vale there is likely to be a need for around 5,700 additional specialist elderly accommodation places.

Local authority housing waiting lists

 Housing register: both district councils have experienced sharp increases in the size of their housing register since 2014, rising from around 3,500 households in each district to 4,000 in 2016. Figure 6.2

"Rapid growth across the high-tech sectors drives a need for rental and short-let apartments in a vibrant town close to Harwell, where it is then also easy to move into a larger apartment or house for rent or purchase. Only Didcot is large enough and close enough to meet this need."

Alan Brunstrom, Liaison Officer, European Space Agency

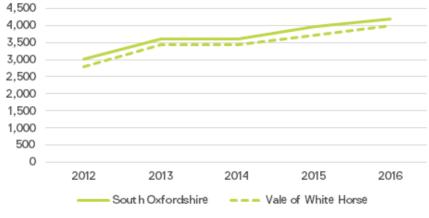


Figure 6.2 - Local Authority housing waiting lists. source: DCLG live table 600



Gilston Park Estate

Community engagement process: concerns

"More housing and affordable housing is needed"

"Development in Didcot should be taller to create a critical mass of people"

"The proposed housing should be sympathetically integrated into the Didcot environment"

Lower level apprentices and workers are on good career paths but have a problem finding affordable housing that meets their requirements"

"New houses must be high quality and eco efficient"

"There is a need for significant housing development in the town"

Wider range of housing options

The proposed approach to housing balances consultation feedback, the outcomes of data analysis and wider delivery plan objectives such as supporting the science sector. With this in mind it is proposed that development within the garden town consider a much wider range of housing types than those currently delivered.

The full range of housing types is indicated in figure 6.4. There are a range of tenures for rent and for ownership in the affordable and private sectors as well as more specialist housing forms. Figure 6.5 overleaf also indicates examples of what types of housing may be appropriate for different households.

Higher density development will also be encouraged around transport nodes in order to encourage sustainable development; these higher density developments will include cycle parking and may include basements for car parking.

The garden town team has worked with technology professionals to understand how smart solutions can be integrated within the garden town. Housing was identified as a key area that can benefit from technology.

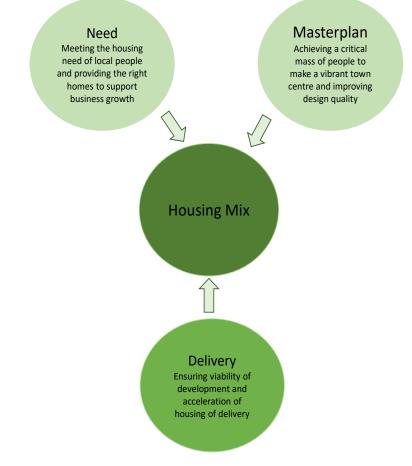


Figure 6.3 - Drivers for the housing mix

Equipping properties with the latest 'smart homes' equipment would increase convenience for occupiers. There is also the potential to implement local electricity generation and battery storage solutions. These energy technologies would provide homes with cheap clean energy, saving occupiers money. For those in need of care, technology can be used to allow more people to live independently in their own homes, in partnership with care providers. Further details on technology solutions proposed for the garden town are provided in Chapter 7.

Housing type	Notes
Build to rent	Homes which can include houses or apartments which are purpose built for private rent, managed professionally with on-site maintenance and amenities such as a gym, dining room, roof terrace, parcel/ grocery delivery storage and concierge. Blocks are an attractive asset to long term investors such as pension funds who will maintain and improve them over time.
Intermediate rent/living rent	Generally let at between 50 and 80 per cent of market rent and benefiting from the same amenities and quality as build to rent. In some cases homes can be prioritised for certain groups such as key-workers or those employed in certain roles at a nearby employment hub. Often these groups would not easily access housing from the council's standard waiting list as they would not be in a high priority band.
Starter homes*	Homes for sale at a 20 per cent discount to the full market value and available to those between 23 and 40 years old. Provided the purchaser lives in the property for a set minimum period the discount does not have to be repaid. The maximum discounted price is £250,000.
Market sale	Traditional market sale homes.
Rent to buy/ shared ownership	Part buy, part rent schemes for those unable to afford full market value. Rent to buy allows a period of renting and saving for a deposit before moving to ownership. Shared ownership involves buying an initial share and increasing this over time.
Affordable rent	Homes for rent at up to the local housing allowance level or 80 per cent of market rent to those on the councils' waiting list.
Self/ custom build	Serviced plots of land for those who want to build their own homes or have more influence over the design. The extent of involvement can range from full self-build to self-finish and homes can be for affordable rent, intermediate or sale.
Extra care/ Older living	A range of housing types for older people, this can include over-55s housing for those wishing to down-size but not requiring any support or extra care housing for those wishing to have their own front door but some level of support on site. Dementia care facilities may also be suitable for those with high care needs.
Specialist housing	Housing suitable for people with mental health or learning disabilities. People can receive the support they need to live in their own home. The support people receive is personalized and centred on their needs.
Compact homes	Smaller type housing suitable for first time buyers and sold either at market prices or at a discount such as 20 per cent (this discount applying for initial and subsequent purchasers). Homes can be prioritized for local people and typically remain affordable in perpetuity as future purchasers are restricted by initial eligibility criteria.

*Whilst enacted in primary legislation, starter homes are subject to confirmation of the starter homes regulations. At the time of drafting the delivery plan the regulations had been consulted on but not published as a final version.

Here are some examples of how different people could access housing that meets their needs

A graduate moving out of home - 'sharer' rent 'Sharer' apartments are designed for two or three young professional people. They offer each resident their own bedroom, en-suite bathroom and storage arranged around a shared living and kitchen/ dining area. Typical amenities on site can include a gym, roof garden, café or home-work space. Rents are affordable for a graduate earning around £17,000 to £19,000. Typical weekly housing cost - £104

A key worker - intermediate rent

Intermediate rent homes are typically let at 50-80 per cent of market rent. They can be prioritised for specific groups such as key-workers, particularly those who need to live close to their place of work. A one bedroom apartment in a new high quality building let at 80 per cent of market rent would be affordable to a nurse, fire officer or primary school teacher with earnings of £30,000 to £32,000. Intermediate rent can also be provided at a larger discount to address the housing requirements of those on lower incomes in other types of work.

Typical weekly housing cost - £180

A young family - rent to buy

Rent to buy allows for potential homeowners to rent a property at below market rent for up to five years, during which time a portion of the rent is set aside as a deposit. The householder can then either buy the property outright at the end of the tenancy or through shared ownership. In Didcot a two bedroom house at a value of £315,000 would be affordable to a couple with a child and a household income of around £45,000.

Typical weekly housing cost - £270









A professional Science Vale worker - build to rent

Build to rent homes are purpose built for renting and professionally managed. Residents have on-site amenities such as cinema rooms, gyms and storage for online shopping with a handyman to address maintenance issues. They are generally delivered in taller blocks with cafés and bars at the ground floor. A one bedroom apartment in the town centre would be affordable to people on an income of £38,000 to £42,000.

Typical weekly housing cost - £225

A self builder - building plot

Many people would like to build their own home or have more input on its design. Creating a number of serviced plots for self-builders within a wider development allows easy access to land and ensures roads and utilities are in place. In some cases the land cost can be paid for towards the end of the project, helping the self-builder's cashflow.

Typical weekly housing cost - n/a

An older couple with care needs - extra care rent

Extra care is a form of housing for older people who wish to live independently but have access to some support, potentially including nursing. Each resident has their own home but can also access shared areas such as a dining room, fitness area and gardens and allotments. Blocks are generally located close to the town centre allowing easy access to shops and amenities. Modern, high quality buildings can make this an attractive option for 'down-sizers'.

Typical weekly housing cost - n/a





6.1.3 Supporting high quality housing

Selection of affordable and private housing types for a particular development will require an analysis of the local area, need and the scheme character as seen in figure 6.6. The assessment for a site should consider the garden town housing objectives to:

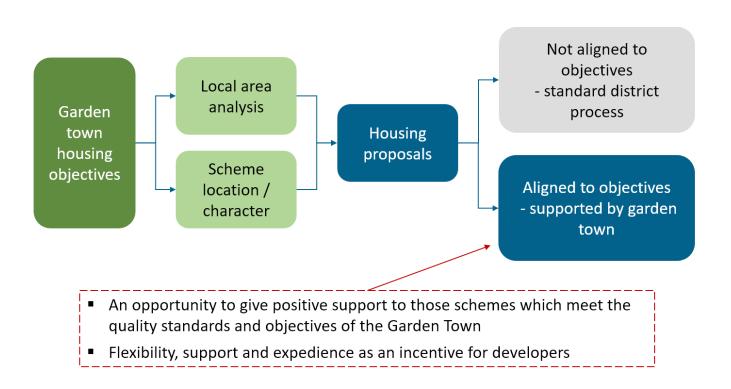
- Offer wider housing options to local people who are currently unable to access suitable accommodation
- Increase the variety of housing types delivered and the quality of design, linked to the design review panel
- Provide homes which are affordable to and meet the lifestyle needs of local key-workers and those within the wider Science Vale
- Build to greater density in appropriate town centre locations and near to transport hubs

- Provide flexible approaches for longer term schemes to respond to changing need over time
- Support the development of a professional, high quality private rented sector (build to rent)
- Maximise the total quantity of homes delivered across a broad range of tenures
- Ensure housing delivery can support and improve other opportunities for the local community, for example access to employment, skills or support
- Increase provision of purpose built housing for older people and other people with other specialist housing needs
- Accelerate housing delivery

The approach outlined above should ensure that a wider mix of homes is

delivered, supporting the objectives of the garden town as a whole. It is proposed that developers adopting the suggested approach could receive support from the garden town team.

Support could include resource during the pre-application process and positive support of the application, the potential for a predictable and expedited planning consent should act as an incentive for developers to work with the approach. It should be noted that the wider range of affordable housing should not necessarily impact negatively on scheme viability, there will be a need to select a mix of homes which ensures a deliverable scheme.



6.1.4 Accelerating delivery & improving quality

Although Didcot has seen some significant housing in recent years it has not managed to meet need, both for market and affordable housing. Up until now, housing delivery has been impacted by the dominance of a number of large scale sites and a growing shortage of construction skills which have restricted local capability to meet the local housing needs. The skills shortage is not just a local issue, identified by the Farmer Review of the UK Construction Labour Model (June 2016) which suggests that within a decade the existing labour force could decline by 20-25 per cent based on current demographics. As the demand for homes of a range of tenures increases, the ability to address local housing needs becomes more challenging.

Didcot Garden Town seeks to accelerate the delivery of housing to meet these local housing needs while also specifically exploring the potential of new construction methods. For off-site construction instance. methods offer an attractive solution to the shortage of construction skills and can also accelerate the construction process.

The councils have already begun to explore new emerging construction technologies and will seek to attract both related businesses and utilise emerging innovative approaches (e.g. robotics). In fact, discussions have already begun with global suppliers of technology with a view to working together and developing new innovative solutions that can help meet demand but also create homes for modern living in sustainable, environmentally friendly and attractive ways. Didcot Garden Town will work with existing developers and also encourage new entrants into the market to increase capacity to meet housing need, including self-builders. Alongside this the councils themselves will work to build new homes directly on existing public land or by investing in new sites.

In addition to developers, discussions have taken place with investment companies who have already expressed an interest in seeking to enter the construction sector by bringing capacity to the Science Vale. This is because Didcot is so well placed given the high level of existing technology firms and the presence of the enterprise zones.

Dependent on the level of funding secured for the garden town, the councils may decide to invest in 'upfront' infrastructure projects and enter arrangements with developers to recover funds as developments progress. This would give a greater influence over the quality and timing of schemes but also reduce uncertainty for developers, thereby accelerating housing delivery.

Project 2020

Project 2020, set up by house builder Taylor Wimpey, aims to "explore and evaluate trends, changes and new innovations in design, architecture. technology, materials and build methodology". The aim is to shape Taylor Wimpey's product range for 2020 to meet customer needs and evolving delivery methods. The design competition was won by the 'Infinite House', a prototype house where the external envelope allows it to adapt to suit different contexts without appearing to be a repeated house type, while still maintaining the and efficiency cost effectiveness of prototyping and serial fabrication. Taylor Wimpey now intends to build prototypes of this exciting new type of home and is exploring options to do this in the garden town.



Project 2020 © Taylor Wimpey

7. A Connected Smart Community

Technology is recognised as an important part of making Didcot a better and more sustainable place to live. The project team has worked with industry professionals to explore how technology should be incorporated the throughout the masterplanning process. Chapter 7 sets out the work that has taken place so far.

7. A connected smart community

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7.1.1 Technology

The application of technology in the Didcot Garden Town

Didcot Garden Town will deliver technology-enabled projects that are financially viable and sustainable. Technology will contribute to Didcot's future growth, while making it a better place for residents to live and businesses to thrive. Being viable, the projects will not require access to open-ended public sector funding.

The technology projects will be managed using proven financial and operating models. Pilot schemes can be used to introduce new and experimental projects. Once user demand has been established, there will be the potential to scale up operations to a point where they can generate income through value added services. Essential services could then also be delivered at significantly lower cost than through existing models.

The Opportunity

Many of the smart city principles are being embodied in the UK Government's garden town initiatives. However, the following important considerations remain unaddressed in these approaches;

- It is not always clear how the benefits of technologies proven 'fit for purpose' in demonstrators can be scaled and commercialised into everyday life
- Many of the benefits from applied technology have not been realised because projects have been planning and/ or policy led. This poses a challenge since, by definition and consequence, technology implementation becomes an afterthought having to flex around fixed points of reference which are

unmodifiable at late stages

- Achieving the benefits from the application of new technology is often costly or difficult, as it often involves retrofitting new technologies to existing processes and structures
- Since technologies can have high up front costs, it is often difficult to convince development partners to invest in new technology

These issues can be addressed if industry and the public-sector work together to realise greater benefits from new technology, by considering how new technology can be integrated into all proposed projects within the garden town.

The Didcot Garden Town approach

South Oxfordshire and Vale of White Horse District Councils have decided to make the most of this opportunity by adopting a new way of working with some of the world's leading technology innovators. This involves working with technology providers to help them deploy new technology into an existing local market, on a commercial basis.

In the earliest stages of master planning, the councils have engaged technology providers to identify services and solutions that are viable, sustainable, deployable town-wide. There was a particular focus on energy, mobility, environmental sustainability, smart build and big data.

The aim is to deliver garden town benefits to community, visitors and organisations that are scalable, futureproofed and designed into projects at the start - not as an afterthought. This approach of involvement from the start has generated enthusiasm from private companies to participate, since the established model of asking commercial organisations to contribute free of charge to demonstrator projects is producing 'engagement fatigue'. This is partly as with demonstrator projects there is no clear route to market and the timescale for creating a financial return is unclear.

To aid the delivery of new technology and increase its contribution to the garden town, a strategic partnership is being formed with Robert Bosch Holdings UK Ltd (Commonly known as Bosch) & Siemens plc. This strategic partnership has been formed because both companies:

a. possess expertise that encompasses different aspects of the range of applied technologies relevant to a garden town project

b. were quick to recognise the new approach being adopted by South Oxfordshire and Vale of White Horse District Councils and realise the opportunity this created for playing an active role in future development of Didcot Garden Town

c. recognise that working with the district councils to deploy new technologies in Didcot Garden Town is essential if they are to be successfully delivered in such a way that they can also be introduced elsewhere in the UK and internationally, as the marketplace establishes itself.

d. have voiced their intent to do more in Oxfordshire and regard their presence and engagement in the garden town project, as an opportunity to deliver real benefits for Didcot residents

Whilst these companies are distinct entities operating separately to each other in the marketplace, there are leadership, management and organisational synergies and compatibilities. The compatibilities, in support of delivering a garden town project, encourage them to collaborate

"More and more people are moving to cities for work, adventure and a better quality of life. To accommodate these growing populations, urban the need for more efficient infrastructures has never been greater. We need to develop smart and resilient cities for the future, ensuring its people are at the heart of city development. These connected cities are interactive communities where everyday life is easy and efficient and people are in tune with each other and their city.

Bosch is proud to join forces with South Oxfordshire and Vale of White Horse District Councils, helping them to make Didcot Garden Town a vibrant and sustainable place for people to live. To become a leading example of a connected city of the future, with enhanced convenience, security and energy efficiency through intelligently connected solutions. A smart city that not only improves quality of life, but also the economic efficiency of cities themselves."

Steffen Hoffmann, President, Robert Bosch UK strategically with public sector partners.

The partnership with Bosch & Siemens is not exclusive. Didcot Garden Town is seeking and considering how best to agree strategic partnerships with other technology innovators in the public, private and academic sectors

Acknowledging the science pedigree of Oxfordshire with its world ranking universities and research institutions, it is not surprising that Science Vale has a wealth of spin-outs, start-ups, & small and medium sized enterprises (SMEs) that are intent on commercialising 'first to market' discoveries in a range of relevant technologies to a garden town project.

Given the critical contribution that SMEs make to the UK, regional & local economies, Didcot Garden Town will actively seek to encourage these innovative SMEs to play a key part in the development of supply chains for the technology-enabled projects which will benefit the garden town.

Didcot is situated in the crucible of the UK's 'Big Science' capability with the world renowned centres of research excellence at Harwell Campus, Culham Science Centre and Milton Park. The UK Space Gateway at Harwell hosts a formidable cluster of space enterprise as well as the European Space Agency and the Satellite Applications Catapult. The vibrancy of this cluster is creating a magnitude of 'downstream' satellite applications with relevance and benefit to a connected and smart garden town. A formal letter has been received by the Didcot Garden Town team from the European Space Agency confirming that the cluster offers access to this expertise and capability. Culham is likewise an important global centre of excellence for the development of fusion technology and Milton Park is home to a major cluster of globally significant biotechnology companies.

None of the planned strategic partnerships implicitly or explicitly confer any contractual promise of relationships. supply chain Thev are being entered into with a clear understanding that any future public body sourcing opportunities which may arise will be subject to transparent and fully accessible procurement policies, rules, evaluation and decision making procedures.

Care has been taken from the earliest engagements with industry to ensure provision frameworks will bring forward compatible 'open solutions' proposals, that will avoid Didcot becoming locked in to proprietary technology products.

Activities completed to date

Two extensive workshops have been held with public, private and academic technology experts and practitioners to establish an open solutions based understanding of the: near-term (2016-2026), mid-term (2016-2031) and long-term (2026-2031) products and solutions which can deliver benefits and outcomes to Didcot through programs of sustainable commercialisation over these time-frames.

These products and solutions include:

- E-bikes
- Public WiFi
- 5th generation mobile networks
- Driverless vehicles
- Mobility as a Solution (MaaS)
- Connected ticketing services
- Dynamic mobility model
- Intelligent traffic infrastructure
- Intelligent parking management

- Environmental sensors
- Smart home technology
- Energy networks
- District heating

Current activities underway

The garden town team is working with industry to identify exemplar programs where the vision, scale of enterprise, and delivery of outcomes and benefits from technology implementation is similar to the aims and ambitions of Didcot Garden Town.

This process has identified two examples, one on the west coast of the USA and the other in Southern Germany.

The US example is a new town currently under construction on a brown field site. At its completion, this new town will house approximately 60,000 residents. This example offers valuable learning points for Didcot from the perspective of new residential growth within brown & green field developments, on a similar scale to that proposed under the garden town vision.

The second exemplar is an established historic town of 100,000 inhabitants in Southern Germany. Here the City Mayor and municipal authority are working with government, businesses, academia and its citizens to evolve itself as a smart town based on a sustainable city development concept. While doing so they aim to not lose the essence of its past or compromise the elements of the town which its citizens value. Underpinning this project is a strategy based on a benchmark study with 35 living labs around the world, where projects are tested in real world environments.

Next steps

In the next stage the delivery team shall focus on the work that connects the vision for the application of the technology to the products and solutions which can deliver benefits and outcomes to Didcot.

This work requires the development of supporting strategies. For example, in the first work phase of the garden town project, Mobility as a Service (MaaS) has been identified as a near-term solution. Its implementation requires a mass transit solutions strategy for Didcot Garden Town and its area of geographic influence to be written and agreed with relevant partners including Oxfordshire County Council's transport team.

Similarly connected ticketing is a near-term product. Its benefits can be fully realised by delivering it as part of an integrated transport strategy for Didcot Garden Town which will be developed and agreed with relevant stakeholders.

Since the exemplar projects mentioned are at a more advanced stage to the Didcot Garden Town, it is a sensible idea to use these experiences to inform the Didcot Garden Town team on the development of the supporting strategies plus the key required outcomes from the next phase of work such as:

- Program management frameworks that tie the vision to the separate technology projects
- 2. The overarching digital platform strategy

Industry partners working with the identified exemplar projects are offering to facilitate introductions for the Didcot Garden Town team. It is anticipated that meetings will be set up in the near future to progress these networks, relationships and actions.

At the same time the garden town team will seek external specialists in these areas to advise and contribute expertise in the next phase of the project

"Siemens endorses the Didcot Garden Town project which embraces innovative supergreen technology/ Siemens is keen to work with Didcot Garden Town to develop sustainable transport systems, renewable energy networks and new housing models" **Professor Paul Beasley, Head**

of R&D UK, Siemens plc



Apprentice Max Williams © Stephen Kill

7.1.2

Smart town case studies

Ludwigsburg living lab

Ludwigsburg is a German town of 100,000 residents near Stuttgart with an innovative strategy to transform the quality of life through technology. Since 2004, the municipal administration, town council and the citizens of Ludwigsburg have developed a series of masterplans to address future challenges such as congestion and air quality. The town council is now creating a living lab within Ludwigsburg with an ambitious range of projects. A recently formed team of industry project managers and technical specialists is initiating pilot projects which will be evaluated by academic researchers as they extend over time across the town - starting for example with installing parking sensors for on-street parking.

Ludwigsburg's masterplan identifies many of the same principles as Didcot Garden Town including making the town an attractive place to live with better green infrastructure, improving the diversity of cultural life, encouraging a more vibrant town centre, enabling the local economy and supporting local businesses. Ludwigsburg's masterplan also focuses on mobility, transport and energy. Social themes of health, education, social and care for the elderly are also themes shared by both Ludwigsburg and Didcot residents.

There are striking similarities between Ludwigsburg and Didcot's aspirations to transform their environment through science and technology and the two towns could potentially become partners, sharing knowledge and learning, as living labs become real life.



Ludwigsberg Palace @ Simon Sees

San Francisco shipyard residential development

This 800 acre brown field site is equidistant between downtown San Francisco and San Francisco International Airport and in the catchment area for Silicon Valley company workers. With plans for 12,000 new technologically advanced smart homes, the development is dedicated to creating a vibrant new community with spaces that enhance wellness and celebrate nature alongside digital apps to connect and assist new residents.

Approximately half of The San Francisco shipyard is reserved for open space, including parks, marshes, grasslands, and beaches - these native spaces provide a welcome respite from the bustling environment of the city beyond. The development will offer residents a wide array of thoughtfully designed and sustainably landscaped pocket parks, as well as outdoor fitness equipment, bike racks, dedicated parking, transportation shuttles, acres of parks and trails, and a diverse array of public artworks. The San Francisco shipyard regeneration project is similar in scale and aspiration to Didcot Garden Town with its mix of new houses and green infrastructure - the proximity to world leading centres of scientific innovation and technological excellence is a key differentiator for both. The way technology has been incorporated into the design of the houses and the development of the new community makes San Francisco shipyard a valuable case study for Didcot Garden Town.





San Fransisco shipyard development © Bosch

Oxford smart city

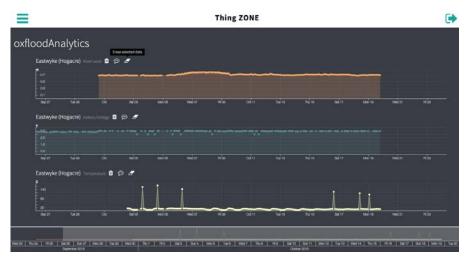
The Smart Oxford initiative is overseen by the Oxford Strategic Partnership, a set of collaborating organisations from across the public sector (Oxford City and Oxfordshire County Councils, NHS and Police), academia (University of Oxford and Oxford Brookes University), business (e.g. Unipart) and voluntary and community organisations (e.g. Oxfordshire Community and Voluntary Action) and is focused on the city of Oxford but includes projects across Science Vale.

Oxflood Network © Nominet

The vision of Smart Oxford is of a city where innovative ideas, active citizens, and aligned stakeholders come together to co-create a better Oxford. Oxfordshire has challenging environmental, transportation, social and housing problems, but also the capacity and capability to develop, test and deploy the technologies that can help address them.

The aim of Smart Oxford city is to build a stronger, safer, economically and environmentally sustainable city, to help its people to identify and be part of city solutions, to provide a testbed for world class researchers and innovators, to generate growth and jobs, to advance economic & social prosperity, and to help improve the quality, effectiveness and efficiency of city services.

Didcot Garden Town is already engaging with Smart Oxford city on potential projects related to mobility, energy and adult and social care and will also be able to benefit from the extension of successful projects initiated elsewhere in the county.



Oxflood Network © Nominet



Oxford station bicycle park © Bill Imlah

Trent Basin Nottingham

Trent Basin is brownfield regeneration development by Blueprint (a joint venture between Aviva Investors' Igloo Regeneration Fund and Nottingham City Council) creating a new waterside neighbourhood of low energy contemporary homes and apartments which offers residents an innovative way of generating and supplying heat and electricity to homes.

The proposal is to generate, store and distribute energy at a neighbourhood level. Homeowners at Trent Basin will

be invited to participate in the project and by doing so achieve savings of up to 30 per cent in energy costs. The Project is being supported by £10m of investment, primarily from Innovate UK and is backed by a consortium of leaders in this field including Blueprint, Nottingham and Loughborough Universities, Siemens, AT Kearney, SmartKLub and others.

The benefits of community energy are lower costs and more efficient use of distributed renewables to reduce the overall carbon emissions from the energy system. Technologies to be employed include photovoltaic panels and communal battery stores and ground source heat pumps.

Didcot Garden Town heatmapping and energy masterplanning project will study the Trent Basin case study and determine whether the benefits of this technology is applicable to Didcot.



Trent Basin apartments © Blueprint Trent Basin



Trent Basin houses © Blueprint Trent Basin

7.2 Sustainability projects

7.2.1 Sustainable fuels for fleet vehicles

One of the aspirations of the masterplan for Didcot Garden Town is to provide projects which are sustainable. With this in mind a number of projects are being considered to support the infrastructure of the garden town as it grows and develops.

With a growing town there will be a need to increase the infrastructure support which includes the council services and vehicle movements that are required to provide those services. This would be expected to also increase fuel consumption and pollution. It is recommended that the council introduce sustainable fuels for fleet vehicles with following benefits:

- Alternative fuels generally have lower vehicle emissions that contribute to smog, air pollution and global warming
- Most alternative fuels do not come from finite fossil-fuel resources and are sustainable
- Alternative fuels can help nations
 become more energy independent

Cumbria County Council – 'Power to the People' (Cumbria UK)

An initiative was introduced by Cumbria County Council, to provide initially 15 electric cars and a countywide electric vehicle infrastructure. With support from the Energy Saving Trust, the council introduced electric vehicles to its car pool, which provided the catalyst for the installation of 36 charging stations across the county. As well as serving the council's fleet the charging points provide power for residents, businesses and visitors at a competitive rate. The results of this project were to reduce the pool car fleet emission by 24 tonnes and to reduce the price per mile by up to 60 per cent. By also providing a comprehensive low-price electric vehicle charging infrastructure across the county it also has a ripple effect on individuals, businesses and organisations which can all consider the potential of electric vehicles.

Fleet of Biomethane Buses in Reading (Reading, UK)

Reading Borough Council's local transportation plan includes the goal of addressing air quality issues. Reading Transport Ltd. were awarded the tender for a ten bus service contract, with a minimum requirement to meet the Euro IV emission standard. The fleet makes use of alternative fuelled vehicles using new compressed natural gas (CNG) powered buses.

CNG is typically produced from fossilfuel sources, but in this case it is bought as a biogas and is a renewable fuel source produced by the farming industry. The buses use mains gas which is then dried and compressed at the bus depot. The bus company buys the equivalent of the gas it has used from a certified bio gas supplier who feeds 'their' gas back into the mains.

A major advantage of using CNG over the Euro V diesel buses was the reduction of harmful tailpipe emissions including particulates, which are negligible for CNG. Estimates from Reading Transport are that nitrogen oxides emissions of their fleet of biomethane buses are 30 per cent - 50 per cent lower than comparable Euro V diesel buses.

As well as low emissions the buses are smoother and quieter than conventional diesel engine buses.



New lease of life for Holyhead Rd 🐵 Bromford

7.2.2 Innovative Technology and Small Scale Installations for Renewable Energy

In Didcot Garden Town, there are opportunities to introduce small scale installations for renewable energy, either through installations on existing buildings or within new developments. In order to make the use of sustainable energy more widespread, engagement of communities will be required, including households and businesses.

Wadebridge Renewable Energy Network – WREN (Cornwall, UK)

Key to achieving the low-carbon vision is to teach communities how to generate their own energy and use it more efficiently, demonstrating the tangible financial, environmental and social benefits involved in moving to a low-carbon economy. WREN was founded as an Industrial and Provident Society for Community Benefit in April 2011, with the goal of persuading the community to install renewable energy and energy efficiency technology. Local economic and employment benefits have proved to be a strong argument in favour of sustainable energy, with rapid take-up over the past two years in Wadebridge, summarising:

- 10 per cent of the local population are WREN members
- Over 340 kilowatt peak solar photovoltaic (PV) and 500 kilowatt (kW) renewable heat installed as a direct result of WREN's work
- Over 5 megawatt peak of solar PV and over 500 kW biomass installations influenced by WREN
- Total installed PV is supplying over 10 per cent of Wadebridge's electricity demand

- WREN's direct work resulted in over 480 tonnes/ year CO2 savings, with a further 3,300 tonnes/ year through work they have influenced
- Over £300,000 a year being earned or saved through installations instigated by WREN
- Significant level of engagement of all sectors of the community, convinced by the economic and employment benefits of renewable energy

Princess Alexandra Hospital -Harlow, Solar Panels (Harlow, UK)

The roof of the Princess Alexandra Hospital in Harlow, Essex now has what is believed to be the largest array of solar panels currently in the NHS. The savings achieved by the solar panels and new efficient boilers equate to a reduction of 8,000 m3 of gas and 16 tonnes CO2 per year.

The solar panels heat up the sites water prior to it reaching the boilers, therefore, the boilers have to do significantly less work. This has resulted in a 50 per cent reduction in the number of times the boilers have to fire up to heat the water to the safety levels for the control of Legionella, hygiene, 'safe' hot, cold and drinking water systems. At optimum operation levels, 40-50 per cent of the buildings



Wrights hydrogen fuel cell bus, First. London 🐵 Sludge G

7.2.3 Rainwater and greywater harvesting to be installed in new homes

New technologies like rainwater harvesting and greywater recycling enable us to reduce the water consumption by using resources that are mostly available to all of us – coming from the roof or draining from our showers, baths and hand wash basins. It is more problematic to introduce these systems as retrofit projects, but it is recommended that they could be introduced at the new developments within Didcot Garden Town.

Social housing scheme, Cheltenham (Gloucestershire, UK)

The inclusion of the rainwater harvesting enabled the client to achieve Level 4 of the Code for Sustainable Homes.

The system is designed around a single 18,000-litre tank supplying all 13 properties on the site. The harvested water is pumped to a small individual

header tank in each dwelling. The header tanks are designed to always take water from the rainwater store as long as it is available, but will then automatically revert to running from mains water if needed. The central controls for the system are securely housed within an external, insulated and lockable enclosure and run from the landlords' power supply.

This provides an ideal solution for such a situation, as each property has its own independent back-up from the mains water supply, the header tanks require no power and the controls are tamper-proof and are only accessed by the landlord or the maintenance contractor.

10 East Road, Shoreditch (London, UK)

Use of greywater recycling system for 10 East Road, a ten storey building containing 42,000 square feet of high quality office space.

The greywater system will supply all toilets and urinals with water captured from hand basins and showers. Supply and demand will be approximately in balance, saving 50 per cent of the water usage in the building. Valuable BREEAM (world leading sustainability assessment method) points were achieved for the planning process and the end users will make substantial savings on running costs.

The filter will process 1,000 litres per hour and will be supplied from a 2,000 litre pre-tank. Processed water, sterilised by a chlorine dosing system, will be stored in a 2,000 litre post-treatment tank. Water will be sterilised again by an ultra-violet unit as it is drawn off for use.



Gray water recycling facility for the Hotel am Kurpark Späth in Bad Windsheim 🐵

7.2.4 Water saving devices

It is strongly recommended that water saving devices should be installed as standard in all new build properties and also be retrofitted in existing properties within Didcot. This would have a double benefit of reducing the water consumption, but also reducing the foul water discharge. This would alleviate concerns around both the water supply and sewage water treatment capacity within the region.

Park Plaza Westminster Bridge London (London, UK)

Park Plaza Hotel, Westminster Bridge London, has trialled water efficient technologies and new management practices. A free water efficiency advisory visit, through the Rippleffect initiative, demonstrated that the hotel's focus on water efficiency was achieving impressive results.

The hotel's estimated water savings were 85,000m3 which was saving

the hotel £112,500 per year. Its water consumption of 79 m3 per bed-space per year compared very favourably with a typical benchmark of 125 m3.

Amongst the hotel's key actions to save water were:

- Installation of water efficient shower-heads (1,200 low-flow shower-heads fitted, using 7.5 litres per minute and saving 7 litres per minute)
- Installation of a food waste digester (Food waste digester eliminated need for the hotel's seven macerators, which ran for over 12 hours per day, each using 15 litres of water per minute
- Water re-use (harvesting of water from laundry and swimming pool to use for flushing of staff toilets)



7.2.5 SuDS schemes

Drainage systems can contribute to sustainable development and improve the places and spaces where we live, work and play by balancing the different opportunities and challenges that influence urban design and the development of communities.

SuDS mimic nature and typically manage rainfall close to where it falls. SuDS can be designed to transport surface water, slow runoff down before it enters watercourses, they provide areas to store water in natural contours and can be used to allow water to soak into the ground or evaporated from surface water and lost or transpired from vegetation. SuDS schemes should be implemented at all new developments in line with the local plan.

Revenswood, Ipswich (Suffolk, UK)

The developers of this housing scheme designed the site so that all surface water run-off is drained through a combination of soakaways and infiltration basins. Using SuDS, there is no discharge from the site up to the 1 in 100 year storm - the equivalent of

6600m3 storage.

Over its lifetime, the scheme has the potential to save £600,000 in construction compared to a traditional piped drainage system. Individual homeowners are also eligible for refunds of their sewerage charge.

Houses and driveways are connected to individual soakaways and roads are drained by a piped system that discharges to infiltration basins running along the main boulevards.



Infiltration basin at Ravenswood

- 1. Grassed base of infiltration basin
- 2. Vegetated bank, opportunities for play whilst feature is dry
- 3. Native vegetation and naturalistic aesthetic creates exciting and dynamic landscape feature
- 4. Natural surveillance of amenity space as opposed to fencing off the facility

Sidwell Friends Middle School (Washington DC, USA)

The masterplan and site design at Sidwell Friends School includes a central courtyard with a constructed wetland designed to utilise storm and wastewater for both ecological and educational purposes.

The plan integrated water management solutions into the landscape, inextricably linking the building to its site. The wetland becomes a 'working landscape', using biological processes to clean water while providing students with a vivid example of how such systems work in nature.

Sharrow School, Sheffield (South Yorkshire, UK)

Sheffield's newest Local Nature Reserve is the first in the country to be located on top of a building, designated due to its ecological importance and value to the local community.

The 2000 square metre roof was designed to represent the variety of habitats found in Sheffield – Peak District limestone grassland, wildflower meadows, urban brownfield and a wetland area with a small pond. Bird tables and insect feeders attract wildlife and a weather station and webcam have been installed to provide research opportunities.

The substrate consists of over 200 tonnes of crushed brick, organic greenwaste and limestone. Some areas were planted, while other areas were left to see what grew naturally.

Green roofs are a useful technique for providing above ground attenuation in the flood plain.



Sidwell Friends Middle School © Andropogon Associates 2011

- 1. Surface water run-off passes through a series of terraced rain gardens;
- 2. Access and seating provided within the SuDS feature;
- 3. A variety of vegetation types are planted within the terraced areas;
- 4. Clean, treated water flows to a pond at the end of the system.



Green Roof at Sharrow School

1. Access to the roof provided by designated and protected walkway

2. A range of habitats have been created by varying the type and depth of substrate across the roof

3. Habitats created include limestone grassland, urban brownfield and a small wetland area

4. Anchorage points at edge to allow safe maintenance

7.2.6 Resource recovery hub with reuse shop

It is recognised that there is a need within Oxfordshire to provide a new Household Waste Recycling Centre (HWRC) and this is an opportunity to provide an enhanced service by creating a resource recovery hub which would include the HWRC together with a reuse shop and community initiatives including 'fix-it' cafés.

Household waste recycling centre and reuse shop, Leeds

Leeds City Council area has nine HWRCs including the East Leeds HWRC at Seacroft, which was identified as a redevelopment priority. The redeveloped site included a reuse shop which was opened along with the site in August 2011.

The reuse shop was only offered to the third sector, allowing for a wider range of social benefits. After bidding the winner was Revive Leeds and although the contract was for a lease, in reality it was a partnership approach. The overall aim was to cover the costs of the centre so that no costs were incurred by the council. The shop needs to earn around £2,000 per week to break even, with the aim to achieve around £3,000. It has two full time and two part time staff, with volunteers and young people completing community payback to help unload, sort and move items. A lease requirement was to hold a meet and greet service to intercept users before getting to the disposal area.

The shop is diverting around five tonnes of waste from landfill per month, including 316 items of furniture in November 2011 alone. Around 300-500 bric-a-brac items are sold each week, although the council is awaiting decisions on agreed weights. 80 per cent of electrical items donated are working and saleable according to PAT testing staff.

Colchester repair café

A pioneering repair service was launched at Colchester library for people to take broken items, including anything from bikes to furniture or electronics to clothes, to be mended free of charge. Residents can bring along broken (but repairable) household items to Colchester's repair café and make the most of the space, tools and skills from volunteers to repair them for reuse.

The café aims to reduce waste and extend the life of household items and other products, breaking the cycle of 'use, bin and replace' whilst providing a local social hub for free exchange of skills and know-how.



Colchester repair cafe at Colchester library © Christopher Blomeley, Wivenhoe repair reuse recycle CIC



8. A super green town

It's all in the name: Didcot is going to be a garden town. But it's important that this new handle is more than just a catchy brand – Didcot must take ownership of its garden town status and make 'garden' part of its identity. This chapter looks at all things green, setting out a strategy that will ensure Didcot Garden Town grows into a place deserving of its title.

8. A super green town

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8.1 Summary of the super green town

8.1.1 Summary of the super green town

This chapter sets out the landscape strategy for Didcot Garden Town arising as a result of the development proposals. It describes how the integrated design of existing and new external space should be shaped to take account of the natural environment and why this is important. The strategy for the garden town needs to be special to Didcot so that the town remains recognisably itself and retains the best features of its setting and makeup. The strategy also needs to identify ways in which new proposals can support and enhance the town's particular characteristics with better connections, a clearer identity to its streets and spaces and better amenity for local people.

Access to the countryside and high quality open space is important for the health and wellbeing of people, with the substantial changes to Didcot that are envisaged never has it been more crucial to balance the built environment with high quality external areas.

The landscape setting

Didcot's landscape setting is a key part of the place, its identity and character. In providing a baseline to the design of the garden town understanding the landscape and how it forms the ground plane will be essential. New development should take its cue from the landscape of each site, respect and reiterate the relationship of the site with its environs and take account of all natural and physical features. Appropriate design and built environment responses to landscape setting will help to bind new development in place.

For this reason the landscape character assessment summarised in 8.2, and provided in full at Appendix L, is the starting point for contextual studies to the garden town and its description forms the first part of this chapter on the green town.

Landscape priorities, green infrastructure and the open space strategy

Section 8.3 moves from the landscape setting to the evaluation of the spatial layout of the open spaces in the town and their connecting links. This is described fully in the green infrastructure strategy and a summary of this, in relation to the masterplan area, is given with the entire study being provided in Appendix K.

The green infrastructure of the town indicates that there is an underprovision of open space and some of which are relatively low quality. The proposals network which is illustrated describes the existing structure of open space and suggests where and what should be provided to address underprovision and how to improve quality, benchmarked against appropriate standards which are discussed in full. The green infrastructure strategy provides part of the evidence base for the councils' local plan process.

The remainder of section 8.3 deals with the landscape priorities and the open space strategy for the development of the garden town. The masterplan initiatives described have been drawn as examples or ideas which need further elaboration in site by site specific design. Example images which illustrate the types of ideas which would be appropriate are provided along with a description of the proposals in the supporting text. Where the development of the proposals requires more detailed analysis or supporting information which is beyond the scope of the masterplan, then a strategy to develop the design has been proposed and this is included within the next steps section of the document at the end of this chapter.

Section 8.3 describes the landscape priorities which have been used to develop ideas and strategies for the design of the town and why they are important in this context. Under each of the following topics the document sets out how sustainable approaches to design, such as habitat creation and protection of natural resources, community involvement and integration of the open space network will contribute to the successful achievement of the garden town and make a huge contribution to the amenity and well being of its residents.

The topics include:

- Green routes and accessibility (see also chapter 5.1)
- Multi-functional landscape spaces
- Growing local food
- Urban public space
- Key views
- Green gaps between the town and the surrounding villages
- Blue infrastructure (see also chapter 5.3)
- Upgrading the quality of existing green space
- Re-greening existing residential neighbourhoods
- Coherent planting structure in new housing developments
- A summary of the next steps

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8.2 Didcot's relationship with its landscape setting

8.2.1 Didcot's relationship with its landscape setting

A summary of the landscape character assessment

Introduction

Didcot's landscape setting is largely rural land in agricultural use. It comprises a diverse pattern of landscapes, including rolling downland, historic parkland, low-lying farmland and riverside meadows, with scattered rural villages.



East Hagbourne in 2017 © Andy Barmer

Geology

The majority of land within the Didcot Garden Town masterplan boundary is undulating lowland farmland on predominantly Jurassic and cretaceous clays. Much of the area is underlain by upper greensand and is marked by pronounced, rolling landform and lighter, calcareous and fertile soils.

Physical features

The most important landscape feature to the north and west of the town is the River Thames, along with its floodplains and tributaries. The land is flat and lies almost entirely below 60m above ordnance datum. Along the course of the river and its immediate corridor heavy impermeable clay soil is liable to flooding and usually under permanent pasture. The raised, better drained, gravel ground is better suited to settlement and cultivation.

To the south and east of the garden town lies the chalk uplands - the North Wessex Downs (which is designated as an Area of Outstanding Natural Beauty (AONB)). Here the open, rounded chalk landform rise to an elevated plateau of smoothly rolling topography, dissected by dry combes, with scrub woodland on some steeper slopes. Predominantly



light soils are free-draining and thin.

Around Didcot, a band of calcareous siltstones and sandy limestones of the upper greensand forms the transition between the higher land of the downs and the lower-lying vale. These areas





share characteristics of the chalk downland with smoothly rounded landform and well-drained chalky and sometimes flinty soils. Isolated outcrops of greensand and chalk form prominent rounded hills at Wittenham Clumps and Cholsey Hill - distinctive features within the flat vale landscape. The land is farmed intensively, there are generally only sparse trees and woodland, except on the steeper valley and hillsides of the downs and at Little Wittenham.



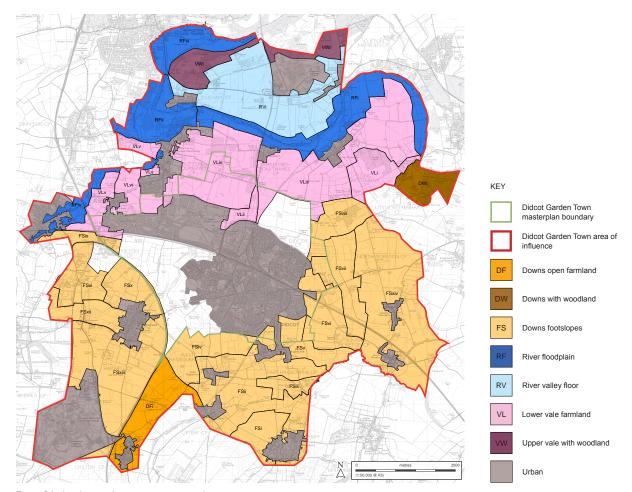
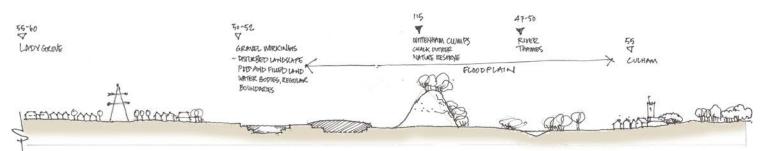


Figure 8.1 - Landscape character assessment plan



Water

In addition to the River Thames, there are numerous waterbodies resulting from mineral extraction. Sand and gravel has been sourced from the floodplain since Roman times but was only exploited on a commercial scale during the 20th century. There is also an extensive ditch system remnants of former now drained marshes.



Vegetation

Woodland cover is low in the area but hedgerow and field trees are frequent. Watercourses are often lined by willows, with some black poplar. There were once many elms which have been lost to Dutch Elm disease. Shelter belts for agriculture are also evident in parts of the wider landscape.



Agriculture

Much of the area is farmed and is mostly arable land with some horticulture including orchard fruit. Orchards around Harwell thrive on light, fertile, sandy soils at the foot of the chalk escarpment. There are also many relict orchards.



History

With the exception of Didcot town itself the area continues to show a strong link between the physical features that underpin it and human activity and occupation.

At Didcot the original settlement was lron Age, which became Romano-British after the conquest and although evidence for its size or longevity is scant, remains including pottery, coins and a coffin have been found.

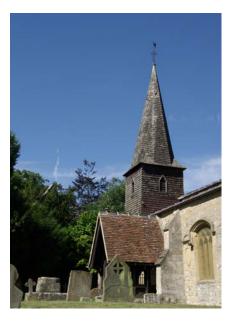
The Romans brought an influx of people and as elsewhere in northern Europe their arrival heralded landscape change, with an integrated pattern of new settlements and planned roads, farm estates and pottery kilns. This development precipitated greater woodland clearance as the need for timber and open land increased.

A Saxon settlement followed in the 7th or 8th century and despite the enclosures of the 16th and 19th centuries and break-up and sell-off of the manor land in the latter 17th century, Didcot village retained a largely medieval character.

Didcot grew from a village to a town with the arrival of the Great Western Railway in 1839. Five years later, Isambard Kingdom Brunel's covered station was built and conditions for the town's growth were set. The line now links to Oxford and there is a smaller station at Appleford which escaped Beeching's cuts of the 1960s.

Didcot A power station was completed in 1968. Didcot A was decommissioned in 2013 with demolition starting shortly afterwards. The three remaining cooling towers and the main Didcot A chimney stack, which currently stand as landmarks, are set be demolished. Didcot B power station, a gas-fuelled station will continue until approximately 2030. Local industry has now switched to science and high tech firms have been attracted by the proximity to London and the transport links.





Settlement and buildings

Building materials in the vale comprise brick, tile and thatch while as the land rises to the downs, more flint and timber are prevalent. Settlement locations are influenced by slope, elevation and water supply, with the Saxon springline villages being characteristically sited at the foot of the chalk escarpment. While others of medieval origins grew on the trade routes that traverse the area. Steventon, for example, is on the old



main road between Oxford, Abingdon and Newbury.

Within the garden town masterplan boundary there are relatively few settlements in the river corridor, historically settlements have favoured the gravel terraces along the River Thames, such as Long Wittenham and Sutton Courtenay. Along the vale and downs edge, there is a history of settlement evident by prehistoric earthworks and hillforts (e.g. at Aston Upthorpe).

To the south runs the Ridgeway, an ancient track which runs along the top of the downs and is described as Britain's oldest road.



Tranquillity

Although there remain some tranquil rural areas, the overwhelming impression is of an area criss-crossed by transport routes, including railways and roads and dominated by Didcot power station.

Sense of place

Among the writers and artists attracted to the area are artist Eric Ravilious who painted numerous views of the downs, Paul Nash, who chose the distinctive Wittenham Clumps as a subject, and David Inshaw who drew on the mystical qualities of the prehistoric landscape.



© Paul Nash

8.3 Landscape priorities, green infrastructure and open space strategy

8.3.1 Landscape priorities, green Infrastructure and open space strategy

A green, leafy landscape with a generous network of parks, gardens and tree-lined streets is a defining characteristic of the original garden cities and a key reason for their lasting appeal. Green spaces offer a wide range of benefits to people in creating healthy. sustainable and resilient places. Recent studies into the economic value of high quality green infrastructure have shown it is fantastic value for money, adding value from increased land and property values to improved health and wellbeing. The Town & Country Planning Association's (TCPA) guidance document, 'The Art of Building a Garden City – Garden City Standards for the 21st Century' (2014), shows how the natural environment and green infrastructure is integral to four of the nine garden city principles which have been used to shape Didcot Garden Town's structure.

Garden city principle:

Development that enhances the natural environment, providing net biodiversity gains and using zero-carbon and energypositive technology to ensure climate resilience.

- Garden cities are places in which human development positively enhances the natural environment
- New garden cities should yield a net gain in local biodiversity and should adopt plans to achieve the objectives of the biodiversity 2020 strategy
- A garden city's multi-functional • green infrastructure should provide a wide range of benefits for people and the natural environment, including: moderating temperature - green space cools the ground surface and air temperatures and mitigates the urban heat island effect: mitigating flooding and surface water run-off - a higher proportion of un-built permeable space allows rainfall to infiltrate naturally to recharge groundwater resources: supporting biodiversity - green spaces, and gardens in particular, are widely recognised as providing habitats for plants and wildlife, as well as giving opportunities for human contact with nature: promoting human health and wellbeing - green space and gardens support a wide range of physical and well-being objectives
- A garden city's green infrastructure network should also offer a range of benefits in terms of adaptation to

Garden city principle:

Strong cultural, recreational and shopping facilities in walkable, vibrant, sociable neighbourhoods.

- Garden city advocates put great emphasis on the role of the arts and culture in improving wellbeing as part of a co-operative approach to society
- Garden cities are places of cultural diversity and vibrancy, with design contributing to sociable neighbourhoods. This means, for example, shaping design with the needs of children's play, teenage interests and the aspirations of the elderly in mind, and creating shared spaces for social interaction and space for both formal and informal artistic activities, as well as for sport and leisure activities
- The creative arts cannot be perfectly planned but they can be brilliantly enabled. Garden cities should provide formal frameworks for cultural expression but also leave open space for artistic dissent and chaos

Garden city principle:

Integrated and accessible transport systems, with walking, cycling and public transport designed to be the most attractive forms of local transport.

- New garden cities should be designed to encourage positive behavioural change in terms of reduction of carbon: walking, cycling and low-carbon public transport should be the most convenient and affordable modes of transport
- Foster healthy and active communities by encouraging walking and cycling and providing a comfortable, stimulating and therapeutic environment, bringing together the best of the urban and natural environments

Garden city principle:

Beautifully and imaginatively designed homes with gardens, combining the best of town and country to create healthy, vibrant communities.

- The 21st century garden city will be characterised by a landscape structure of multi-functional green infrastructure, including the private or shared gardens associated with homes and a surrounding belt of well managed agricultural land
- As a minimum (and including private gardens), 50 per cent of a new garden city's total area should be allocated to green space (of which at least half should be public) consisting of a network of multi-functional, well managed, high-quality open spaces linked to the wider countryside. Homes should have access to private or shared gardens and space to allow local food production from community allotment and/ or commercial gardens
- A fundamental aspect of the garden city model is the provision of an agricultural belt to prevent sprawl and provide a local source of food for the emerging market. This green belt must be properly managed, with urban and rural land management choices linked to ensure access for recreation, energy generation, agricultural production and habitat creation
- Set targets for walking and cycling. Review proposed schemes to see if they could be enhanced to provide a safer, more appealing environment for pedestrians/ cyclists of all ages
- Meet 'active design' guidelines to improve opportunities for access to sport and physical activity

- Identify opportunities to create innovative spaces for growing food
 e.g. allotments, derelict public open spaces, green roofs
- Require landscape or green infrastructure plans to demonstrate the potential use of any open space for community food growing

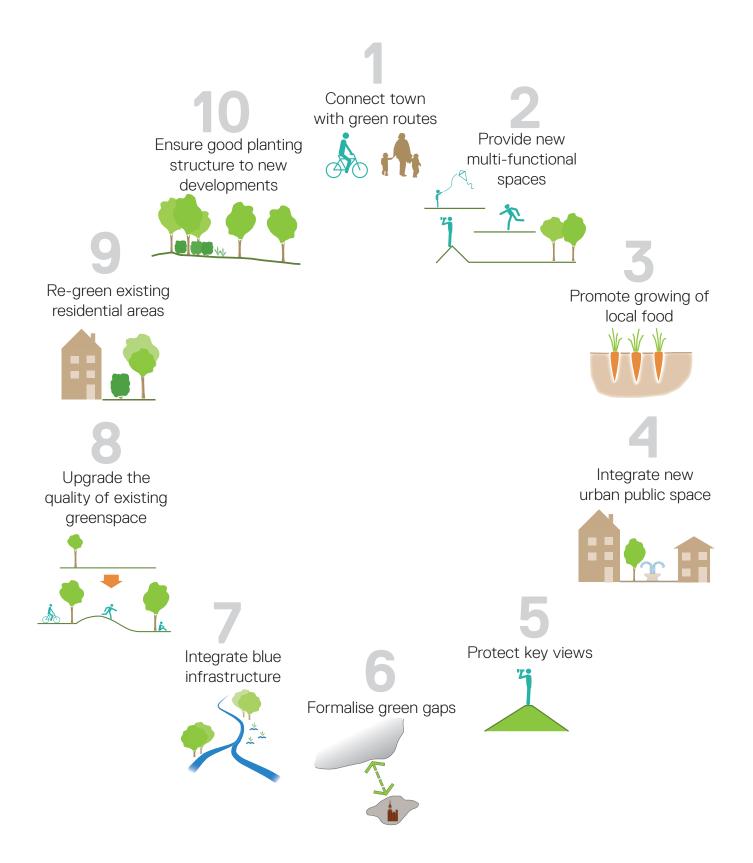


© StudioFink



© Sandor Bernath

Key landscape priorities



Taking the TCPA principles as guidance the Didcot Garden Town landscape principles have been developed to take into consideration Didcot's particular circumstances and to include ideas that local people have put forward. The ten landscape priorities, as shown on the previous page, in Figure 8.2, are;

- 1 Connect town with green routes
- 2 Create new multi-functional spaces
- 3 Promote growing of local food
- 4 Integrate new urban public space
- 5 Protect key views
- 6 Formalise green gaps between Didcot Garden Town and villages
- 7 Integrate blue infrastructure

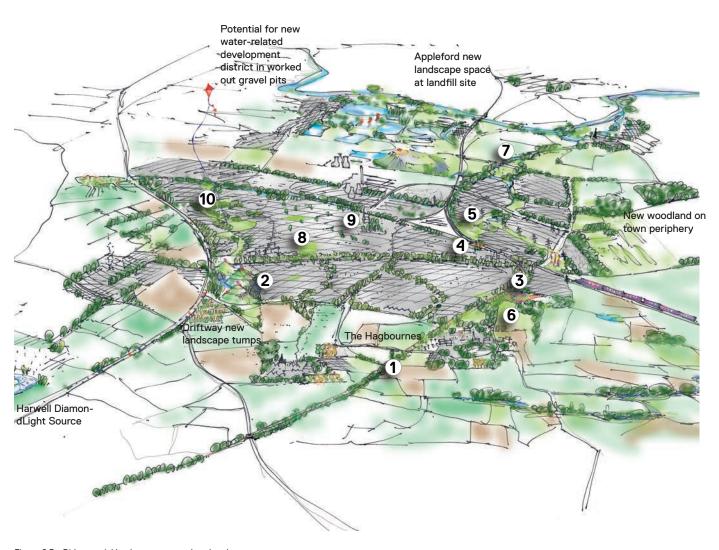
- 8 Upgrade the quality of existing green space
- 9 Re-green existing residential areas
- 10 Ensure coherent planting structure to new developments

This part of the delivery plan is structured to take each priority in turn and within a summary table at the head of the section, describing the status quo, the background to the principle and the issues raised.

Below, in Figure 8.3, a further explanation is given of the reasons why the priority has been included in the masterplan and how this will manifest itself in ideas and initiatives in the delivery of the masterplan.

The detailed audit of green infrastructure forming evidence to support the local plan, is given in Appendix K.

Didcot aerial sketch of landscape masterplan showing the town in its landscape setting, with new green routes, new multi-functional landscape spaces and a redeveloped zone in place of the worked out gravel areas.



8.3.2 Landscape priority 1: connect town with green routes

"If you plan cities for cars and traffic, you get cars and traffic. If you plan for people and places, you get people and places." Arup Slimcity

'Green routes' are cycle and pedestrian routes which connect key destinations in and around Didcot within an attractive environment. Cycling around Didcot is easily achievable in and around the town as the land is relatively flat.

Upgrading and introducing new cycle routes will enable people to have a real choice between using the car and taking a more sustainable alternative. The following table summarises the case for new cycle routes and introduces the first targets for a green route quick win. Further detail follows below.

The status quo Poorly connected routes, disjointed and indirect route layout. Breaks in cycle routes push cyclists onto roads which are often not conducive to cycling, with too much traffic, poor air quality and low safety. Existing cycle hire at station has poor hire technology.	Why this is necessary?Cycling and walking are sustainable transport modes, they promote health, wellbeing and help integrate community. They also provide an alternative mode to the private car, thereby reducing air pollution, traffic congestion, reducing global use of finite resources.	Where the garden town team assumptions are fromDesktop study of existing routes and evaluation of their connection to destinations and town centre.
How it can be improved and what the aspiration is Providing well-connected, direct routes to the most important destinations and the town centre. Providing a strong east west route; connections to the science parks and strategic connections between the River Thames and the AONB and Wittenham Clumps.	Is there enough in the masterplan and next steps?Masterplan makes strategic proposals.More could be included within developments coming forward and better consideration of existing links to new residential districts made. See: strategic cycle route plan.	Within existing planning policy or garden town policyScience Vale vision encourages a step change away from car travel towards public transport, cycling and walking. Vale of White Horse District Council - Core policy 35 promoting public transport, cycling and walking.
How could this be funded and supported? A percentage of the infrastructure budget should be set aside to achieve the strategic target of upgrading cycle provision.	Research/ consultation Next steps Detailed consultation on proposals with HarBUG and other cycling groups. A strategy to upgrade the key routes is provided. Monitoring cycle use and recording the modal shift helps build a case for next developments. Pop up café and workshop on Broadway.	Quick winsUpgrading cycle routes has been proposed as part of the quick wins. The route along Station Road to Milton and via Broadway to Harwell. The route to Wittenham Clumps should also be a priority.

Reconnecting the town and country

Cycle routes should be provided for two types of use; direct routes for commuting between the station and places of employment and more circuitous routes used for recreation. Shorter local paths from residential areas to schools, which also meet up with longer distance routes, will enable the town to connect to its landscape setting as well as for day-to-day functional use.

Regardless of whether the cycle routes are new or have been in existence for some time, it is important that a commitment is made to the maintenance and upkeep of these routes. The technical garden town's consultants have collaborated to ensure that the proposed routes are well connected to the town centre, to new development proposals and to the existing chief destinations such as Culham, Milton and Harwell science parks. Paths are also planned north and south between the River Thames and the Ridgeway, as well as east and west to Oxfordshire's most visited local attraction - Wittenham Clumps. The layout of proposed routes is illustrated in Figure 8.5.

Why cycling works

Promoting cycling is not only good for direct access to local destinations, it provides a healthy means of exercise as part of daily routine, in the fresh air, with opportunities for people to interact, helping to build community. Starting children early in the habit of cycling is good education for life, setting the pattern for regular exercise and helping them to make a sustainable transport choice.

A successful shift in thinking can be achieved by supporting cycling as a choice through the provision of local facilities. It is proposed that the new station square has covered cycle racks, lockers to leave cycle kit, as well as toilets and showers. Cycle hire facilities at the station and at key locations in the town centre should also be available.



Hire technology, such as an app or website, needs to be interactive and efficient to avoid putting off potential users.

The local economy may also be boosted by routes which pass new cafés or cycle workshops, to enable bike maintenance, and bike equipment. For example, Broadway provides a location where pop-up shops or 'meanwhile uses' can test this theory, with a bike workshop/ café being provided on a well-used route in the town centre.

There are already established cycle groups such as HarBUG, (Harwell Bicycle Users Group) whose members are based at Harwell Campus. Community engagement has shown that there is an appetite for cycling. This is borne out by the increase in cycling in other cities, both in the UK and on the continent. Tapping into these groups to spread the council's plans for improved cycle routes, listening to practical requests for facilities etc. will

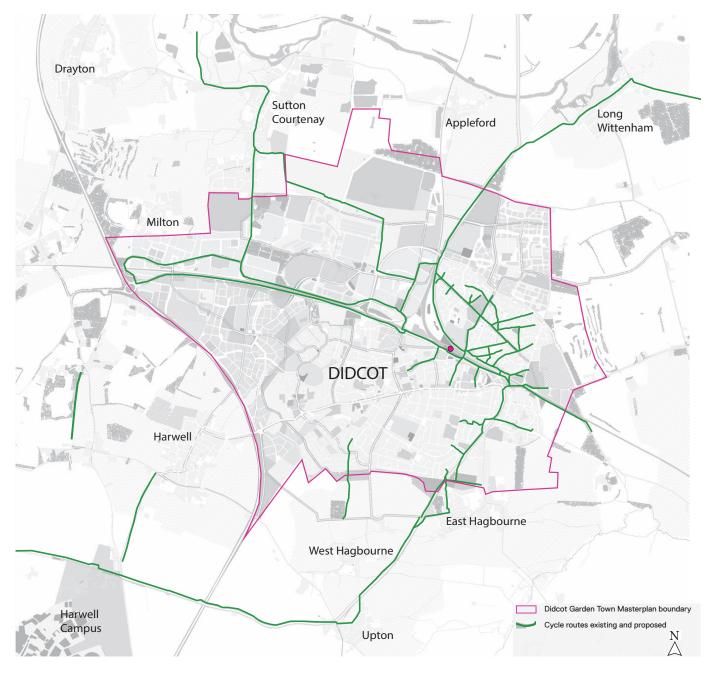


Figure 8.4 - Existing cycle network

also help to ensure that new provision is well tailored to what is required by local users, which will help to spread the word about the ease of cycling in Didcot's community.

The cycle route from Didcot to Wittenham Clumps and the Earth Trust should also be upgraded to make it more complete. The success of the Earth Trust as a visitor attraction means that the number of people arriving by car exceeds available parking, leading to congestion in local lanes, parking on verges and field entrances leading to degradation of the local environment. A complete cycle path will give visitors an alternative option for getting there. Illustration of the types of route, proposed sections and images are included in chapters 5 and 9. The development of the detailed alignment, signage, planting and surfacing details will be part of the next stage of work.

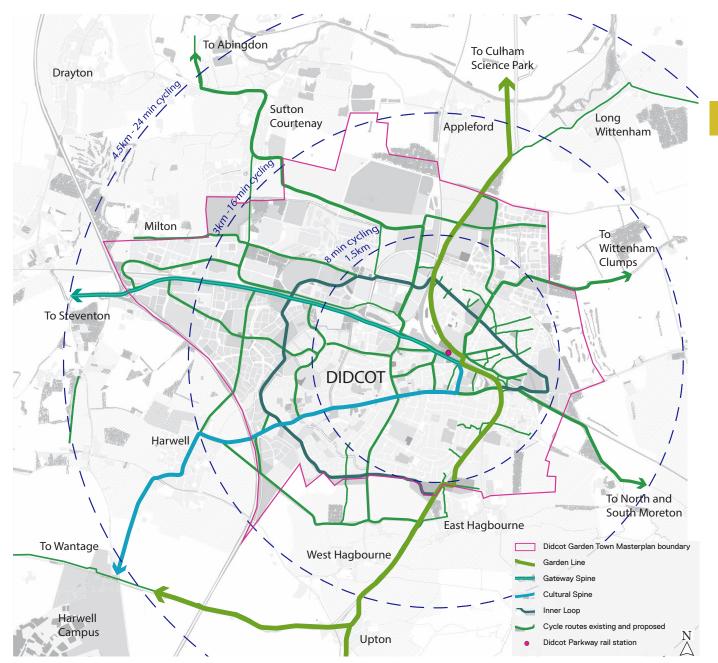
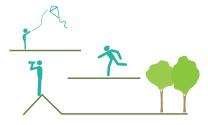


Figure 8.5 - Proposed cycle network

8.3.3 Landscape priority 2: provide new multifunctional spaces

"It has been calculated that the NHS could save £2.1bn a year if everyone had access to green spaces"

Sue Holden, Chief Executive Woodland Trust



Open space in built-up areas is a key requirement of urban design. With the designation of Didcot as a garden town, excellent provision of open space which provides diverse facilities is a prerequisite.

The status quo	Why this is necessary?	Where the garden town team assumptions are from
In the existing town there is a deficit	Didcot's proposed population will further	Desktop assessment of the standards
of open space generally (see green	reduce the availability of open space.	and review of disposition of open
infrastructure strategy). Insufficient	Multi-functional spaces provide	space across all types shows there is
accessible green space per head of	potential for maximum use,	a deficit of most types in Didcot.
population according to Accessible	promoting health and wellbeing,	See green infrastructure strategy
Natural Green Space Standard	social interaction, physical activity	(appendix K) for more details.
(ANGst).	and education. Well designed	
Existing open spaces tend to be	multi-functional open space have	
maintained in a uniform fashion	multiple uses including environmental,	
leaving a biodiversity deficit in the	ecological, social and amenity	
spaces as a whole. Quality provision is	purposes which are described further	
also uninspiring.	in the text above.	
How it can be improved and what the aspiration is	Is there enough in the masterplan and next steps?	Within existing planning policy or garden town policy
Open space is proposed as part of	If all the space set out in the	Both district councils have
emerging development proposals but	masterplan is provided there will be	policies which refer to the natural
not necessarily in the right place, type	sufficient open space per capita in	environment and to the design of
or size to help redress the deficits. By	the plan period (2031). The garden	open space as it relates to new
understanding the appropriate type	town must provide larger new spaces	development. There is not a great
and disposition of spaces, it is possible	as required by the ANGst. Review of	deal on the character, quality, design
to make a townwide plan rather than	garden town standards may result in	or use of multi functional green
development focused provision. The	a need for greater provision if Didcot	space, its benefits or potential
masterplan strategy shows all space	is benchmarked against other garden	locations.
types at locations where they are	towns – typically 40 per cent. (see	
required.	green infrastructure strategy).	
How could this be funded and	Research/ consultation	
supported?	Next steps	
Some of the new spaces will be funded	Commission detailed design of	
by development.	proposed new spaces. Research	
The long term management and	trusts set up to manage open	
maintenance of the spaces is the	space. Research funding from other	
included in the green infrastructure	organisations e.g. health authority if	
strategy. Potential to set up a trust	connection between wellbeing reduces	
to ensure that the spaces remain well	impact on health services. Research	
cared for and relevant to the local	into other contributors to the trust.	
population. Other initiatives could	Research how communities can be	
include using community volunteers to	encouraged to take ownership and care	
perpetuate some aspects of the open	for the green spaces around them.	
space provision.		

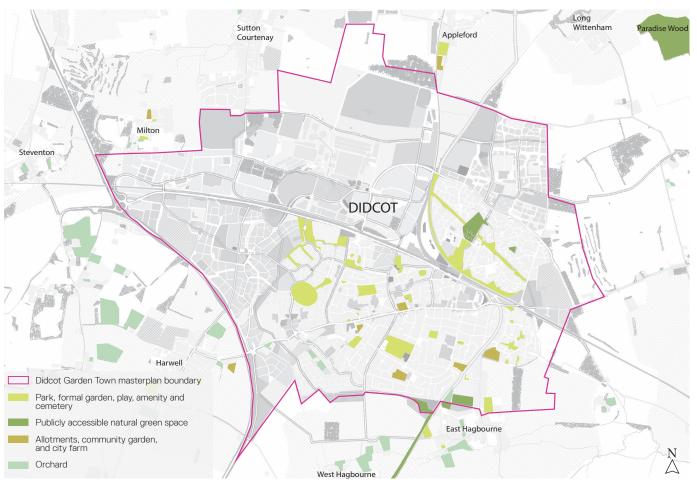


Figure 8.6 - Existing accessible open space

Existing accessible open spaces

Didcot already has a network of open space, wide tree-lined streets and a green setting. The district councils have adopted Natural England's Accessible Natural Green space Standard (ANGSt) for natural and semi-natural green spaces which is an accessibility standard based on distance to different sized sites rather than a quantity standard per head of population. While some overlapping in the criteria means that some parks are included in the calculation, the ANGSt assessment helps identify spatially where new green spaces should ideally be located, and their recommended size.

Using ANGSt analysis, which states:

- No person should live more than 300 metres from their nearest area of natural green space of at least two hectares in size
- There should be at least one accessible 20 hectare green space

site within two kilometres from home

- There should be one accessible 100 hectare green space site within five kilometres
- There should be one accessible 500 hectare green space site within ten kilometres

Assessment findings

There is a partial deficit of accessible natural green space sites two hectares and above within 300m from home in Didcot. The central area between Broadway and the railway in particular is lacking access to accessible natural green space. North of the railway line, Ladygrove Park and lakes provide an important area of accessible natural green space. Residential areas further than 300m from this site tend to be well greened with access to the Ladygrove Loop and generous private gardens.

 There is a complete deficit of accessible natural green space sites 20 hectares and above within two kilometres from home in Didcot. The Earth Trust land at Wittenham Clumps is the only nearby site above 20 hectares but is over two kilometres away.

 There is a partial deficit of accessible natural green space sites greater than 100 hectares within five kilometres from home in Didcot. The Earth Trust land at Wittenham Clumps and around is the only site above 100 hectares and much of the south and west of the town is further away from this site than 5 kilometres.

Given the space constraints in existing urban areas green space in new developments needs to be planned to meet ANGSt standards and will help to mitigate any lack of accessible natural green space in adjoining existing areas provided footpath links are created between areas. As a guide, and based on a spatial assessment of potential new development sites, the following additional accessible natural green spaces should be provided as a minimum:

- Seven accessible natural green space sites of 2-20 hectares – four to the north and east of the existing town and three to the west of the existing town amounting to a minimum of 14 hectares in total. Locations will depend on the final layout of development and the proximity of the larger 20 hectare plus sites.
- Two accessible natural green space sites of 20 hectares or above – one to the north and one to the south

of the existing town amounting to a minimum of 40 hectares in total. Identifying suitable land and resources to create these large sites is challenging but early identification and planning is vital. Potential locations are shown on the landscape masterplan on the following pages. Recommendations for funding are included in the green infrastructure strategy in Appendix K. It is unlikely that land will be available for a 100 hectare or larger site within five kilometres of the town, so this has not been included in the recommendations for new green space. However it will be important to improve access to the countryside, in particular to key sites such as Wittenham Clumps and the AONB landscapes to maximise people's access to large areas of natural green space. (see section 8.2.1)

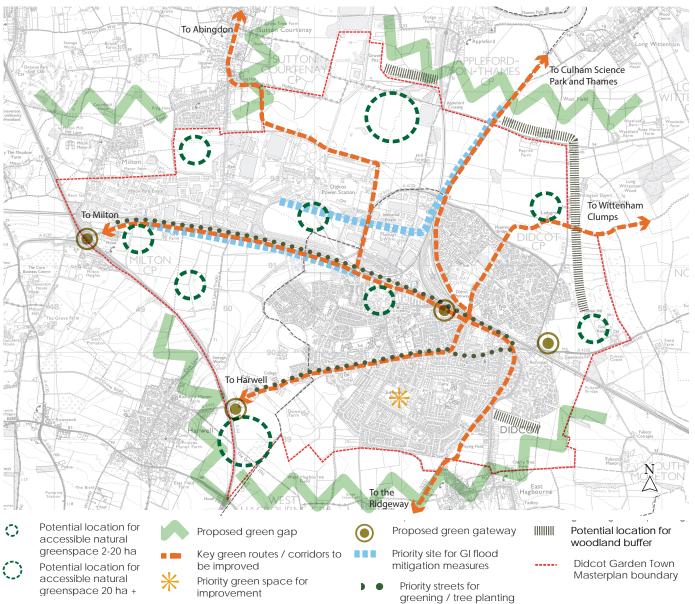
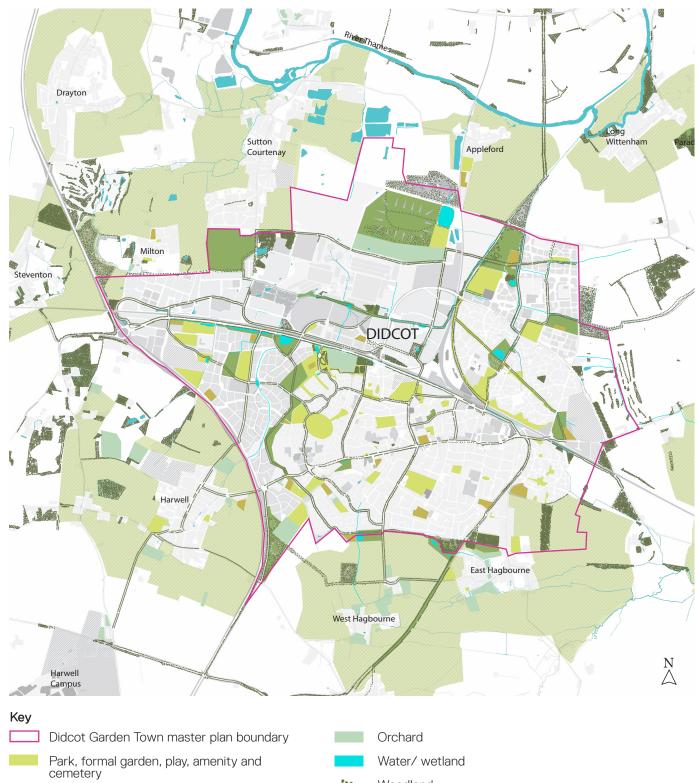


Figure 8.7 - Green infrastructure key recommendations plan



Publicly accessible natural green space

Allotments, community garden, and city farm

Proposed green buffer around necklace of villages

- Water/ wetland Woodland Landform Green corridor
- Didcot Station

Figure 8.8 - Proposed landscape plan

How open space can form a key part of the quality of Didcot Garden Town

A fundamental principle of green infrastructure is that a single site or asset can provide a range of social, economic or environmental functions and benefits. This multi-functionality highlights the advantage that green infrastructure has over traditional engineered solutions to environmental problems (Natural England, 2009) such as:

- Access, recreation, movement and leisure
- Habitat provision and access to nature
- Landscape setting and context for development
- Energy production and conservation
- Food production and productive landscapes
- Flood attenuation and water resource management
- Cooling effect

There is a growing body of evidence that identifies strong links between investment in green infrastructure and the economic, social and health benefits that can result (Natural England, 2014), including:

- Inward investment increasing the attractiveness of the environment increases inward investment and property values in proximity
- Visitor spending the quality of the environment impacts on the number of visitors it attracts and how much money they spend in the area
- Environmental cost-saving green infrastructure provides important regulatory services which can reduce damage costs and allow greater investment in productive activities
- Health improvement access to quality green space has a positive impact on ill-health issues and productivity

- Market sales urban food growing can increase economic output locally
- Employment generation developing and maintaining green infrastructure provides jobs (Defra, 2013)

The green infrastructure strategy has evaluated open space provision, quality and standards. The masterplan shows the disposition of new spaces which address the deficits thrown up by the green infrastructure audit. Each of these sites needs careful design to ensure that the new spaces provide the following:

- Coherent design which evokes good identity and local distinctiveness
- Green space which links to the wider network of the town
- Inclusion of water sensitive design and provision for sustainable urban drainage systems (SuDS)
- Planting appropriate to the location



and character of the local landscape

- Overlapping uses which provide activity and interest for mixed user groups
- Seasonality beauty and delight, subtle design features which enable a revealing of the site so that multiple visits will be an enduring pleasure
- Maximise potential for views over surrounding areas

Sketch analysis is shown for the proposed new spaces on the following two pages.



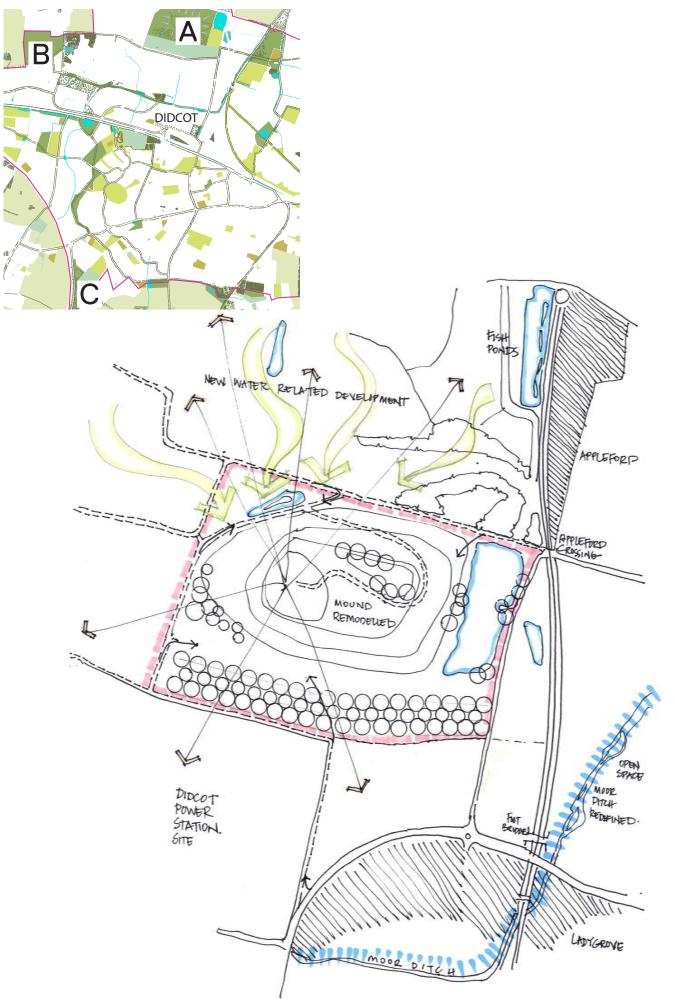
© City of Oaks Foundation at Wilkerson Nature Preserve Park



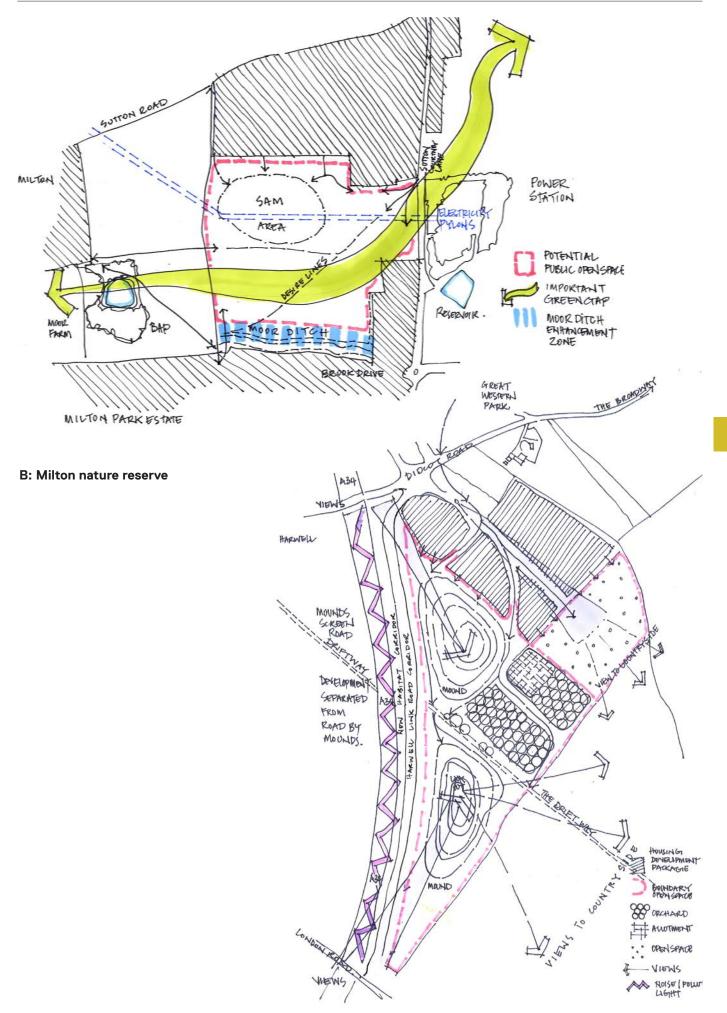
© The Sharing Solution by Janelle Orsi/E Doskow Attorney



Northalla Fields



A: Appleford landfill



C: Driftway Tumps

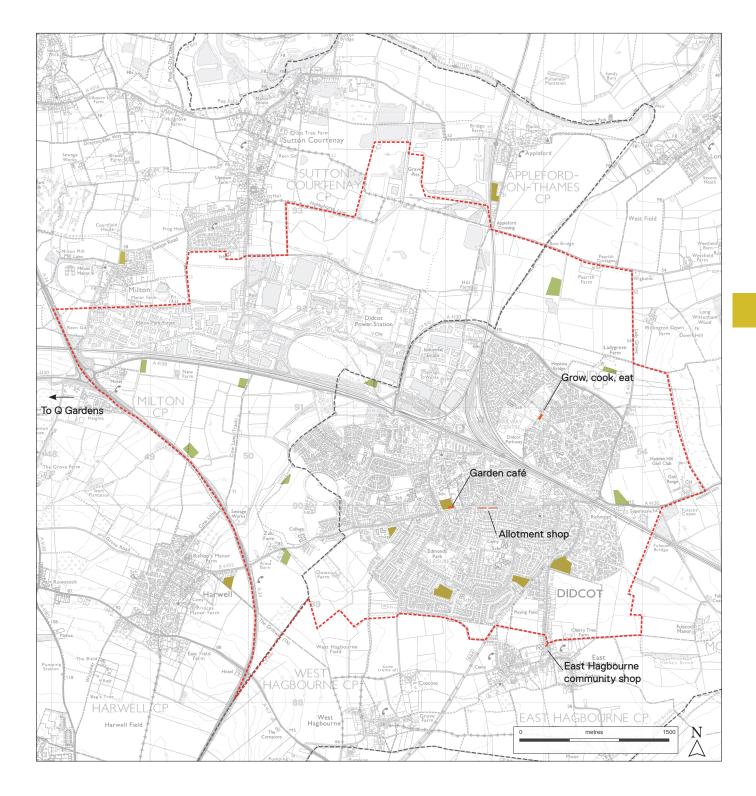
8.3.4 Landscape priority 3: promote growing of local food

"Our lives revolve around food. We nourish our bodies with it, but we also celebrate, entertain and express affection with it." Green Living



Food security – that is the ability of a community to feed itself – will become more important as populations grow, energy becomes more expensive and climate change has an impact on growing conditions. Didcot is in a rural area and has the potential to plan now to become more self-sufficient, with the subsequent benefits for food miles, food freshness, health and supply.

The status quo	Why this is necessary?	Where the garden town team assumptions come from
There is an active allotment society in Didcot. The Earth Trust is involved in education and the connection between food production and the rural environment. Local food production is not common. Sustainable Didcot and Sustainable Blewbury organisations show that local interest is growing.	Fresh, locally produced food reduces food miles, provides a resource for education and promotes community. Locally grown food is fresher more nutritious and reduces the need for imports (50 per cent from EU).	Desktop evaluation of the number of allotments and community gardens. Development of Sustainable Didcot – guerrilla gardening and community interest in local food. Consultation with allotment group.
How it can be improved and what the aspiration is	Is there enough in the masterplan and next steps?	Within existing planning policy or garden town policy
Provision of more allotments and associated facilities to cook, eat and sell locally grown food in local restaurants and cafés, farmers' markets and community shops help sustain local food production and boost local economy. More education on benefits of local food, economic, budgetary, effect on food miles, nutritional benefit, exercise health and wellbeing.	The disposition and number of allotment sites has been set out in the masterplan to provide for the increased population of the plan period. Agricultural land is largely in arable production. If markets can be established more local farmers may be persuaded to try market gardening, vegetable boxes etc. Bio science team can initiate new methods and micro vegetable growing.	Councils have a statutory obligation to provide allotments if there is sufficient demand. Existing allotments cannot be disposed of unless new ones are made. South Oxfordshire District Council's core strategy states that agriculture makes a major contribution to the character of the district and local production needs to be supported to reduce food miles. Policy supports food enterprises, farm shops and farmers' markets.
How funding and initiatives can support this?	Research /consultation - Next steps	Quick wins
The Earth Trust provides courses and education for schools on the connection between the rural environment and food. Funding for the Earth Trust to extend their education reach will help promote interest. Funding for community worker or Sustainable Didcot to set up new allotments and community garden. Local events at community garden, 'bake off' and seasonal cooking festivals etc. can help promote ideas and benefits.	Develop community interest in local food growing. Initiatives to engage with existing allotment societies and Sustainable Didcot to promote local food production should be organised. Identify sites within villages to be included in neighbourhood plans for commercial market gardening by local landowners and farmers. Research potential for involvement of bio-science and landowner groups. Provide ten new community orchards.	Opportunity for a new community garden at an unused site adjoining the Co-op on the Ladygrove estate. Pop-up shop to sell local produce on Broadway. Also stalls within Saturday farmers' market to boost local interest. Use social media.





Existing allotment

Proposed allotment

Didcot Garden Town

Masterplan boundary Local authority boundary ____



Wallingford Market Place

Promotion of local food

A local food economy is a key idea in the design of Didcot Garden Town. There are a host of reasons why local food is good for environment, economy, community and sustainability:

- Developing a local food economy reinforces the connection between our own lives and the rural environment
- Promoting understanding of the value of local food is important for children as well as adults. Food bought and grown locally is fresher and more nutritious because it hasn't been stored or transported miles and it tastes better
- Buying local food supports the local economy and rural land uses. Farmers who sell at farmers' markets can also provide produce for local restaurants and cafés
- The local economy is supported when new businesses are set up to sell local food, such as cafés and restaurants
- When local farmers grow food with sustainable agricultural practices they support biodiversity and help create habitats rather than eroding them
- Availability of locally grown food builds understanding of seasonal variety
- Involvement of local people in food

growing builds community

- Gardening increases physical activity outside, and is good for overall health
- building community involvement supports well being and mental health

Didcot has thriving allotment societies and new allotments are proposed as part of the network of open space within the masterplan. Getting these new allotments off to a good start may take the services of a community liaison officer to promote interest in developing the new plots.

Once allotments become established they may produce more than holders can eat themselves. It is proposed that one of the pop-ups on Broadway is an allotment hub, providing support, advice and growing tips as well as selling surplus produce.

Other industries may be spawned through the local food growing industry - preserves and pickle making, and other types of baking and cooking which uses local produce, new cafés and restaurants which serve food grown locally can also become established.

In order to assess the viability of a local food growing economy expanding and monitoring the Didcot farmers' market will gauge its success. Didcot has an established science community including a bio-science community. The growing of micro vegetables is a major industry in Holland and is growing in the UK. Didcot is surrounded by high quality farmland, largely in arable use, although there was formerly a strong tradition of local fruit growing.

There is an agricultural college at Cirencester and bio-science within the local science community. Stakeholder engagement with these groups and initiatives to promote new agricultural diversity could also see the introduction of micro vegetables in the local area.

The masterplan proposes establishing a minimum of ten new community orchards within the town in the immediate plan period to help promote community involvement with local fruit growing. Locating orchards and allotments together helps to ensure their success. Monitoring the success of these orchards will be key to extending the initiative to neighbouring villages. The Earth Trust would be a helpful partner in this enterprise, supporting community groups with advice and guidance on methodology and helping to promote events such as apple day.



© Berkshire Buckinghamshire and Oxfordshire Wildlife Trust



© Koppert Cress Netherlands



Image mylightyearwarranty.com





8.3.5 Landscape priority 4: integrate new urban public space

"In order to create the kind of high-quality places we all want, a major cultural change is needed where the focus of everyone involved moves towards the wider context of what is already there and its all-important setting and context." Sir Terry Farrell

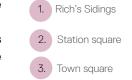
All successful towns need good quality, public urban space which citizens recognise as a place to meet, for shared activities like markets, celebrations or demonstrations. Well-designed spaces encourage people to visit, linger and interact. The garden town is an opportunity for Didcot to review its existing public spaces and to consider what new provision is needed as the town expands.

The status quo	Why this is necessary?	Where the garden town team assumptions come from
Didcot's public open spaces are very limited in location, size and design. Broadway is an important part of the town centre, but its public areas are limited to a footway to a one-sided street. Public space around the library, civic centre and fire station is also very limited and does not help to signal the civic functions of the buildings. Didcot Station has no sense of arrival and is flanked by open car parking without identity.	Well-designed public space is part of the composition of town centre development. Vibrant town centres need public space which relates to the uses and buildings nearby, providing appropriate scale, context and a canvas for public life. It is actively used open space which causes people to dwell in the town centre. Providing public spaces will help to make the town centre a destination.	Site assessment and evaluation of existing provision. Design team initiatives and collaboration.
How it can be improved and what the aspiration is?	Is there enough in the masterplan and if not next steps?	Is it supported by existing planning policy or should it be in garden town policy?
With the garden town masterplan proposals to extend the quality of the town centre, new public spaces will support and underscore the function and sense of arrival at the heart of the town. Masterplan proposals will highlight zones where public areas should be enhanced but more detailed design of each of these zones will be necessary.	Detailed design of individual sites will be necessary to ensure that the public areas are developed with new uses and features to enhance the character and quality of the spaces. This will need to be developed in tandem with the building proposals. Sketch concepts of the key spaces are included in this section.	Both district councils supports open space, sport and recreation and walking routes. Development is expected to make provision for open space and recreational facilities. South Oxfordshire District Council's core strategy recognises deficiencies in existing open green space and leisure provision. Green space studies set out proposed strategy to meet targets. The garden town to increase density of town centre and requirements for public areas.
How could this be funded and supported?	Research/ consultation - next steps	
Sketch development ideas of plots such as Rich's Sidings, Baptist House and station square are part of the proposals. Public spaces should be funded as part of these development proposals. Broadway public areas could be council funded.	Detailed proposals for Rich's Sidings, station square and the town square will help consolidate the town centre. New public space at these locations will contribute to the legibility of the town centre.	

As part of the masterplan proposals a strategy for the consolidation of the town centre has evolved. This is described in chapter 9. With the development proposals for Rich's Sidings, station square and the town square on Broadway the location of public spaces which are strategic to the legibility of the town centre has become clearer. These three spaces have been developed to sketch proposals and are linked by proposals for the Gateway Spine, the Garden Line and the Cultural Spine shown below in Figure 8.10. The main requirements for the public spaces strategy in the heart of the town are to:

- create a positive arrival experience at the station
- improve the intelligibility and connection between the station and the town centre
- terminate Broadway in a positive way
- create a larger space for markets or social events close to the Cornerstone Arts Centre

Providing these new spaces will also play a key role in consolidating development in the core of the town. It will also allow more potential for diverse activities with a greater offer for people to enjoy both during the day and evening.



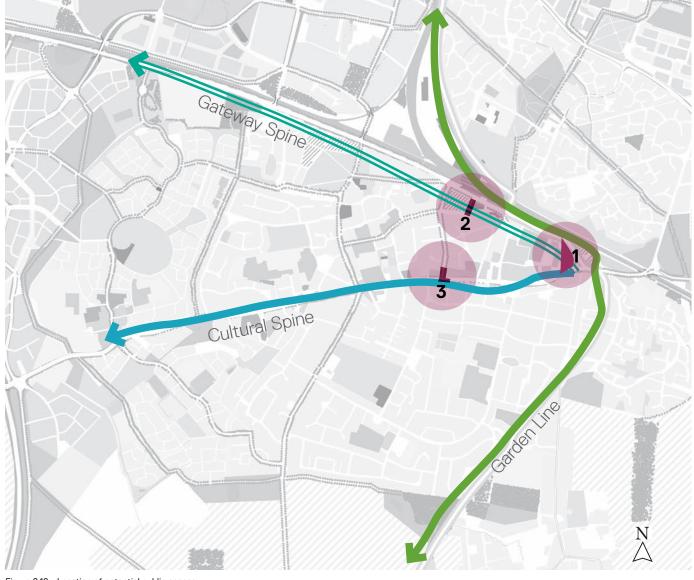
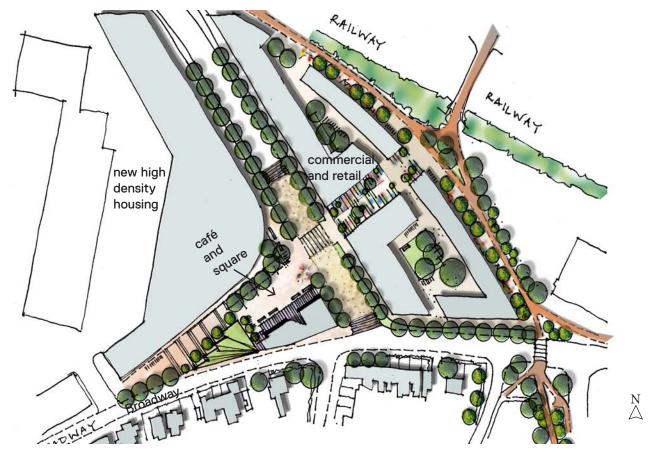


Figure 8.10 - Location of potential public spaces

Rich's Sidings

This space will form both a more positive termination to Broadway and redesign the corner from Hitchcock Way, to Broadway, again creating greater legibility and integrating the station with the town centre. This space at the head of the pedestrian route from Station Road has the potential to form a strong node leading to a route north east across the railway and pedestrian and cycle routes south along the Garden Line. The public areas will form a focus for new buildings on this site as described in chapter 9. It will have potential for new planted areas, a strong structure of trees which help to delineate the routes through it and a wider space in front of an arts building.



Rich's Sidings - a new layout for Broadway





Quakers Friars Bristol © NT

More London © Rhab Adnam

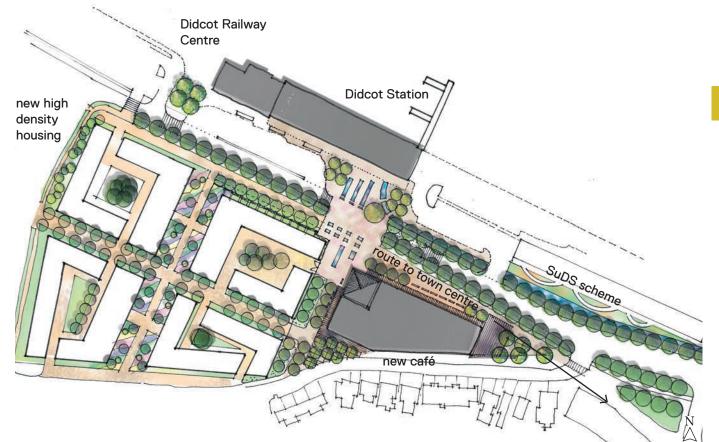
Station square

2

The proposals for a station square will form a positive arrival point in Didcot, which immediately indicates the route towards the town centre. Running east-west through the space and forming a strong part of the sustainable blue green landscape priorities - the SuDS scheme will be integrated into the space, with formal elements such as canals, fountains, rills or other designed water features which also perform an important function in accommodating surface water runoff. New planting will help to structure the space and direct visitors towards the town centre. The character of the

planting will also help to set the scene for the garden town itself, creating a strong setting to the arrival.

The route parallel with the railway will form part of the new cycle network and include a sculpture route or outdoor gym apparatus as part of a circular route around the town centre.



Station square - new arrival point for Didcot





© Iron Age Designs

Town square

This will form a strong termination to the route past the Cornerstone Arts Centre with the potential to expand to accommodate markets or public events. It will also turn the corner into Broadway and form part of the series of spaces along this street giving it more coherence and underscoring its purpose as the key civic street.



Didcot town square



Kings Cross London, well used successful public space steps to the canal





Malmo Western Harbour integrates public space with soft space and water areas

3



Art, meanwhile uses and lighting are key to enhancing the public spaces as shown in examples on facing page:

1 Bristol's Gaol Steps has a multi- level pedestrian street at its heart, street trees, space for cafés to spill out and feature lighting provide diverse interest

2 Temporary uses at Boxworks by Temple Meads in Bristol supports small businesses with low rents in containers while the site is waiting to be developed

3 Dynamic and distinctive lighting in Eindhoven helps placemaking in a transformational town

4 The Kelpies in Grangemouth form an iconic and well-loved landmark

Gaol Steps Bristol © NT



Broadway new public spaces and street scene:

Bristol Boxworks © NT



© Vermeer fotografie

© Sandor Bernath



8.3.6 Landscape priority 5: protect key views

"The UK has only 13 per cent woodland cover, compared with an EU average of 37 per cent. Integrating trees and woodland into urban areas or farmland can bring great benefits such as urban cooling, shade and shelter, minimising run-off from fields, and reducing the impact of flooding." The Woodland



Trust

Didcot has the advantage of good quality rural landscape all around, in particular the AONB and Wittenham Clumps. It is important that new development considers the impact it has on these important windows to the wider countryside.

The status quo	Why this is necessary?	Where the garden town team assumptions come from
Long distance views from the Ridgeway and the AONB give panoramas of the Didcot setting. Viewpoints within the town are limited. The tump at Ladygrove is existing key space. Opportunities for new lookout sites include the landfill site west of Appleford and new site at the Driftway. Other local views from streets into the countryside are important and open ended streets should be protected as part of Didcot's identity. Views towards the power station which have been a key part of the identity of the town for many years will be lost.	Part of Didcot's identity is the view of the power station. With its loss opportunities to enhance legibility and identity by forming new landmarks will be an important part of the perception of the town. Providing viewpoints from which it is possible to take stock of the local area, especially within a generally flat landscape is important. It helps legibility of the area and lookout points can provide natural destinations for local walks.	Site survey and desk top analysis of the topography of the local area. The tump within Ladygrove park and the Wittenham Clumps provide good examples of local high points which are well used by local residents, giving a view over the town to enjoy the prospect of the wider landscape.
How it can be improved and what the aspiration is	Is there enough in the masterplan and next steps?	Within existing planning policy or garden town policy
As part of the new multifunctional green spaces it will be possible to create landform which can provide new local views.	Masterplan proposals include new highpoints and tumps. A complementary site on the western side of the town to balance the Wittenham clumps. A new space may not provide the same nature conservation or historic value as the Clumps, but can nonetheless provide locally appreciated resource.	Vale of White Horse District Council's core policy 44 sets out requirement to protect important views and visually sensitive skylines. Policy 35 describes the need for local distinctiveness. This should be set out in the garden town policies.
How it could be funded/ initiatives to support this	Research/ consultation next steps	
New highpoints could be partly funded by development and provide a location for the disposal of spoil generated in the building of new houses.	Spoil from development sites can be reused. Research to establish sources of fill. A study of viewsheds from existing streets will help to protect important local views. Views within green buffers should be part of neighbourhood plans for surrounding villages.	

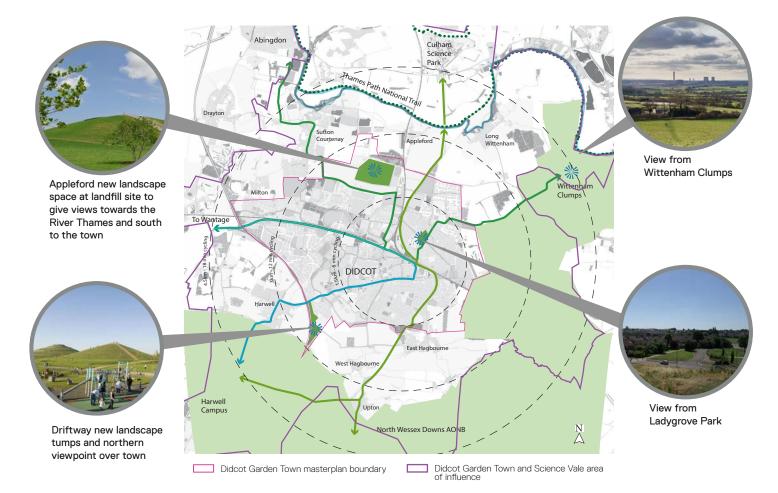
Didcot has a landscape context of surrounding lowland, which is predominantly clay farmland. This agricultural landscape is often poorly furnished with larger blocks of woodland and in some districts the network of field boundaries are eroded with intermittent hedgerows. This has the effect of increasing the visibility of the town and built up land in local and wider views. While screening development is not the main requirement well sited planting is important in allowing new development to be absorbed into the wider landscape.

A detailed study of local views to help identify those key to the setting whether from Wittenham Clumps towards the River Thames or from streets which end in the agricultural landscape will help provide the baseline to a strategy for protecting and enhancing local views.

In a flat landscape such as Didcot providing opportunities for new views to orientate visitors and for local people to enjoy a prospect of the surrounding area is a key amenity.

As part of the proposed multifunctional landscape spaces within the green infrastructure strategy for the masterplan it is indicated that new high points or tumps will be included. On the landfill site west of Appleford this raised land is already evolving without a clear use or form. It is currently being grazed by sheep but not public access is provided. Adaption of the site to include public access, and provision of a detailed masterplan with proposals for multi-recreational uses and the added benefit of a great view of the surrounding area is part of the masterplan proposals.

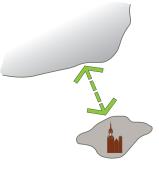
The site close to the Driftway to the south west corner of the town is currently in the reserve land for the potential southern perimeter road. This land has been included in the masterplan proposals for another landscape space and has potential for a new mounded form and look out point. Its landmark location, highly visible on the western approach via the A34 will also separate the impact of the road from adjoining residential areas.



8.3.7 Landscape priority 6: formalise green gaps

"Often it is the commonplace things, the locally abundant, the places and the wildlife on our very doorstep that we take for granted, that slip through our fingers."

Common Ground, Arts and Environmental Charity



The expansion of Didcot means that the town is growing into greenfield land towards surrounding historic villages which have their own separate identity. A decision needs to be made to protect the villages from coalescence with the town and to allow them to control their own development. The following section explores some alternatives.

The status quo	Why this is necessary?	Where the garden town team assumptions come from
There is currently a planning appeal in East Hagbourne which demonstrates the pressure on these sites. Woodland on the fringes of Didcot is sparse and countryside may be well divided by streams, watercourses and hedgerows but larger woodland will have a beneficial effect in a number of ways.	Preventing coalescence between the villages and Didcot will protect the identity, character and diversity of the area. The villages have their own often historic environments which are separate from that of Didcot. There is also a need to protect the best and most versatile farmland for food production. Providing woodland in the periphery of the town can help absorb surface water run-off, attenuate flood flows and prevent	Review of the planning consents and applications for new housing on the periphery of Didcot. Pressure to build on land between the villages and the outskirts of Didcot is observed in development proposals coming forward to planning. Evaluation in the field of landscape types and characteristics as set out in the landscape character assessment.
How it can be improved and what the aspiration is	flooding. Is there enough in the masterplan and next steps?	Within existing planning policy or garden town policy
The green gaps to the villages on the periphery of Didcot can provide not only a rural agricultural use but be part of the recreational use of the garden town. Routes through this landscape are key to link the town both to the villages and other settlements. Topography, natural features such as woodland and orchards provide three dimensional screens to separate the town from neighbouring villages.	The masterplan sets out the proposed buffers to the necklace of villages. These need to be verified on site, with a greater understanding of heritage assets of each village, extent of conservation areas and mapping the visual envelope of the settlement within the countryside.	South Oxfordshire District Council's vision says there is a need to maintain the general balance between the market towns and villages recognising the need to maintain the character of the district and to ensure that the character and distinctiveness of the towns and villages is maintained. Vale of White Horse District Council's core policy 44 states that key landscape features are to be protected and enhanced and core policy 37 relates to design and local distinctiveness.
How could this be funded and supported?	Research/ consultation -Next steps	
Funding initiatives to promote the planting of woodland is available from the Forestry Commission. Initiatives and funding for the planting of orchards are also available from the Tree Council.	The buffer zones must be mapped in more detail, a methodology is included in this section. Discussions with farmers to enable farmland to be diversified from strictly arable use with new initiatives for food production. Engagement with landowners and bio-tech science organisations to establish new ideas and projects for food production.	

The landscape setting

Assessment of the landscape character and quality of the setting of Didcot has shown that landscape assets of the area are very high. With the North Wessex Downs AONB to the south and east of the town, the River Thames floodplain to the north and large tracts of high quality farmland within the lower clayland landscapes to the south and east of the town. Integrated with this landscape is the pattern of villages, laid out with fields, orchards and woods and linked by a network of local footpaths and greenways.

The value of this landscape setting is not only set out in the landscape character assessment provided in Appendix L but is evident from public consultation undertaken as part of the garden town project. Many people have said that they like living in Didcot because of the immediate access to and visibility of the countryside.

In order to safeguard this important landscape setting, and to ensure that the development of Didcot is consolidated within the town's core, the garden town masterplan principles include the proposal of green buffers to the surrounding 'necklace of villages'. A recent planning appeal on land between Didcot and East Hagbourne was dismissed, reinforcing the role that open space plays in preventing the coalescence of Didcot and its surrounding villages. Originally a green belt to the town was proposed but this may have had the effect of restricting growth, and would potentially be more detrimental to the villages as they could come under greater pressure for development.

Broadbrush principles were used to sketch the green buffers on the landscape masterplan (see Figure 8.12) using an evaluation of local topography and field structure, relationship with the village curtilage, contiguous land parcels and boundaries formed by vegetation. This approach is sufficient to establish the principle of the green buffer but further detailed study of each location should be carried out to ensure that each area is properly considered on its own merits.

In establishing the sufficient extent of each green gap the objective is to define a clearly defensible boundary to the landscape setting of the village using a baseline study to include the following tasks:

- Desktop analysis of Ordnance Survey maps to establish the parcels of land which relate to the village envelope on all sides
- Evaluation of the heritage assets, with a mapping of conservation areas, listed buildings and historic landscape features
- Review existing archaeological records and note any local

designations or monuments

- Mapping of tree preservation orders and protected trees and woodland
- Mapping of biodiversity assets designated local nature reserves or other wildlife protection areas
- Evaluate landscape character assessment information
- Use visual assessment to analyse the visual relationship between parcels of land and check for intervening vegetation which may separate landscape compartments from the village. Where landscape compartments are contiguous and have a strong visual connection to the village in guestion the whole parcel of land should be included in the green buffer. Remnants of historic landscape structure are particularly vulnerable to loss and careful identification of these elements should be made by an experienced practitioner in the field and through mapped study.
- Topography: where landscape compartments are broken by a change in topography, which limits the visible land only that within the view should be included.

Once mapped and evaluated the extent and components of the green buffer should be included in the local neighbourhood plan of each village to ensure that this asset can be captured.



East Hagbourne green gap 2016 © Andy Barmer

Land uses within village green buffers

Much of the land in green buffers will remain in private ownership and in agricultural use. This land forms the mainstay of the tranquil, rural landscape which is in contrast to the built up, urban nature of the town.

A network of public footpaths and rights of way bisect this land, many are historic routes, part of the landscape structure for generations, connecting villages to farms and allowing stock to be moved between pastures at particular times of the year. The footpath network is a strong structuring element in the landscape and an existing recreational resource, with diverse routes connecting from lowland to the AONB.

Within the wider Didcot area, the peripheral landscape can be divided into three broad zones which relate to remnant landscape structure: 1) To the south and west of the town mapping indicates that orchards were a strong part of the agricultural land use, with many village-related orchards still to be found, especially around the Hagbournes, Upton and Harwell.

2) To the east and north east of the town there are fewer orchards and remnant woodland, includes Paradise and Long Wittenham Woods.



Figure 8.12 - Outline location of proposed green gaps to necklace of villages around Didcot Garden Town

3) To the north of the town, larger wooded areas are more often water related, with stands of willows and alders along the margins of gravel pits, lining the River Thames and other watercourses as well as regenerating scrub on landfill sites and more diverse woodland around Sutton Courtenay.

With this broad structure in mind the following section sets out the design guidance on increasing the landscape structure within the green buffers.

Orchards

Orchards are a particular landscape feature readily identifiable by the pattern of trees and regular rectilinear field parcels. Remnants of orchards are notable where there are established shelter belts found for example around Harwell village and East Hagbourne.

In restoring some of the amenity, diversity and character to the green buffers new orchards should be part of the mix where land ownership permits a change from larger scale farming. Planting new orchards will help to re-establish a traditional use within the green buffer which is beneficial on many levels, to the settled landscape structure, to local communities as an education resource and for local food, to wildlife and to help prevent flooding and increase air quality. Community orchards are eligible for grant aiding through a number of bodies including the Tree Council, the Peoples Trust for Endangered Species and the Department for Environment Food and Rural Affairs. The Department for Communities and Local Government's guidance on community orchards provides a guide on setting up a community orchard and links to Common Ground's publication *Community Orchards Handbook* (Common Ground/Green Books 2011).

In Blewbury a new community orchard has been planted in the last couple of years and the benefits of this resource for local education, as part of the open space infrastructure, for wildlife, for community building with the benefits of growing, cooking and sharing local food are already being enjoyed.

Sites for new community orchards should be identified and plotted as part of the emerging local neighbourhood plans to ensure that sufficient space is safeguarded for this local use.

Woodland

Woodland resources around Didcot are relatively scarce. There are woods to the east at Paradise Wood and then at Wittenham Clumps. Remnant woods on larger field boundaries, along stream fringes and steeper level changes, are still found within the lower clayland landscape type. The landscape



© Flickr.com

priorities propose new woodland planting particularly on the eastern town fringes for the following reasons:

Amenity benefit - woodland can be part of a wider network of spaces for recreation within green buffers. It gives structure to the agricultural landscape, providing a three dimensional element and enclosure to the landscape. It gives shelter to adjoining fields and shade to visitors, it can also be a destination in its own right providing it is well-managed. woodland Interpretation of resources, woodland walks, tree top trails and organisations such



Illustrations of Cotswold water park

as 'Go Ape' can maximise the recreational value of woodland, while educational benefits to local communities can include rural craft courses, 'woodcraft' for children, ensuring that woodlands provide a truly multifunctional resource.

Wildlife benefit mature native trees provide the best opportunities for wildlife. English oak supports the highest number of species. Diversity in the woodland structure with shrubs under higher canopy species, and a pattern of densely planted areas, glades and strong woodland boundaries. means that the maximum potential for wildlife can be supported. A network of managed hedgerows also connects woods providing routes for foraging and commuting species to protect the viability of habitats.

Protecting soils – Tree root zones bind soil together, protecting it from erosion. Trees return nutrients from leaf mould and decaying vegetation to the soil, protecting its fertility and promoting the activity of beneficial organisms which build soil structure. Reducing flooding - trees take up moisture from the soil, absorb rain water and diffuse heavy rainfall. Woodlands also slow the rate of run off from uplands to lowland streams, the friction they create to the movement of water is beneficial, allowing time for water to percolate through soil replenishing water table levels.

Landscape structure of the floodplain

The field structure to the north of the town has broken down entirely where land has been worked for gravel and remnant pits are left as open water giving this land a different character to that of the lowland farming landscape. And in terms of beneficial use to the garden town community it holds great potential for reimagining.

Restoring access across the landscape is high priority, re-establishing routes which link to the River Thames, Sutton Courtenay and the proposed footbridge to Culham. The masterplan includes a cycle track beside the Moor Ditch running north to Long Wittenham and others tracking across disturbed areas towards Sutton Courtenay. The patching together of these routes allows opportunities for new planting to restore landscape structure but this should be carried out within the context of a specific masterplan design exercise to maximise the potential for recreation and new development which could respond to flooding likelihood.

Water based recreation, opportunities for wildlife and development which responds to the floodable zone would be truly innovative and create a new district with buildings floating above gravel pits well connected by rail at Appleford for example.

Where the gravel pits have already been filled and are left proud of the surrounding landscape these sites provide opportunities for creating new community parks as part of the need for accessible natural green space which is set out in the green infrastructure strategy. Examples of how filled land can be remodelled and recreated to make integrated landscape to new headquarters buildings as well as public space can be found at Prospect Park on the western side of London.



Image: Earth Trust - Wittenham Clumps

Design guidance summary

- Map extent of each village green buffer zone using proposed methodology given above
- Map potential orchard sites
- Set up community groups to manage new orchards
- Include woodland as part of landscape structure and network of vegetation connecting public rights of way.
- Include buffer zone and content in local neighbourhood plans
- Increase planting of water related vegetation to water course margins and redundant gravel pits
- Create a masterplan of the whole gravel extraction zone east of Sutton Courtenay to Appleford to include recreation uses, nature conservation benefits and improved access routes



8.3.8 Landscape priority 7: integrate blue infrastructure

"Blue-Green Cities generate a multitude of environmental, ecological, socio-cultural and economic benefits."



Prof Colin Thorne, University of Nottingham, Blue-Green Cities Research Project 2013-2016

Blue infrastructure is a term which refers to the movement and uses of water in a landscape. A coherent plan brings an understanding of watersheds, flood risk and water attenuation to allow water to be controlled and used in a way that benefits communities, provides amenity and biodiversity and stops hiding water underground.

The status quo	Why this is necessary?	Where the garden town team assumptions come from
Many of the watercourses in Didcot have been artificially straightened, throttled by culverts and their amenity and wildlife value is reduced as a result. The amenity of the watercourses is largely absent from the landscape. Recent flooding can be partly attributed to the insufficient sizing of culverts or clogging of trash screens on culverts under the railway. New developments which must include SuDS schemes are not maximising the value of these facilities to benefit biodiversity or sufficiently slow flood flows.	Well integrated watercourses provide part of the diversity, character and interest of landscapes whether urban or rural. Well planted, sinuous, natural water channels improve biodiversity and water quality as a result. Where space for waterways to overtop their immediate channel has been properly provided and sized sufficiently, flooding is not an issue to surrounding development or housing.	Desktop study of flooding data, observation of recent flooding events. AMEC surveys and research into flooding and water resource management (see chapter 5.3) Site survey of SuDS schemes implemented as part of new development e.g. Great Western Park.
How it can be improved and what the aspiration is	Is there enough in the masterplan and next steps?	Within existing planning policy or garden town policy?
Planning for water courses to be properly integrated into development will ease flooding and promote better water quality and diversity. New SuDS schemes which are well designed can also alleviate flooding, both in urban and more rural schemes while improving the amenity of the local area.	The masterplan makes some outline proposals for improving the Moor Ditch and new SuDS schemes at the station and on Station Road. SuDS schemes can provide more interest in the public realm and should be part of all new sustainable design proposals.	South Oxfordshire District Council core strategy says new development must incorporate measures that increase resilience to heavy rainfall events and the need for water conservation and storage. Didcot Garden Town policy - blue infrastructure is driver to design on flooding constraints.
How could this be funded and supported?	Research/ consultation next steps	
The Environment Agency provides help and advice with detailed information on flooding, and design of watercourses. Funding for new schemes should be within development proposals.	Moor Ditch within Didcot A power station, east of the railway to Oxford and at Ladygrove north to the River Thames is priority for 'daylighting'. Better scrutiny of SuDS schemes within development proposals coming forward will determine if the design will promote biodiversity as well as providing a vehicle for flood flows. It should do both.	Collaboration with freshwaterhabitats.org.uk as a way into catchment hosting meeting - which includes local landowners.

The masterplan proposes that Moor Ditch be the subject of a new design scheme for its length between Milton Park and its confluence with the River Thames. (see also chapter 5.3)

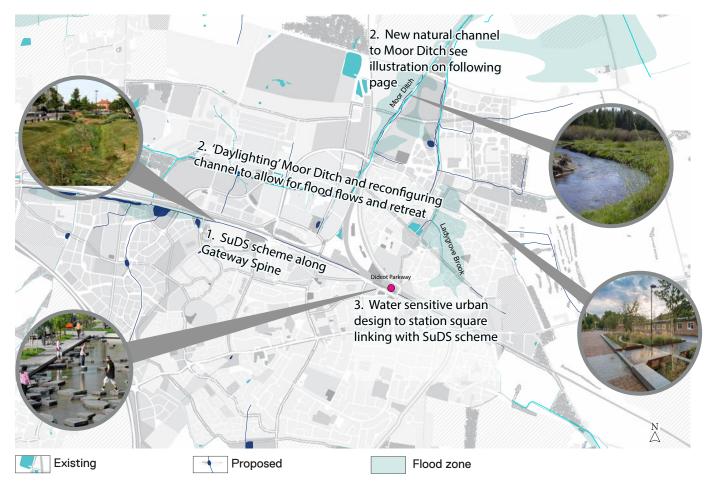
This water course takes rainwater run-off arising in areas south of the railway in Great Western Park as well as draining areas of Didcot A power station, Ladygrove and Station Road. It is therefore a key watercourse for Didcot. With the development of Didcot A power station an opportunity to redesign the channel making it sufficiently sized to provide not only a natural watercourse but accommodating a generous corridor for planting, cycle and pedestrian routes has real potential (see sketch on following page). Along with this development of North East the Didcot which includes a floodable area

proposed for recreation and green space provides a real opportunity for the proper consideration of a natural braided channel within a wide and shallower floodable zone. The levels of the braided channel allow the water course to retreat in times of low flow to a concentrated and narrow wetland, while the higher level tributaries can be allowed to run dry. When water levels are high all the channels can be filled with water. This changing profile is an important characteristic of a natural watercourse and allows many types of habitat to be established within the watercourse environs. Floating, emergent and marginal vegetation can therefore establish within the channels with larger woody vegetation such as willows, alders and poplars used to delineate the watercourse helping to trace its course in the landscape.

SuDS along the gateway spine and at the station square should include water channels at footway level, which are planted with water tolerant species. Consideration of rills, art and elements which are playful and interpretative of the water environment will also be appropriate in station square.



© Tianjin Qiaoyuan Wetland Park



Suggested blue infrsatructure projects for the locations identified in Figure 8.13 on the previous page

1. Gateway Spine SuDS scheme has potential to be part of the super cycle highway design, taking surface water run off and provide new amenity and identity to this street

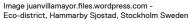


2. Moor Ditch has potential for renaturalisation to improve biodiversity, amenity and water quality as well as accommodating flood flows





3. Urban SuDS schemes can be an integral part of urban design and landscape proposals



4. Station square has potential for water features and art installation, integrating water sensitive urban design





8.3.9 Landscape priority 8: upgrade the quality of existing green space

Parks and green spaces are an essential part of urban infrastructure. They should not be seen as merely 'nice to have'. However, there is an asymmetry in how they are valued: whilst people don't want to lose green spaces, this is not necessarily reflected in terms of willingness to pay for them. They are too often taken for granted and their value is poorly understood.



UCL Policy Briefing 2014 Valuing Urban Green Space: Challenges and Opportunities

The existing green space in Didcot is dull and one-dimensional resulting in it being underused. It is also often maintained in a monocultural way, with few opportunities for biodiversity and wildlife. The garden town is an opportunity to upgrade the quality of green space and make it more multi-functional.

The status quo	Why this is necessary?	Where the garden town team assumptions come from
Generally although the quality assessments of existing spaces appear to be adequate, it is not clear what these assessments are based on and whether they are up to date with current standards for external space. The green spaces appear to be dominated by mown ryegrass and sports fields. Opportunities for biodiversity and multi-functional use are not well demonstrated.	Making the most of the existing open spaces within Didcot will be a priority to enhance their amenity value, promote active use and the health and well- being of local residents. Where spaces are well integrated into townscape, provide diverse activities and community events they are much more likely to be used on a regular basis.	Desktop study of disposition of existing areas. Site assessment of external spaces. Review of standards and quality assessments provided in green infrastructure strategy.
How it can be improved and what the aspiration is	Is there enough in the masterplan and next steps?	Within existing planning policy or garden town policy
Understanding the demand for activity which is appropriate to the demographic of Didcot will be key. Providing space for many types of activity which enhances opportunities for people to meet and socialise helps to build community and underpins health and wellbeing in the local area.	Strategic proposals for existing spaces have been suggested in the green infrastructure strategy. More detailed design of individual spaces should be carried out to ensure that the use of the existing spaces is maximised.	NPPF*: Policy 73 requires the local planning authority to develop policies on robust and up-to-date need assessment for open space, sports and recreation facilities. Policy 74 protects existing open space, sports and recreational buildings from development. South Oxfordshire District Council Core Strategy B1 and Vale of White Horse District Council states opportunities for biodiversity gain will be actively sought including connection of sites, habitat restoration, enhancement.
How could this be funded and supported?	Research/ consultation next steps	Quick wins
A change of regime will have a beneficial effect on the character of the existing spaces and greater quality impacts on community use and ownership.Demonstration of the need for alternative uses arising from the green infrastructure strategy and audit. Saved maintenance funds could be used for new facilities.	Detailed consultation with town council to demonstrate how modifying maintenance regimes can be more cost effective. Setting up trust for existing green space management has potential to be funded by more diverse sources if benefit to health and well being can be proven. Individual masterplans to be created for each park with local consultation on requirements.	Changing management regimes can have a surprisingly tangible effect on the character of open space and consequent benefit to biodiversity. Very often more relaxed mowing regimes are cheaper to fund.

* National Planning Policy Framework



Proposals for existing green space need to be created on a site by site basis and will require detailed consultation with local residents and user groups. Involvement of community groups in upgrading or changing much loved local spaces is essential to make sure new proposals are appropriate and well received by local residents. When local groups take ownership of spaces this is what makes them most successful. This is borne out by comments received in response to proposals to build on Ladygrove green space.

As part of the masterplan proposals a list of potential activities have been identified as follows:

Urban open green space activities

- Formal or informal gardens
- Integrated children's play space
- Discovery/ interpretation routes
- Open spaces for dog exercising
- Green gyms
- Segway and rollerblade zones
- Cycle paths
- Climbing walls and bouldering
- Skateparks
- Guided walks
- Allotments for fruit/ veg growing
- Kite flying and festival

- Jogging routes
- Picnic and barbecue spaces
- Outdoor cinema
- · Children's parties
- Park run
- Basketball hoops
- Scavenger hunts
- Safe cycle parking
- Cycle stations
- Cafés or food vehicles
- Dipping ponds
- Pocket park
- Wildlife strips
- Park runs
- Wildlife photography
- Teenage hangout areas shelters
- Model boating lakes
- Cemeteries

Didcot has only one cemetery and one churchvard burial ground. With increased population demand for burial space or locations for ashes disposal will become more critical. As part of the open space proposals innovative ways of providing for disposal of ashes should be included. Existing open spaces could include local columbaria to keep ashes from members of local community. Columbaria can be structures or earthworks with niches for retention of ashes. Spaces could be paid for in much the same way as local authority cemetaries, the design and character of these to be integrated into local parks.

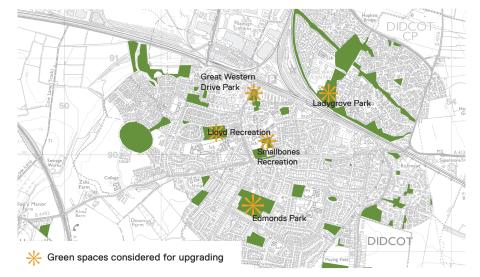


Figure 8.14 - Green spaces and those considered for upgrading

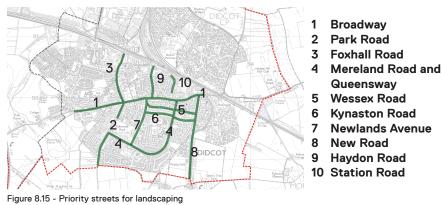
8.3.10 Landscape priority 9: re-green existing residential areas

"Scattered trees throughout a neighbourhood increase surface roughness, thereby reducing wind speeds by as much as 50 per cent."

GM Heisler, US Forest Service

"Not only do gardens improve our mood, but there is also evidence that horticulture can form part of the solution towards major health and well-being issues. The decline of the front garden aggravates environmental challenges, including flooding and reduced habitat for pollinators such as bumblebees and butterflies." Royal Horticultural Service (RHS)

The status quo	Why this is necessary?	Where the garden town team assumptions come from
Didcot has a green environment, with wide verged streets and plenty of trees and hedges. But many of the trees are poor quality and the palette of vegetation is narrow and undifferentiated between neighbourhoods. How it can be improved and what the aspiration is A programme of review of each existing district should be carried out. Evaluation of the character and quality of streetscapes and identification of the boundaries of neighbourhoods. A series of proposals to address street tree	Character of streetscape is a key factor in underlining quality. Without the careful design of external realm housing can be unintelligible, difficult to navigate and nebulous. Urban design is key, but so is sensitive landscape design to distinguish districts. Is there enough in the masterplan and next steps? Changing the character of the existing streetscape is a key initiative to give immediacy to the masterplan priorities.	Site visits, review of on the ground landscape. Quality of maintenance and evidence of maintenance regimes. Observation of numbers of hard surfaced driveways, unimaginative streetscapes. Within existing planning policy or garden town policy National planning policy framework: policy 76 and 77 allows local communities to designate green areas of particular importance to them as local green space for special protection.
provision and maintenance. Evaluation of hedgerows, their role and continuity. Review of hard surfacing of front gardens and community initiatives to change this incremental. How could this be funded and	Research/ consultation next steps	Quick wins
supported? Council fund neighbourhood community landscape officer to implement local community projects to improve and biodiversity of front gardens. Planting of orchard trees in streets could be part of orchard initiative funding available from Tree Council.	Neighbourhood by neighbourhood study to map out areas of similar streetscape character. Provide a series of strategies based on best existing landscape types augmented with new ideas. Community consultation on local ideas and requirements. Set out priorities for replanting.	Challenge existing maintenance regimes.



Restoring green neighbourhood character

Much of Didcot's housing was built post war and the core area has an arts and crafts feel. The generous dimensions of the streets lend themselves to accommodating large scale tree planting. Part of the green fabric of the streets is also formed by the preponderance of mature privet and other evergreen hedges. Continuity in the hedgerows has been eroded over time, and fencing replaces garden boundaries resulting in a patchy feel to street frontages

Most of the trees are flowering cherries, thorns or other small stature and relatively short lived species.

Another factor which affects the quality of streetscape is the paving of front gardens for car parking. This has a detrimental effect not only on the green character of the street but also incrementally affects the quantity and speed of surface water run-off.

A districtwide analysis of streets and neighbourhoods with shared characteristics would result in strategy for renewing the quality of the existing garden town.

By identifying key characteristics which underpin the street character and grouping neighbourhoods by type it will be possible to replant trees, hedges and other features so that each neighbourhood was more distinct.

Community consultation and inclusion in the replanting programme will be key to its success and could be carried out on a district by district basis, with the success of foregoing schemes as exemplars to those coming later.

Opportunities for green roofs on buildings

In order to maximise the effect of local green infrastructure and to benefit rainwater filtration and retention in situ new initiatives to increase the number of green roofs can be made as part of the garden town planning New policy to ensure that policy. planning applications requiring flat roof extensions should be built with green roofs. This need not increase the construction costs but will have a beneficial effect contributing to the garden town ethos.

Improving front gardens

A recent RHS initiative to restore soft spaces to front gardens contains useful advice on how to carry out this material change to local streetscape while also helping to retain rainwater in situ and reducing run off into Didcot's foul water system. Initiatives to implement the re-greening of front gardens will need to be well publicised and led by community officers to set out the benefits. The cost of these changes is likely to be borne by the householder. Older residents may need help implementing the changes. To reduce costs community growing initiatives could include starter kits of plug plants to help offset the cost of improving these street facing spaces.



Strong groups of trees bring character and identity to streetscape as this example at the Circus in Bath



Trees in urban spaces make places to gather and provide punctuation to the streetscape.



More creative approaches to street greening can be distinctive as this Parisian example

8.3.11 Landscape priority 10: ensure good planting structure to new developments

"Residents in 'high greenery' environments were 3.3 times more likely to take frequent exercise than those in the lowest green category"



Forestry Commission 2010

Developers do not always appreciate the emotional and financial value that a good landscape environment can bring to a new community. It is often viewed as an unwanted cost and a last-minute addition using left-over space. Landscape design should be integrated with housing layout from the beginning of the design process to ensure that it has a useful function and creates places with character and beauty.

The status quo	Why this is necessary?	Where the garden town team assumptions come from
Landscape proposals in residential schemes coming forward are evident but seldom consider the connection to adjoining areas. Landscape buffer zones around housing are common and open space often provided at the periphery. Strong landscape structure is seldom seen on housing proposals mostly consented.	Integrated landscape makes a big difference to the quality of new housing. Character and quality of site setting provides essential cues for landscape design. Spaces within built environment provide an important focus for residential districts and is the place that new communities meet and meld. Connecting routes to adjoining areas to ensure proper integration of the new district is also fundamental.	Review of extant planning proposals, design and access statements. Evidence of emerging development on local sites.
How it can be improved and what the aspiration is	Is there enough in the masterplan and next steps?	Within existing planning policy or garden town policy
Design reviews of housing proposals before submission of applications. Proper critique and discussion of what works and why to enable developers and their consultants to understand the value of design. Setting up design awards for schemes which champion good design. Publicising exemplar schemes. Letting developers know that poor design will not get planning consent. Follow through to make sure schemes are implemented as drawn.	There are plenty of proposals in the masterplan document, but these are not generally for new housing except a few high density areas within the town centre. Further development of these proposals could form part of an exemplar scheme showing an alternative approach to urban design, with higher density, better connected and considered landscape spaces which are connected and strongly embedded in the adjoining areas.	National planning policy framework: Policy 99 states that where there is new development in areas vulnerable to climate change, green infrastructure should be planned in to reduce risk South Oxfordshire District Council core strategy 3 requires all development to provide green infrastructure as well and enhance and manage the natural environment. Its core strategy G1 requires development funding to create a net gain in green infrastructure including biodiversity. Developers must show they have considered existing green infrastructure.
How could this be funded and supported?	Research/ consultation next steps	
The set up and management of design review panels is usually funded by the local council. Panel members are often volunteer local professionals with good design and communication skills and a keen interest in their local town. The review panel is often good for community as well as design quality.	Setting up a design review panel in Didcot and publicising results will help to send a message to developers that good urban design is prerequisite. Regular design and continuing professional development for district officers in planning will help with decision making and confidence building on design matters.	

How planting underscores built environment character

In both the examples below planting within the space forms the focus for new buildings, one commercial, one residential. The top image is in Eindhoven the lower one is Concordia in Cambridge. In Didcot too many of the housing estates around the town have informal or naturalistic planting usually at the periphery, which does not sufficiently reinforce the sense of place. Providing planting which is strongly aligned with more formal open space, giving purpose and focus



Eindhoven University of Technology Campus

to development is a more satisfactory response which can also aid legibility of the local area.

Where countryside meets new development areas buildings should address it, taking maximum amenity from the landscape setting.

Naturalistic planting can be included as woodland or water-related areas where reedbeds and swales are designed to maximise habitat diversity as well as mitigating flooding. The pattern and intensity of an orchard planting brings a different quality to the location, echoing older, productive landscapes.

Designing planting with different characters helps to increase the sense of place and legibility of a district. In the same way that street trees given a road rhythm and scale, formal planting can signal quality and match the character of a higher density built environment.



Accordia Feilden Clegg Bradley

8.3.12 Summary of design guidance and future work

Summary of design guidance

The garden town masterplan is not intended to be a rigid plan for the development of the town, but it provides an aspiration for the form and direction of its expansion. What it shows is that high quality design can be a catalyst for the regeneration of place and how particular examples could be developed. Coupled with this it illustrates how community involvement can generate interest and involvement in projects which build community and can alleviate the burden on the local authority.

In chapter 9 the next steps are given in some detail, illustrating how important the phasing of the masterplan will be with projects coming forward which continue to build momentum and confidence in the emerging garden town.

In descriptions throughout the document a series of quick wins have been identified along with medium and longer term projects, and it is this careful prioritising that will begin to give way to the success of the masterplan. The following list sets out a number of key steps that are critical to the ongoing delivery of the masterplan:

Design codes

The masterplan has set out the broad framework for growth, it is the quality of the projects that will be critical to its success. To ensure quality in design and detail, it is helpful for the masterplan to be accompanied by a set of design codes. This is particularly critical to the Didcot Garden Town masterplan given large areas of land have already gained consent setting their broad parameters. Design codes can assist in ensuring that the detailed delivery of the ensuing phases is of high quality. Most relevant to this chapter are:

Public art strategy

The masterplan makes recommendations for the inclusion of public art as a means towards revitalising areas such as underpasses, public spaces, gateways and reinforcement of character areas.

Public spaces strategy

In addition to public art, a public spaces strategy would help to set the standards for urban public space improvements across the town. Embedded within this would be a wayfinding and signage strategy to encourage intuitive wayfinding across Didcot.

Landcape strategy

The green infrastructure strategy underpins the masterplan proposals for the open space network across the garden town. Developing the standards, uses and design of those spaces will form the next steps to the masterplan, ensuring that they are well integrated and complementary to urban public space and an extension of the public realm. Public consultation will be key to the acceptability of new spaces and inclusion of local people's opinions in the development of this strategy.

Neighbourhood re-greening strategy

Enhancing the character and quality of the existing town's landscape will quickly demonstrate the green assets in local communities. Providing a strategy for neighbourhood replanting will help to reinforce local identity and improve biodiversity. Set in place a strategy to re-green front gardens to help reduce flooding and make a positive contribution to the green credentials of the garden town.

Blue infrastructure strategy

The blue infrastructure of the masterplan needs to be developed into a comprehensive strategy which can be brought forward in stages as the land beside the water course in question, but especially Moor Ditch, is developed. Assessment of the potential for leisure use of the River Thames corridor can also contribute positively to the local environment. Planning positively for the enhancement of the water environment within the local River Ock catchment will bring improvements to amenity, environmental factors and reduce the likelihood of flooding.

Collaboration with the catchment host organisation to ensure consultation with everyone involved in the riparian zone will be essential.

Research projects

Along with design projects a number of parallel initiatives need to establish ways of changing behaviour and promoting new methods of maintaining sustaining designed and the masterplan. These projects should set out the methodologies necessary to increase community involvement in activities and practice such as local food growing. They should also engage landowners and farmers to establish ways of motivating a change in agricultural practice close to the town.

Management of open space can be expensive and regimes are not carefully formed biodiversity can suffer. Establishing alternative methods of funding the maintenance of open space can contribute positively to the ongoing quality of the garden town.

Feasibility studies

- A number of recommendations within the masterplan are subject to further detailed study to determine capacity and feasibility such as
- Cultural Spine study To determine the overall viability and to highlight key early win projects. This would be supported by a public realm strategy developed through engagement with local residents, the retailers and owners of identified opportunity sites
- Design briefs Development of Design Briefs for sites critical to the delivery of the Garden Town Masterplan to ensure eventual development adheres to the established priorities. These sites would include Rich's Sidings, Ladygrove East and Didcot A power station
- Design review panel sites The establishment of a Design Review Panel has already been considered. This would be helpful in the design development of a number of sites such as D-Tech, North West valley Park, Ladygrove East and also in the consideration of detailed phases of Valley Park and North East Didcot. Further description of the use of the review panel is included in chapter 9

Sustainability goals

As part of the next stage of implementing the garden town project, once a governance structure is put in place, the garden town board will be asked to consider defining a number of clear 'sustainability goals'. These should lead to the adoption of clear targets which will help determine when/ if these goals are being met.

9. A masterplan for Didcot Garden Town

In order to realise the garden town vision, Didcot needs a clear set of plans that will tackle existing issues and bring new and exciting proposals to the town. The garden town masterplan sets out proposals for different parts of Didcot which will collectively knit the town together to realise its full potential. The masterplan set out in this chapter will act as the blueprint for the garden town.

9. A masterplan for Didcot Garden Town

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9.1 Introduction to masterplan

9.1.1 Masterplan foreword and summary

Didcot will become a 21st century garden town, enhanced and enabled by cutting edge technology that brings together high quality living and working, set within well connected landscape surroundings.

Didcot is a unique town with considerable potential to become the heart of Science Vale and a precedent for 21st century garden town living.

The town benefits from its location, in close proximity to the North Wessex Downs Area of Outstanding Natural Beauty (AONB) and River Thames, and from good strategic rail connections allowing it to serve as a gateway to the science community and the necklace of surrounding rural villages.

The Didcot Garden Town masterplan presents a framework to guide the development of the town for the next 14 years to 2031 in line with the local plans for the Vale of White Horse District Council extending to 2031 and the South Oxfordshire District Council Local Plan to 2032. This is timely given that the town is likely to nearly double in footprint with an additional 15,000 homes and 20,000 jobs.

The Didcot Garden Town masterplan is supported by a Spatial Vision that calls for a 'connected town' and a 'super green town'. This also supports the overarching vision of Didcot as 'Oxfordshire's home for future science, nature beilgge technology, and vibrant communities.' The masterplan puts people first, and focuses on the enhancement of community life through the creation of a network of public spaces, improving the image of Didcot and providing a platform for the community to flourish.

The masterplan presents a blueprint for the future development of Didcot. According to the Design Council's publication *'Creating Successful Masterplans - A Guide for Clients'*, a masterplan should aim to set out proposals for buildings, spaces, existing and proposed routes as part of a movement strategy, and land uses that are matched to a delivery strategy.

The masterplan presents a control mechanism to ensure that growth is in line with the overall aims and aspirations of the garden town. It is supported by a detailed set of priorities that provide guidance on key aspects of the plan.

Given that a number of the larger sites within Didcot have received outline consent, the masterplan focuses on strengthening the town centre, looking at a number of key opportunity sites and connecting routes including Broadway and Station Road. Focus on the town centre will ensure that new development will be sustainable and will work towards creating an enhanced and extended centre to serve as the heart of new Didcot.



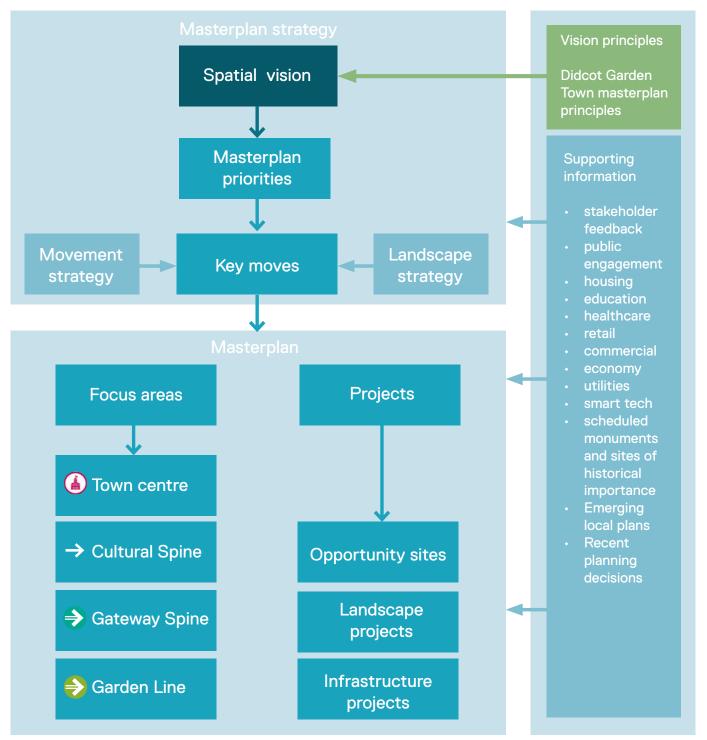
View of Didcot from Ladygrove Hill



Allotments in the heart of Didcot

9.1.2 Masterplan process

The masterplan has been developed through a process of assimilation and analysis covering a wide range of subjects that aim to address the different aspects of the town.



The masterplan process

The Didcot Garden Town masterplan is based on a collaborative and contextual approach to design. This integrated process has produced a plan that is adaptable, flexible and future-proofed. Crucial to its success is an appreciation and understanding of the specific character of Didcot and its landscape. This has been the starting point in the development of the masterplan, a masterplan which is rooted in its context and is based on deriving practical, realistic yet innovative solutions for the future of Didcot. The masterplan proposals have taken shape through a process of engagement that has ranged from individual discussions to public and stakeholder events.

This collaborative way of working has provided a platform for voices to be heard and opinions considered which helped to bring to the fore, issues that otherwise may not have been evident.

The masterplan also acknowledges the realities of the present as well as the uncertainties of the future. It is supported by a series of guiding priorities that form the foundation of the masterplan and provide a series of tangible targets for future development. It provides a framework against which short and medium term decisions can be made, and longer term plans and individual development sites can be judged.



Didcot Garden Town stakeholder event



Didcot Garden Town design workshop





9.1.3 Didcot's wider context

Located at the heart of the internationally renowned Science Vale and next to the North Wessex Downs, Didcot has much to gain from enhancing its role within this unique context: from being a distinct gateway to the Science Vale to a busy service centre for the region, including Didcot's necklace of neighbouring villages.

Didcot is already a key gateway serving the settlements around it by way of rail and road. In order to best take advantage of this and enhance its offer as a service centre, Didcot should look to expand its palette in terms of onward transport, housing, retail, entertainment and many other areas, supporting the town and wider Science Vale community. This will encourage people to visit and stay in the town, not just pass through.

Much more needs to be made of the fact that Didcot is embedded within a fantastic natural landscape. There are a large number of scheduled monuments and sites of historical interest in the Didcot area and many popular natural attractions such as the North Wessex Downs Ridgeway, and the Earth Trust at Wittenham Clumps. Didcot and its residents stand to gain a great deal from promoting links with these areas via new infrastructure and improved wayfinding.

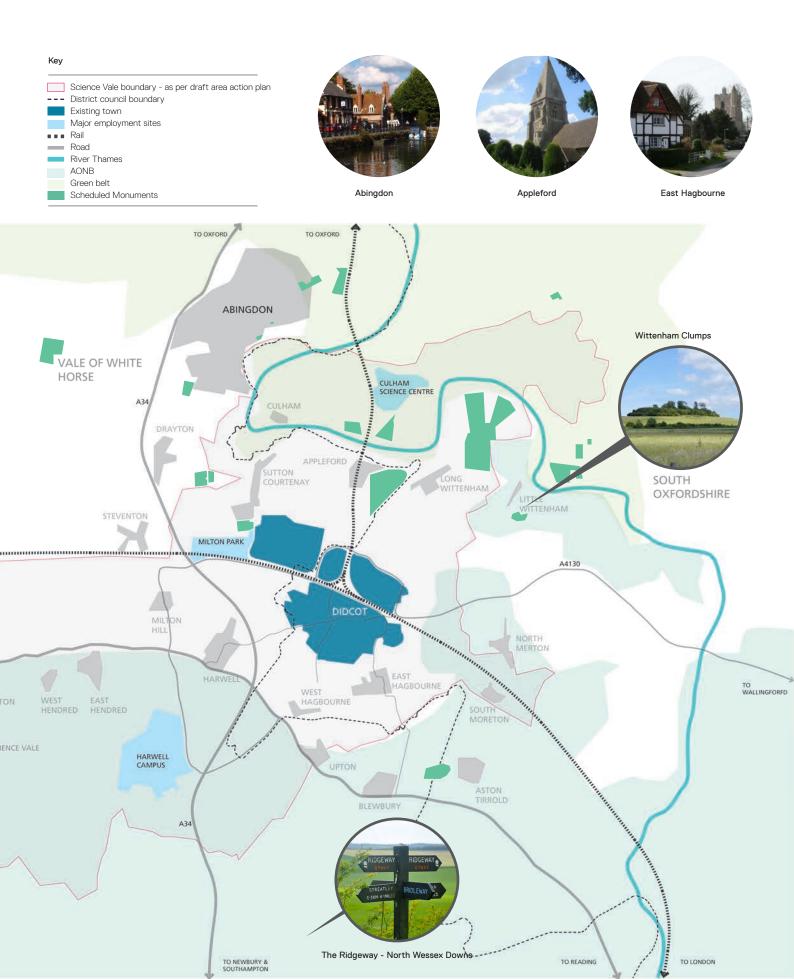


Milton Park © MEPC



The JET facility at Culham Science Centre © Milton Culham Copyright

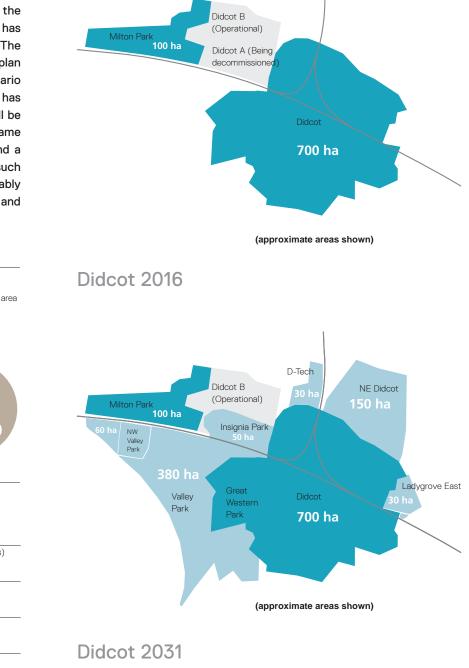




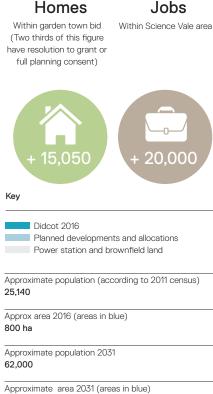
9.1.4 A growing town

Didcot's population is set to more than double over the next 15 years. Whilst much of the development that will lead to this population growth is already in the pipeline, it is vital that the town's growth is led by a clear vision and integrated framework for its future.

By 2031, it is estimated that Didcot will accommodate an additional 15,000 homes and 20,000 jobs. Much of the development set to deliver this has already received planning consent. The scope of the garden town masterplan is therefore predicated on a scenario of extensive growth. This plan has been focused on ensuring there will be appropriate infrastructure, at the same time delivering quality, legibility and a sense of place across the town, such that new developments are suitably knitted together by a coherent and understandable urban framework.



By 2031



Approximate area 2031 (areas in 1,500 ha

9.1.5 Strategic opportunities

Didcot benefits from excellent strategic rail links that present a prime opportunity for the town to serve as a gateway to the surrounding Science Vale and AONB. If successful in building on these key assets, Didcot will be strengthened as a place, and better rooted within its context.

Extremely well connected

Heart of the Science Vale

Didcot is an extremely well connected town at the national and regional level:

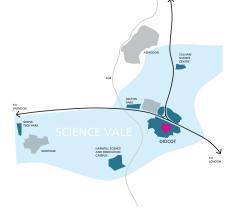
- 15 mins to Oxford (train)
- 40 mins to London (train)
- 60 mins to Heathrow (car)

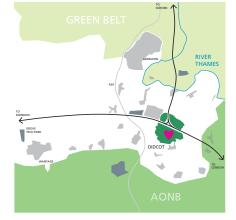
Didcot has the potential to become both the 'cultural heart', and the 'gateway' to the Science Vale.

Gateway to nature

Didcot should be the point of reference to access the surrounding natural landscape including the AONB, River Thames and Wittenham Clumps.









Didcot Station Source: Google Maps



Harwell Campus Source: BBC

The North Wessex Downs



9.2.1 Historic development

Didcot is a young town, having developed primarily in the 20th century. Its historical growth has been broadly led by two major employment areas: the military, and power stations (Didcot A and Didcot B). With these two areas in decline, the scene is set for Didcot to embrace the new, and boldly redefine its connections with the Science Vale and wider region. In paving the way for the future of Didcot, it is important to gain an understanding of the forces that have given shape to the town as it is today.



Construction of Didcot A power station's iconic cooling towers began in the 1960s



In 1913, Didcot was a small village – but one located at a strategically important crossroads on the railway designed by Isambard Kingdom Brunel. The settlement of Northbourne which at this point is distinct from Didcot, can also be seen south of Broadway. Didcot and Northbourne have now joined, with the Broadway forming an important high street linking the two. Construction of Didcot A Power Station begins in 1964. The railway line linking Oxford with Southampton is decommissioned in 1966 (now used as a popular cycling and walking route). The army depot to the north west of the town is replaced with Didcot A Power Station. The town expands towards the south and west.

Didcot: Historic zoning



2016



2031

Enterprise zones





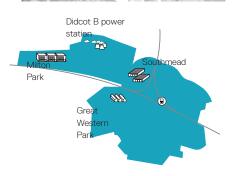
Didcot A Power Station (1968) Didcot B Power Station (1997)

Old Didcot

Recent 2010s Early 2000s Didcot Early 1990s Early 1970s Post-War 1950 - 1960s Inter-War period (1920 - 1940) Northbourne (Mid 1860s)

Key





North East Didcot Valley Park

Appleford Landfill Didcot B power station

By 2016, Milton Park – a business and technology park – has established in the north west of Didcot. Didcot A power station is in the process of being decommissioned. The town has expanded to the north east, with the addition of Ladygrove and the construction of the North Didcot relief road (A4130). Great Western park is also under construction. By 2031, the town will have grown considerably. It will have expanded to meet its natural western border, the A34, and to accommodate growth to the north of Ladygrove, and some filling out of available sites in the Milton Park and Southmead areas.

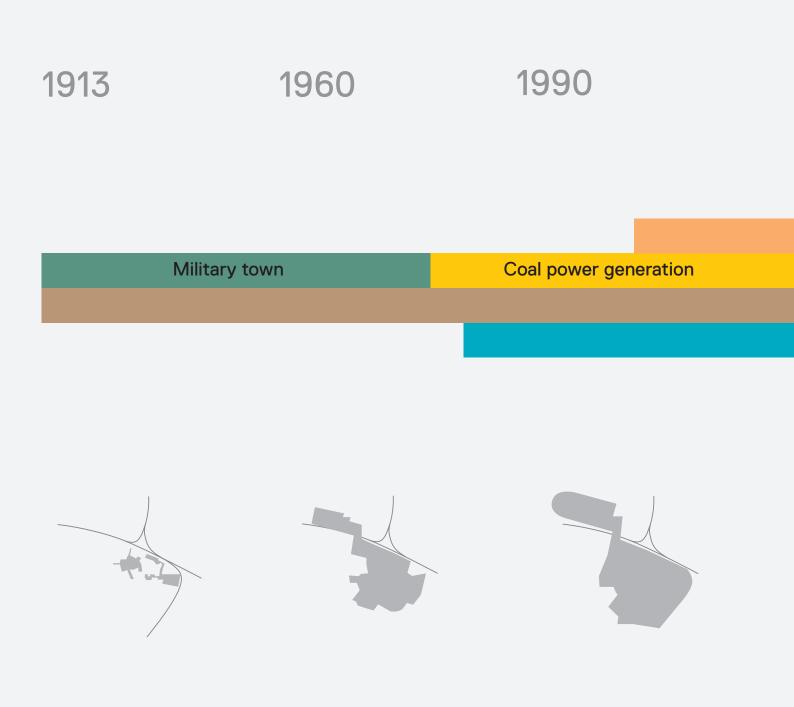
Potential longer term development

Didcot's development beyond 2045 is beyond the remit of this masterplan. However, long term opportunities for the growth and development of the town have been considered where appropriate. Examples include brownfield sites such as the Appleford landfill site and Didcot B Power Station Site to the north of the town, which may become available in the long term and play an important role in Didcot's future.

Didcot's evolving identity

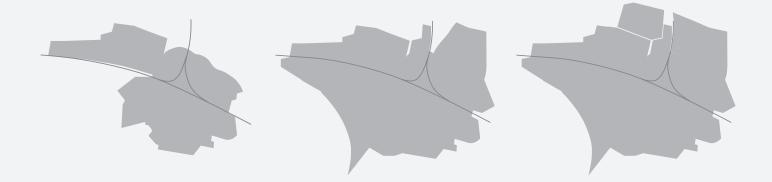
294

Didcot's identity has always been strongly related to its function and role within its context, from being a railway and military base to an employment centre. Reflecting its evolving context, there is opportunity for Didcot to take on a new identity as a centre for high quality living and working, and as a gateway to the AONB and Science Vale technology hub.





	Gateway to Science Vale					
Retail destination						
Gas power generation		Smart town of the future				
	Clean energy generation					
Railway town						
Logistics and distribution hub						
Garden town						
	Tech enterprise town					



9.2.2 Characterisation and identity

Didcot has a relatively homogeneous character, consisting of wide streets and detached or semidetached houses. Its town centre is characterised by some recent development which provides the opportunity for further growth with increased quality and choice, paving the way for the town centre to grow into its role as the cultural heart of Didcot.

Didcot's historical growth is reflected in its built form and layout. Whilst a few streets echo its historical origins, much of the town dates from the 20th century, lending a fairly regular and homogenous character.

The town centre is poorly connected to the rest of the town. Being relatively remote and discontinuous in form, it presents an opportunity for change. More recent developments such as Cornerstone Arts Centre are paving the way for an improved town centre, supported by a greater variety in retail and commercial offer.

The residential offer in Didcot is characterised by semi-detached and detached houses. These are set along fairly wide streets. At places, the set back is lined by hedgerows and planting being very reminiscent of the garden cities typology. This sets the scene for the Didcot Garden Town. The streets are well lined by pavements and the small size of the Town makes it walkable although from comments received on the consultation website suggest that many of these require improvement in maintenance and upkeep.

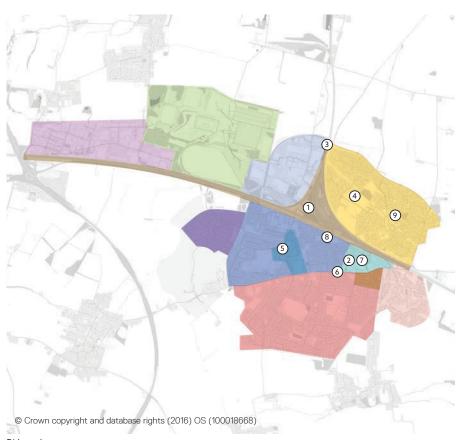
The north western part of the town is dominated by highway roads to provide access to industrial sites including the power station. This is a car dominated area with frequent trucks, logistics and service vehicles making it unwelcoming for pedestrians and cyclists. Further development here would need to consider how best the roads can be tailored to provide an improved balance and be workable for all modes of transport.

North East Didcot
South East Didcot
South Didcot
Northbourne
Old Didcot
Town centre
West Didcot
Great Western Park
Southmead
Didcot A and B
Milton Park
Railway area

Kev

Predominant typology

Early 2000s family housing Early 1970s family housing 1950-70s family housing 1860s workers cottages Heritage houses High Street and independent retail 1950-70s family housing 2010s - present family housing Commercial warehousing Industrial Warehousing and offices Railway infrastructure



Didcot character areas





2 Cornerstone Arts Centre



3 A4130 Underpass



4 Ladygrove ponds



7 The Orchard Centre





8 Signage at Didcot Station



6 Broadway - single sided shopping street



Eadygrove
 Ladygrove
 Advantage
 Advantag





Didcot Railway Centre

Didcot Railway Centre is located adjacent to Didcot Station, and houses a unique collection of Great Western Railway steam engines, coaches, wagons, buildings and small historic pieces.

It is currently accessed via the station under pass which is not ideal, and therefore would benefit from a dedicated entrance, a front door onto Station Road, and better customer facilities. If given the right investment, an enhanced railway centre would bolster Didcot's identity and sense of heritage, as well as helping Didcot towards becoming a more successful 'destination' town.

9.2.3 Existing land use and future potential

Sustainable patterns of growth in Didcot require a greater diversity of uses. Currently, employment uses are centred on industry and logistics. Greater ties with Science Vale can encourage technology support centres to take root within Didcot. A growing town brings with it the critical mass needed to animate a variety of supporting uses such as retail and leisure, along with greater diversity in the housing offer.



Housing

2016



Family homes



(Current typologies)



High street retail



takeaways



Commercial

Storage and warehousing



Technology business park



Cultural





Railway Centre



Education

Schools



University Technical College



Didcot Wave



Didcot Cinema

2031



Eco homes



Flatted developments



Town houses



Student accommodation



Allotment shops/ cafés



Specialist retail



Pop-up retail



(Suggested future additional typologies - Refer also to chaper 5.4 Social infrastructure)

Co-working space



Mixed use



Small/ medium enterprise space





Science exhibition space





Community event spaces







Hotel school



Environmental schemes



More nightlife







Didcot Leisure Centre

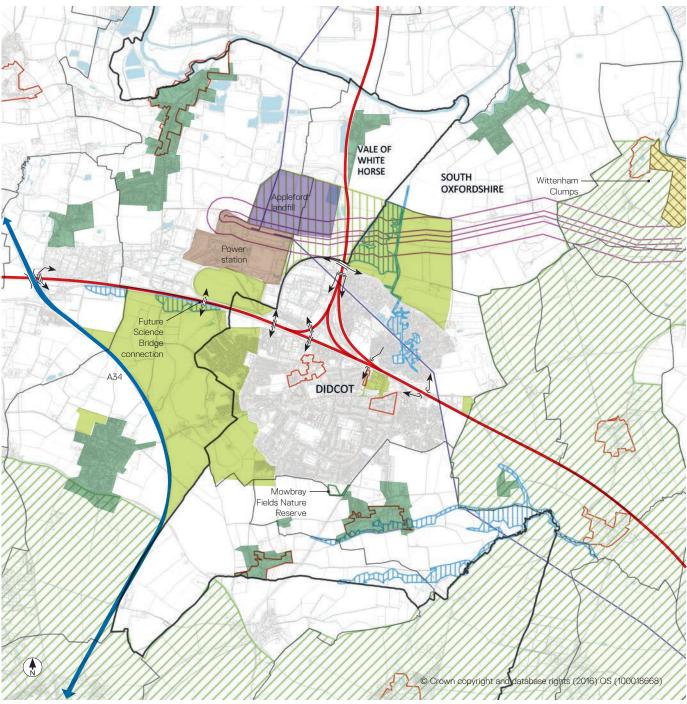






9.2.4 Key constraints to the masterplan

Strategic town-wide constraints have been carefully considered in forming the masterplan proposals. Issues such as the severance caused by the railways, and sensitivity of the AONB are only a few that form the basis of this constraints-led approach.



The main strategic constraints in and around Didcot



North west Didcot as seen from the railway footbridge east of Southmead.

A Constraints-led approach

AONB

The Area of Outstanding Natural Beauty that surrounds Didcot is as much an opportunity as a constraint. Whilst it presents a constraint to identifying new housing development sites for Didcot, better sustainable transport links to the AONB (including Wittenham Clumps and the North Wessex Downs) will be supported by the masterplan.

Flood Zone

Flooding is a major constraint to certain opportunity sites in and around Didcot. Refer to chapter 5.3 Blue infrastructure for further detail. The masterplan proposes a blue infrastructure strategy to address flooding, which seeks out opportunities for SuDS schemes integrated in

Conservation area

Conservation areas in Didcot are limited and do not present a major constraint. The masterplan will ensure that the conservation areas of old Didcot, Northbourne, and a section of Station Road will be appropriately responded to.

new public realm and green corridors. Refer to chapter 8 A super green town for further detail.

Special area of conservation

A special area of conservation exists in the vicinity of Wittenham Clumps. The masterplan does not make proposals in this location, hence this does not present a major constraint.

Local nature reserve

Mowbray Fields nature reserve is located to the south of Didcot. It presents an opportunity to enhance the biodiversity and ecology of the Town. Refer to chapter 8 A super green town for further detail.

Overhead power line

An overhead power line runs through Didcot serving the existing and operational Didcot B power station. In the masterplan, where development is proposed in proximity to the power line, a suitable easement will be maintained from the power line.

Buried gas pipe

A gas pipe runs underground east to west in North Didcot. Whilst this is, in itself not a major barrier to development, criteria involved in potential relocation of the pipe would need to be reviewed for any proposed development within a defined distance from the pipe.

District Boundary

Didcot straddles the boundary of two district councils: South Oxfordshire and Vale of White Horse. The masterplan addresses constraints and highlights opportunities for governance which may benefit the delivery of masterplan proposals. Refer to chapter 10 Managing delivery of the masterplan for further detail.

Parish boundary

In the process of establishing clear boundaries for the masterplan proposals, boundaries to neighbouring parishes have been reviewed.

Identified development sites with resolution to grant

Given that much of the future growth of Didcot is either consented or has outline consent, the masterplan will have limited influence on the broad proposals for these sites, however opportunities in the detailed design of each site in support of the garden town masterplan are considered.

Neighbouring villages

Didcot is surrounded by a necklace of villages rich in both history and character. The masterplan aims to maintain the integrity of these places by proposing appropriate 'grreen buffers''. Refer to chapter 8 A super green town for further detail.

Appleford landfill

Future development options for the landfill site to the north of Didcot are limited due to risk of contamination and the inherent structural complexities of development over landfill. As an alternative, the masterplan explores long term opportunities for new landscape and renewable energy production.

Power station land retained by RWE for future use

Whilst being an iconic landmark for Didcot, and an important part of the town's history, Didcot power station presents a major constraint to development. Didcot B will remain operational in the long term, and some areas previously occupied by the now decommissioned Didcot A power station will be retained for future use. Development of housing in proximity to the site is restricted. Due to its nature, the site also presents a physical barrier to movement and new infrastructure.

The A34

The A34 creates a clear physical boundary to the masterplan to the east. Development proposed in proximity of the road will be required to provide appropriate buffers and setbacks due to potential issues of noise and air quality.

The railway

Whilst Didcot's rail connections are a major strategic asset for the town, the rail infrastructure cutting through the town creates issues of severance. With insufficient crossing points, bridges and underpasses, the masterplan proposes key infrastructure to help knit the town together. Refer to chaper 5 The infrastructure needed to support the garden town for further detail of infrastructure proposals.

For further information on townwide and site specific constraints, including flooding, utilities and waste, refer to Appendices E-F.

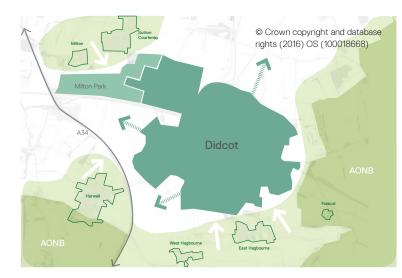
9.2.5 Defining clear boundaries

Delineation of clear boundaries helps to strengthen the definition of place. The Didcot Garden Town masterplan is defined by a clear set of boundaries which have been drawn up in consideration of parish boundaries, and the physical features located at the edges of the settlement.

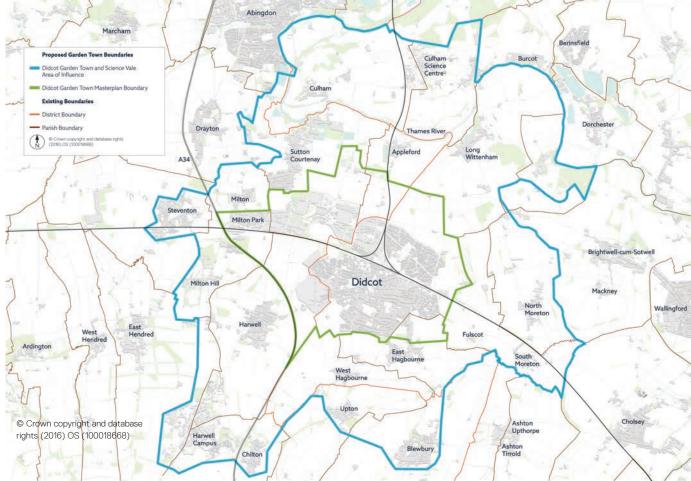
Two boundaries are proposed for the garden town:

- Didcot Garden Town area of influence
- Didcot Garden Town masterplan

A more detailed explanation of the rationale for the proposed boundaries can be found in chapter 10.4 Garden town areas. It is to be noted that many other developments within the masterplan 'area of influence' are not referenced in the delivery plan. The boundaries have been carefully considered and were subject to review during the recent public engagement process from November 2016 to February 2017.



Didcot's growth is constrained by the A34 to the west, the AONB to the south and east, and in maintaining the integrity of surrounding villages.



9.2.6 Key spatial challenges

The garden town project provides the opportunity to address the core challenges linked to Didcot's future growth. These are listed below.

Connections within the town



Didcot is growing rapidly however the lack of good connections within the town is something which urgently needs to be addressed. Severance caused by the railway, lack of infrastructure and poor legibility are major barriers to growth and quality of life. Places for people



© Gehl Architects

Didcot's streets are designed to be car orientated. The masterplan provides for an improved public spaces as a way to encourage more cycling and walking. More variety



Didcot lacks variety in the built environment and needs a more diverse range of building choices to help revitalise the town. This will help attract and support a wider demographic of workers and residents.

Local connections



© Connect Buses

Didcot has poor connections to the local area. There is need for improved local connections between the town centre, station to other parts of the town and its hinterland including neighbouring villages and centres such as Oxford.

An enhanced destination



Didcot is an important interchange, and a transitory place. Further developments and investment in projects can help Didcot become a destination in its own right.

A better town centre



Didcot town centre is improving but is still in need of greater investment to bring vibrancy, quality and diversity to meet the town's growing needs and be a true 'heart' of future Didcot.

9.2.7 Opportunity sites

A number of sites in Didcot with the potential to be redeveloped and help deliver the growth of the town have been defined as opportunity sites by the district councils.

The sites shown below and listed to the right have been identified by South Oxfordshire and the Vale of White Horse District Councils, and form a picture of the scale of development which might be possible over the next 15-30 year period in Didcot. The sites have been divided so as to distinguish those which are already in the planning process, from those which are allocated as employment sites and those which have been identified as opportunity sites. These have been identified as opportunities for both new development and/ or the creation of enhanced landscape features and improved public spaces.

Identified development sites

	Planning applications (permission		
	granted, or resolution to grant)		
	Planning applications (pending)		
	Science Vale enterprise zone (EZ)		
	Didcot Growth Accelerator EZ		
1	Valley Park		
2	Great Western Park		
3	Didcot A power station		
-			

- (4) North East Didcot
- (5) Orchard Centre Phase two
- 6 D-Tech

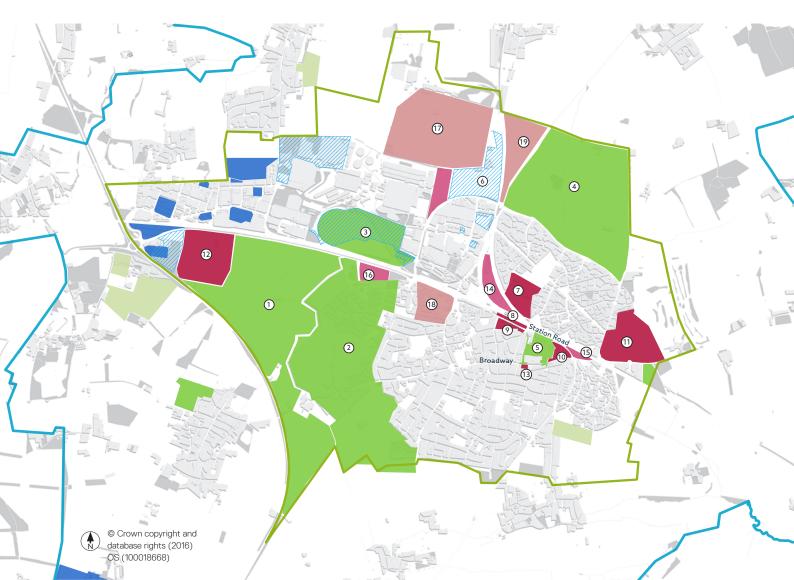
Boundaries

Didcot Garden Town area of influence

Didcot Garden Town masterplan

Opportunity sites





The district councils and the garden town design team have considered the potential of each site, as listed in the table below. The opportunities listed for opportunity sites are subject to discussions between the council and individual landowners and developers and also to further detailed study to determine capacity and feasibility.

		Site	Status	Description
IDENTIFIED DEVELOPMENT SITES NEAR TERM NEAR TERM NEAR TERM	1) Valley Park	Resolution to grant	Site adjoining the A34. Set to deliver up to 4,252 new dwellings with associated uses including a local centre and primary school. This includes much needed connectivity to the north across the proposed Science Bridge.
	2	9 Great Western Park	Under construction	Site that creates a direct extension to the town, building up a new neighbourhood of up to 3,300 new dwellings with new local centre located off Broadway that includes the UTC Oxfordshire.
	3	Didcot A	Resolution to grant	Mixed use site and employment opportunity
	4	North East Didcot	Permission granted	Creating a new neighbourhood to the north with up to 1,880 new dwellings, a new leisure centre, local centre with a mix of retail and commercial uses. Site adjoins part of the Didcot Garden line, a proposed cycling and pedestrian link.
	5	Orchard Centre phase two	Permission granted	Expansion of the existing Orchard Centre, extending the retail offer within the centre with new public spaces.
	() ACCELERATOR	D-Tech	Didcot Growth Accelerator site	Site located off the garden line to the west allocated for high tech office uses with laboratory, manufacturing and production facilities. Great opportunity to improve the skilled offer with the town.
	7	Didcot Gateway North	Short term opportunity site - Plans Withdrawn March 2017	Opportunity for an enhanced Ladygrove green, upgraded family park fronted by a new technology institute supported by high density housing and an extended football club.
	8	Didcot Station	Short term opportunity site	Opportunity for an upgraded or extended station, including station arrival space and shared surface extending across Station Road.
	9	Didcot Gateway South	Short term opportunity site and resolution to grant	Gateway South proposals include high quality and high density housing with a mix of commercial uses providing frontage to the station arrival square.
		Rich's Sidings	Short term opportunity site and local plan allocation	Opportunity to develop and maximise the potential of a key gateway site located at the eastern end of Broadway. With a reconfigured Hitchcock Way, potential to provide high density quality housing with a mix of commercial uses, new public spaces and a green space to the east of the town centre.
SITES	11	Ladygrove East	Short term opportunity site and local plan allocation	Gateway site to the east end of Didcot providing additional homes, with a local centre, mix of commercial uses and new park area.
~	12	North West Valley Park	Short term opportunity site and local plan allocation	Unique site with the potential for a new specialist neighbourhood comprising 800 homes and associated green space.
OPPORTUNIT	13	Baptist House	Short term opportunity site	Pivotal site at the junction of Broadway and Station Road with opportunity to develop a new town square for Didcot.
	-) Didcot Railway Centre	Medium term opportunity site	The garden town initiative brings with it opportunities for a revamped and upgraded railway museum preserving and upholding Didcot's railway history.
	15	Land east of Rich's Sidings	Medium term opportunity site	Well located site east of the town centre with opportunity for regeneration as an employment or housing site.
		Land south of A4130	Medium term opportunity site	Site not currently accessible to the public but with clear potential to deliver a key address and scheme along the A4130.
		Appleford landfill (park land opportunity)	Long term opportunity site	Current live land fill site with a very long term potential (30-40 years) for conversion to a parkland subject to remediation, with potential for wetland park including floating homes and renewable energy integration.
	18	Vauxhall Barracks	Long term opportunity site and local plan allocation	Opportunity to open up an isolated site. Its central location presents abundant sustainable options for development.
	19	Land west of North East Didcot	Long term opportunity site	Landlocked site partly within a flood zone, but which in future could offer scope for development.



(4) North East Didcot 62 1. A. C. 5 Orchard Centre Phase two 50 and in Source: South Oxfordshire District Council ē: 1 Major identified development sites in Didcot (shown in colour), all having at least obtained resolution to grant planning permission.

9.3 Spatial vision and masterplan strategy

9.3.1 Spatial vision

The Didcot Garden Town masterplan is guided by a spatial vision that establishes the overriding spatial agenda for the town's future. It strives towards improved physical connectivity, suitably enabled and enhanced by technology, within a high quality environment underpinned by a commitment to sustainability.

The spatial vision for the Didcot Garden Town puts people first and focuses on the enhancement of community life.

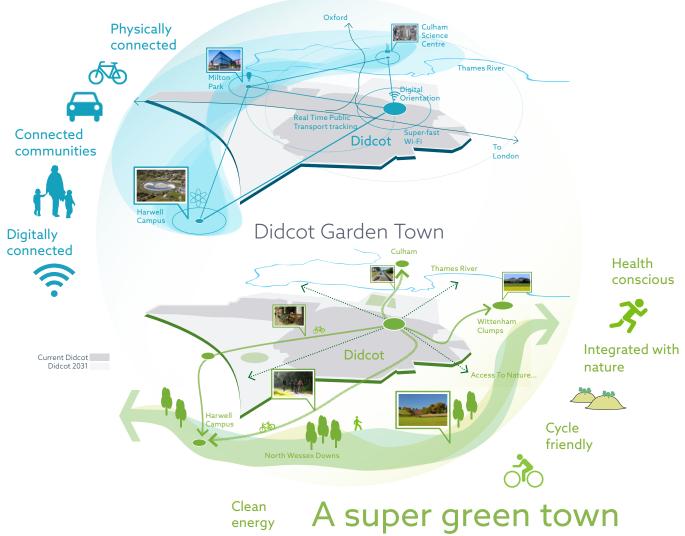
In adopting best practice in place making and sustainable design, the masterplan proposes a series of new places and public spaces to enhance the image of the town and to provide a platform for the community to flourish. Spaces identified are distinctive, appropriate in scale and respectful of their surroundings.

They are fronted by high quality buildings and defined by new landscape planting.

Taking Didcot to the future, they are enabled by technology improving accessibility and inclusivity.

Strategically, the vision calls for a connected town and a super green town.

A connected town



A connected town

Physically connected

The spatial vision calls for a 'connected town' that overcomes severance caused by the railway lines with the provision of seamless movement routes that support all modes of transport.



Digitally connected

The vision takes Didcot to the future by working technology into the masterplan design, from e-bikes, public WiFi, to smart refuse systems. Digital technology has the potential to improve the experience of the town for residents and visitors alike with a focus on accessibility and inclusivity.

Connected communities

The vision for new didcot recognises the value in community - the people that are the heart of the town. In creating a network of places, it provides public spaces for communal interaction and activity, bringing life into the town.





A super green town

Cycle friendly

With a network of cycle routes, the vision puts sustainable transport first. Routes proposed will be sufficiently wide and will connect along key desire lines and between destinations.



Integrated with nature

Green fingers extend from the surrounding AONB bringing the landscape into the town, integrating town and country and strengthening the very ethos of garden city living.



Health conscious

Green links within the town bring opportunities for healthy living with easy access to the outdoors, and improved leisure facilities all connected through an extensive network of walking and cycling routes.



9.3.2 Masterplan priorities

The Didcot Garden Town masterplan is guided by a number of key priorities as listed below:

To be read in conjunction with Didcot Garden Town principles (see chapter 3.1.6), a number of key masterplan priorities serve to further define the Didcot Garden Town masterplan. They provide additional information on what the masterplan is aiming to achieve. They also serve as guidance against which future developments may be judged to determine how well they adhere to the garden town masterplan and spatial vision.



A permeable, connected movement network that equally supports and future proofs all modes of transport



- Movement strategy to build in flexibility to accommodate future changes in mobility patterns and modes
- Roads to be designed as streets
- · Streets to work equally for all modes of transport including walking and cycling
- Streets to be overlooked and well defined by frontage
- Where possible, roundabouts to be redesigned as junctions
- Development of walkable communities to be encouraged

A garden town based on smart principles, where technology is an enabler



- Bring technology to the forefront of garden town living and working as reflection of its connection to the Science Vale
- Consider enhancement of public spaces with provision of digital technology and WiFi connectivity
- All new homes to be enabled with smart technology and energy saving devices including charging points to encourage use of electric cars
- Consider technology enabled sustainable transport with the provision of e-bikes and pods
- Provide mobility as a service

Facilitating, encouraging and supporting communities through design



- All new developments to consider an integrated approach to the provision of public spaces, landscape and public spaces
- Public spaces to be designed to be safe, well lit, overlooked and animated to encourage community interaction
- New spaces and places to be inclusive and Disability Discrimination Act (DDA) compliant
- Consider function and role of spaces with careful allocation of program focused
 on community needs, and consider co-location of community facilities
- Detail design of the public spaces to include strategy for street furniture and lighting that encourages use and activity







Green surroundings, links and network of spaces form the backbone of the garden town



See landscape priorities in chapter 8



An extended, enhanced and improved town centre as the heart of Didcot Garden Town



- Development within the town centre to showcase high quality architecture and form, providing definition to surrounding streets
- Where possible, surface car parking to be avoided making better use of land,
- Ground floor uses in town centre buildings to contain uses that create active frontages and help to animate the surrounding spaces
- Consider a good balance between built form, massing and open space allowing for implementation of higher and more sustainable densities
- Public spaces within the centre to be of high quality soft and hard landscaping

A range of uses and a typology of housing that is varied with an appropriate density





- All new developments to provide a range of housing types and tenures including apartment blocks and family houses
- Higher densities to be encouraged particularly if they result in increased amount of open space provision
- All new housing to comprise of high quality architecture and form
- Layout of new housing to encourage community interaction and encourage walking and cycling
- Neighbourhoods to be supported by a network of local centres that serve daily functions and complement the town centre
- New homes to be equipped with cycle storage

Sustainability embedded in every aspect of decision making





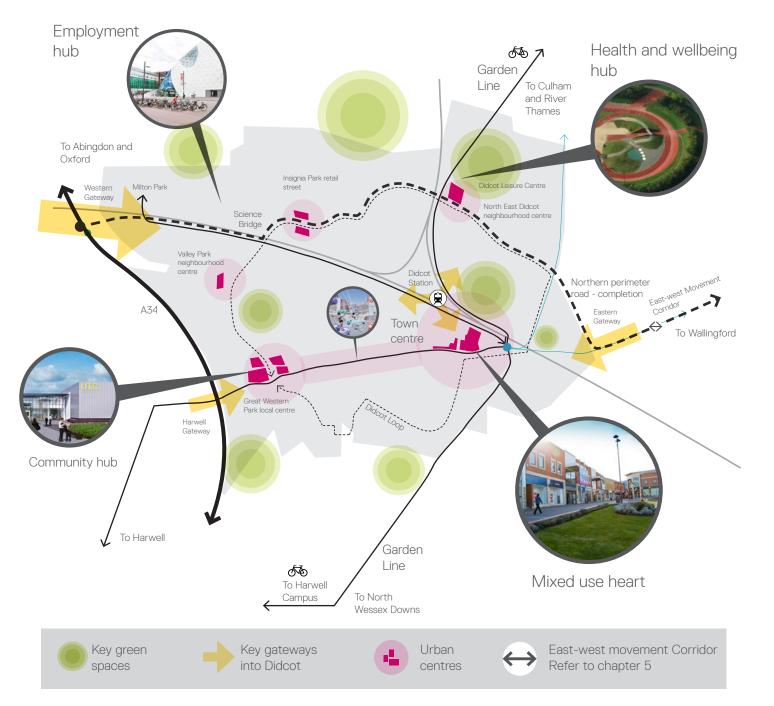
- Sustainability to be at the forefront of all aspects of the garden town masterplan
- Masterplan to enhance the identity and sense of place of Didcot and its context
- Masterplan to encourage sustainable forms of movement, walking and cycling in particular
- Housing layouts to be energy efficient and to consider densities that support district heating
- New developments to be supported by a geographic information system network that encourages biodiversity and enhances the ecology of the area.

9.3.3 Masterplan key moves

The Didcot Garden Town masterplan comprises a number of key moves. These focus on priority areas within the town and provide strategies for improvement and enhancement, in line with the masterplan priorities.

Proposed structure of Didcot Garden Town

The proposed structure for the garden town builds on existing and planned infrastructure, to offer a coherent movement network that knits key parts of the town overcoming some of the severance caused by the railway. Major planned infrastructure, including the Science Bridge and northern perimeter road, deliver an east-west movement corridor aiming to relieve congestionalong a key movement route. These routes connect between existing and proposed centres and neighbourhoods, each distinct in character and function.



Focus areas

Harwell Campu

A.

The masterplan considers four key focus areas in greater detail given their strategic role in shaping Didcot's future, with an emphasis on regeneration and revitalisation. The four areas are listed below. Proposals for each have taken into

account comments received in the course of engagement and consultation.

Town centre

Future A better town centre: local centre Future In support of a growing town, local a strong, diverse and expanded centre Future town centre is needed to provide local centre the necessary scale and range of Extensive opportunities to improve existing services required. The masterplan town centre Local aims to develop the town centre centre into a key destination and a service centre for surrounding settlements and the Science Vale community. **Cultural Spine** Didcot's Cultural spine will form the Culham Science Three key movement corridors: events and nightlife. **Gateway Spine** The Gateway Spine will seek to and the multi modal To Wallingford ----> 56 Cultural Spine The Garden Line The Garden Line will provide a sustainable and

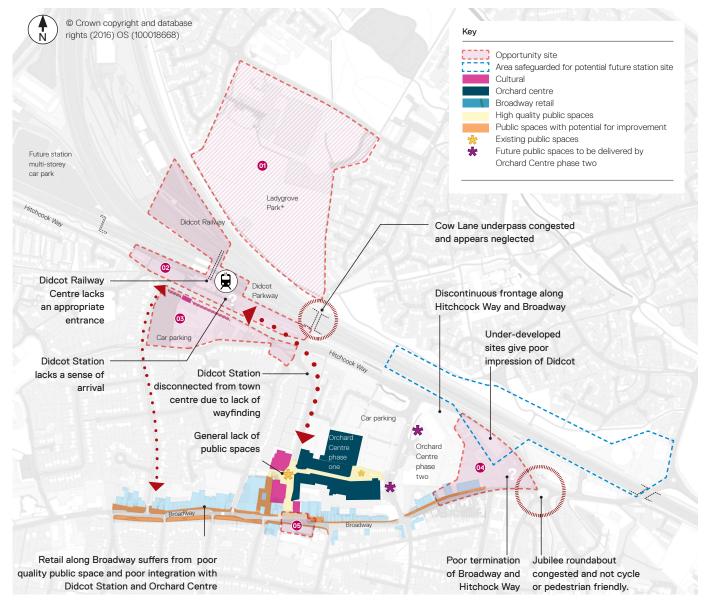
cultural heart of the town focusing on the historic axis of Broadway as a centre of activity, community

improve the arrival experience into Didcot, as well as accommodate infrastructure improvements to enhance this route as the town's east-west connector.

largelv traffic free connection between Culham Science Centre in the North and Harwell Campus in the south, via the heart of Didcot, whilst also improving access to Didcot's natural surroundings.

9.3.4 Town centre 🍊

A successful town needs a strong centre that is able to service its needs. Didcot town centre has great potential to improve and build on its existing assets through a mix of public spaces improvements and future exploitation of its various opportunity sites. The key challenges which these sites must respond to are set out below.



Didcot town centre - key challenges

Five Town Centre Opportunity Sites

- 0 Didcot Gateway North *
- Didcot Station and Railway Centre
- 03 Didcot Gateway South04 Rich's Sidings
- 05 Baptist House

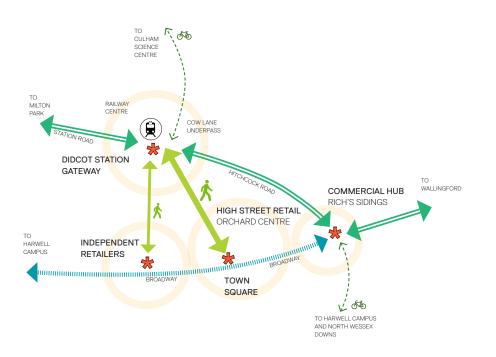
Although Ladygrove Park (Didcot Gateway North) has identified as an opportunity site on the above map, representations from local residents and Didcot Town Council - during the community engagement process leading up to the production of this delivery plan - have made it clear that there is little local support for changing the way in which this space is currently used.

Initial plans to utilise this area for a new technology institute, supporting residential accommodation and a smaller, but much improved area of public open space (retaining existing children's play areas and leisure facilities etc.) have therefore been withdrawn and it is accepted that this area will remain unchanged for the foreseeable future.

This means that only four of the five identified opportunity sites have subsequently been included in the masterplan presented in chapter 9.4 of this document – although Didcot Football Club still intend to create an enhanced community sports facility on land they currently own, adjacent to their existing football ground.

Future proposals within the town centre should maximise each site's potential, seeking to operate holistically, to achieve a better and more engaging public area whilst increasing the diversity and vibrancy of the existing network of spaces.

Spatial strategy: a connected network of places



Opportunities for Didcot town centre

- Improve sense of arrival at Didcot Station
- Improve wayfinding between station and town centre
- Provide higher density sustainable housing where appropriate
- Deliver an improved network of public spaces and shared surfaces
- Consider provision of a new town square
- Bring science and technology
 into the centre
- Consider provision for a greater variety in retail offer
- Celebrate Didcot's heritage by enhancing the Railway Centre

The vision for Didcot town centre focuses on creating a place for the people of Didcot. It addresses opportunities to make the centre more varied, vibrant, creating a destination and a place to come to rather than pass by.

It considers how the disparate parts of the existing centre and the station can be knitted together through a cohesive and comprehensive network of spaces and routes.

It also includes opportunity sites such as Rich's Sidings and Didcot Gateway South that provide potential to expand the centre with a new commercial and housing offer, bringing in a greater variety of uses and functions. The diagram above illustrates the spatial strategy for a new town centre with the creation of four distinct character areas.

This strategy gives sight to the wider aims and aspirations for the centre and will aid in discussions with stakeholders and developers in understanding how the different parts of the centre will contribute to delivering the vision. Greater detail on the Town Centre proposals and aims for each of the individual sites is provided within chapter 9.4 The masterplan.



Rich's Sidings



Didcot Gateway South





Distance of the terminal termi

Supporting Didcot's heritage with an enhanced Railway Centre



Photo: Frank Dumbleton

Great connections to Milton Park

'Gateway Spine

₫ A

HERITAGE

A beacon for arts and culture

Potential Railway Centre upgrade

Ö

20 mins to the

River Thames

Pedestrian friendly, accessible and inclusive



© Gehl Architects

30 minutes to Culham Science Centre

SPO

SCIENCE AND

ARTS AND CULTURE

Buses to Harwell Campus 'Cultural Spine'

DIVERSE RETAIL

COMMUNITY EVENTS FARMERS MARKETS

BROADWAY

A place for SMEs and innovation in support of Science Vale



A high street and specialist retail destination



Source: Orchard Centre Extension Design & Access Statement 2015

Supported by new commercial and housing development



HEALTH AND WELLBEING

h Sh Sh Sh Sh

SMEs START-UPS

HIGH STREET BRANDS

O

DIVERSE HIGH QUALITY HOUSING

WELL CONNECTED PUBLIC SPACES

Ine

Garden

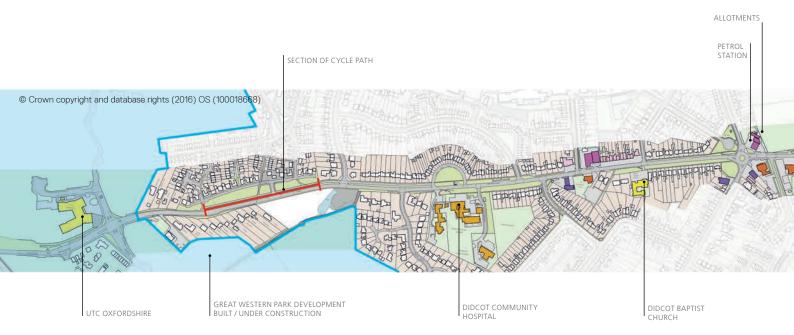
9.3.5 Cultural Spine Key challenges and opportunities

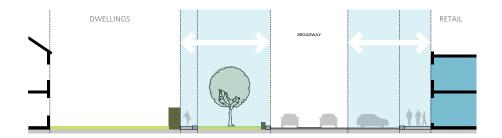
The route referred to as the 'Cultural Spine' in the masterplan comprises Didcot Road, Wantage Road, and the historic axis of Broadway. With a scattering of uses, including Cornerstone Arts Centre, it presents the opportunity to become the cultural heart of the town enhanced with improved public spaces to provide a distinct sense of place.

The character of this linear street that cuts across Didcot from east to west, changes considerably along its length. To the east, it forms the edge of the town centre and presents itself as a unique one-sided shopping street. Further to the west, it becomes more of a movement route flanked by an ad hoc collection of uses. These include many of the town's civic functions and services, including Didcot Library, Didcot Civic Hall, and Didcot Fire Station. The stretch of road also houses community functions such as allotments.

Opportunities for the Cultural Spine

- Support independent retail and growth in specialist trade with a retail strategy
- Potential to provide social space for cycling community
- Landscape and public spaces improvements including more seating
- · Provide external space for markets, pop-up retail, festivals and events
- Provide a meaningful gateway at the intersection of Didcot Road and the A34
- Provide dedicated cycle infrastructure (segregated where possible)
- Replace roundabouts signalised junctions
- Encourage more nightlife and a night-time economy with appropriate provision of entertainment facilities and food and beverage options
- Build on the existing cluster of community services (civic hall, library) to create a stronger sense of place
- Enhance existing green spaces (such as including a shop and café within in existing allotments)
- · Improve accessibility by ensuring new spaces are DDA compliant
- Incorporate a wayfinding strategy with new signage focused on cyclists and pedestrians





Section A-A



The masterplan proposals focus on the one-sided unique nature of the street proposing public realm and landscape improvements to create a series of public spaces. Broadway is considerably wide at parts the additional space fronting retail, occupied either by on-street car parking or unused green space. Much of the southern part of the street is characterised by housing set back from the street with landscaped spaces filling the spaces in between.



Cultural Spine: spatial strategy

Building on its existing character, it is proposed that the Cultural Spine is regenerated to deliver three key character areas along its length: a mixed use town centre to the east, a 'civic heart' at its core, and at its western end, Didcot Road and Wantage Road.



Didcot Road and Wantage Road

Three character areas

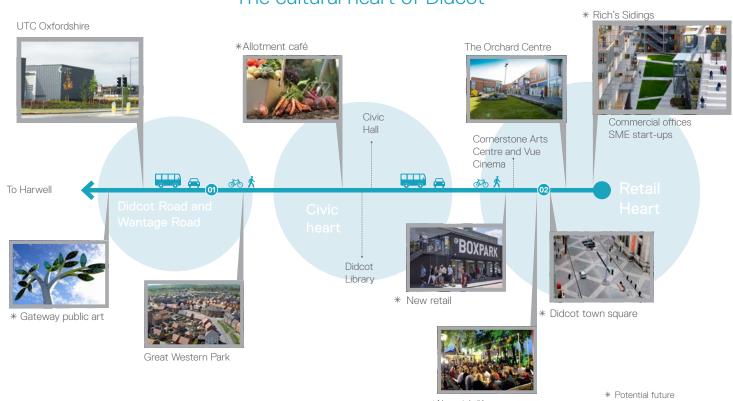


Civic heart



Retail heart





The cultural heart of Didcot

*New nightlife

projects



9.3.6 Gateway Spine Key challenges and opportunities

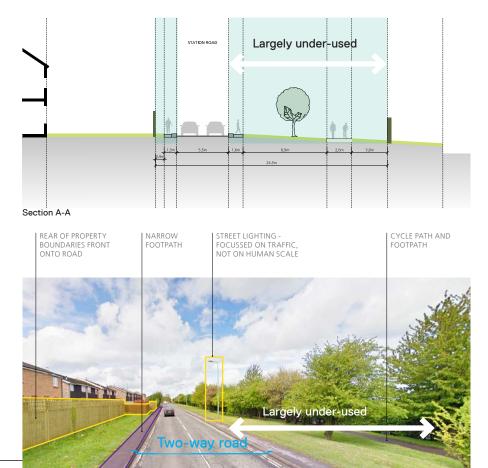
The 'Gateway Spine' comprises of a collection of roads: Station Road and Hitchcock Way to the east, and the A4130 and B4493 to the west that together serve as a key link across Didcot.

Having been designed as a link road, the spine facilitates vehicular movement but suffers from congestion at peak times. It is the primary access route to Didcot Station and the town centre and connects onto the A34 to the west. At points, road bridges and underpasses across the railway connect to the north as marked in the diagram below.

The general character of the Gateway Spine is relatively open with little frontage and overlooking. It is flanked by relatively heavy planting and vegetation to the north of the road, providing a buffer to the railway line. To the south, apart from an intermittent line of buildings between the station and the town centre, building frontages step or turn away from the road edges. The route is not a pleasant one for pedestrians or cyclists. While cycle lanes are provided in the area between the station and the town centre, further to the west these are merged with the footway making movement difficult for both. **Opportunities for the Gateway Spine**

- Upgrades to the road to accommodate future modes of traffic and better pedestrian and cycle infrastructure
- Mitigate flooding along the railway line by integrating SuDS into the landscape to create a recognisable 'linear landmark'
- Improvements to public spaces at the Station Gateway site to enhance the sense of arrival at the station
- Examine ways in which the enterprise zone at the Milton Interchange can facilitate a gateway landmark (as built form or as public art) to sign-post Didcot and Milton Park employment area from the A34
- Improvements to crossings over and under the railway with a public art strategy to enhance experience for cyclists and pedestrians, better connect north and south communities and reduce perception of the railway as a barrier
- Create a better connection between Hitchcock Way and Broadway
 east of the station
- Accommodate in part a 'Garden Line' for the town, linking the town
 centre to Culham Science Centre and Harwell Campus
- Incorporate new wayfinding and signage

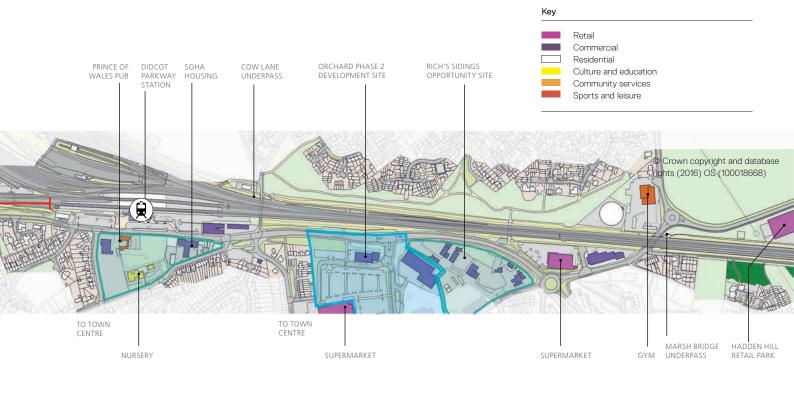




Section A-A View

Station Road has only basic provision for cyclists and pedestrians. There is however a generous amount of vacant land along its length which could be used for grade segregated footpaths and cycleways. If done well, this would encourage more people to cycle and walk, helping to ease congestion along this key route.

- Narrow footpaths adjacent to road
- No lighting along cycle path
- Lack of frontage and back gardens adjacent to road
- Cycle path narrow when accommodating both cyclists and pedestrians



Gateway Spine: spatial strategy

The Gateway Spine will be improved to deliver a spectacular arrival experience into Didcot from the east, the west or the station - enhancing first impressions of the town. Movement along the east-west corridor will be enhanced with three key projects: infrastructure improvements to carriageways, cycle and footpaths, a SuDS scheme along its length and a public art programme to enhance neglected bridges and underpasses.



Cycle superhighway and road widening

Three key projects:

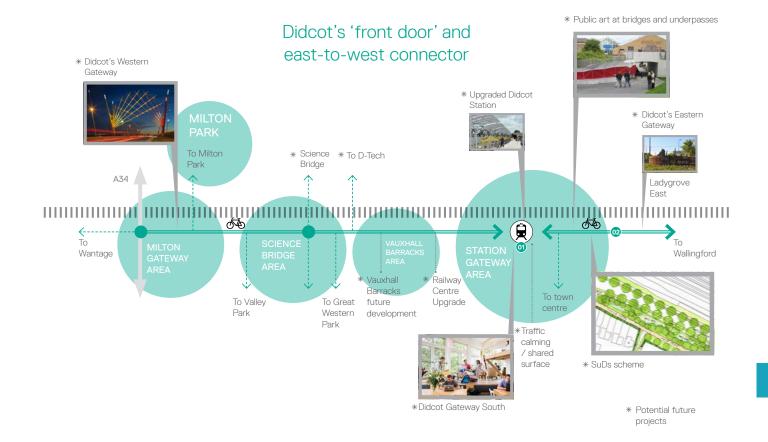


Linear SuDs Scheme



Public art for bridges and underpasses



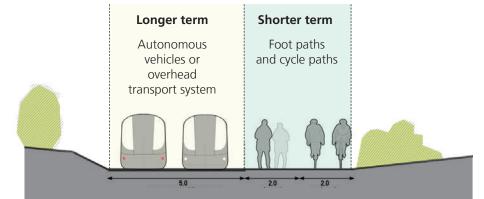




9.3.7 The Garden Line Spatial strategy

The Garden Line will become a major sustainable connector, offering a convenient and predominantly off-road cycle and pedestrian route connecting Harwell Campus and Culham Science Centre via the centre of Didcot and Didcot Station. The route will be designed to be sufficiently flexible to accommodate future modes of transport.

The Garden Line is a strategic and local walking and cycling route that will link a number of existing but disconnected routes into one continuous north-south green corridor. It is comprised of Moor Ditch to the north of the town centre, which extends to the River Thames, while to the south, it follows the disused railway line which formerly connected to Southampton, extending past the urban extents of Didcot. Currently, connections between Culham and Harwell campuses are sparse. With targeted infrastructural improvements, these can be improved to create a seamless connection from Science Vale right into the heart of Didcot. The connection to Culham requires a bridge across the River Thames requiring greater investment. The connection to Harwell Campus would require less investment and would potentially be delivered first. For further information



The Garden Line - proposed section

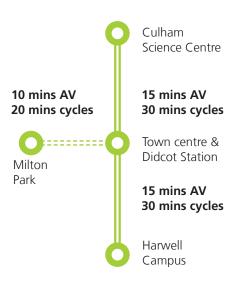


The Garden Line - generous high quality cycle infrastructure in a rural setting



Photo: Gateway Project

Potential for the future integration of autonomous vehicles and overhead transport systems into the Garden Line will be explored further.



Cycling times and potential future connection times for AV (Autonomous Vehicle) network - subject to further study and modelling.





The Garden Line

The image below shows a long term vision of the Garden Line - a green ribbon connecting Didcot town centre and station with Culham Science Centre in the north, and Harwell Campus in the south, whilst also providing access to Didcot's peripheral natural surroundings. In the short term, the line will be upgraded to included better cycle paths and footpaths connecting a number of key regeneration sites throughout line. In the future the line could include an extended zone to accommodate driverless pods or overhead transport system, providing another sustainable and inclusive connection serving Science Vale and the wider area.





9.3.8 A strategic framework for Didcot

The proposals for Didcot Garden Town masterplan are underpinned by a framework that informs the structure for the town to 2031 and beyond. It shows how present and future neighbourhoods and key destinations will be connected by a hierarchical and sustainable movement network that supports the spatial vision of a 'connected' and 'super green' town.

The framework highlights key routes, areas of growth, broad land uses and the strategic landscape network. Its purpose is to work as a benchmark against which individual developments can be assessed to ensure they fulfil the key requirements of the garden town. The framework proposes a seamless movement network connecting the Didcot's wider context comprising surrounding villages, employment sites and natural amenity, with local destinations within Didcot. It also proposes a clear distribution of uses highlighting areas of residential growth nestled within a network of landscaped and green spaces, making the town into an attractive place to live. The key destinations and employment areas which will define Didcot in 2031 and beyond are listed below.

Didcot's destinations up to 2031 and beyond

Health and recreation

- Didcot Leisure Centre
- Didcot Football Club
- ③ Didcot Wave
- ④ Boundary Park playing fields
- ③ North East Didcot playing fields
- Ladygrove East playing fields
- ⑦ Edmonds Park

Nature and landscape

- ③ River Thames Path
- O North Wessex Downs and Ridgeway
- 🔟 Garden Line
- 1 Driftway Tumps
- Appleford Nature Park (currently landfill)
- ⁽³⁾ Milton Nature Reserve
- Mowbray Fields Nature Reserve

Heritage

- log Didcot Railway Centre and museum
- ¹Old Didcot
- 1 Northbourne

Retail, food and drink

- Orchard Centre Phases one and two
 Broadway independent retail
 Insignia Park retail

Culture

- ② Cornerstone Arts Centre
- ② Rich's Sidings cultural facility
- ⁽³⁾ Didcot Gateway Science Innovation Centre

Community

- Didcot town square
- Broadway allotment café
- ²⁹ Ladygrove community hub

Education

- OUTC Oxfordshire
- ²⁸ Didcot Library

Employment and innovation

- D-Tech
- 30 Milton Park
- **3 Harwell Campus**
- Oulham Science Centre
- 3 Enterprise zones
- Southmead
- Idcot Gateway South
- 3 Rich's Sidings commercial hub

Precedents



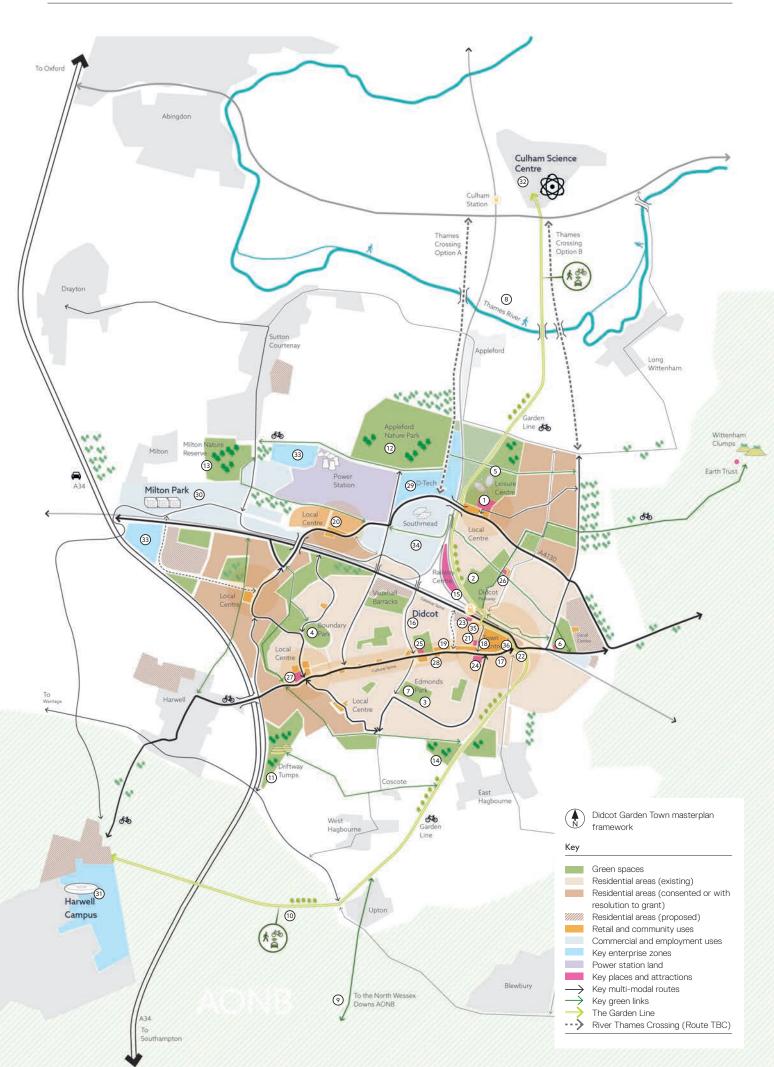
Northala Fields, Northolt, Greater London Photo: Novell Tullett



Haven Point Leisure Centre, Newcastle upon Tyne Source: www.architecture.com



Energy Hill, Wilhelmsburg, Germany - reuse of a landfill site



9.4 The masterplan

9.4.1 Didcot Garden Town masterplan

The Didcot Garden Town masterplan serves as a flexible, mixed use plan that deals holistically with the physical, social and economic issues Didcot faces, bringing about positive change in the Town. Where projects involve physical development they will be subject to the planning process and further public consultation as part of this.

The masterplan embodies fresh principles to give Didcot greater resilience and capacity for an improved environment, physical community enhancement, social integration and economic growth. As a blueprint for Didcot's growth, it draws on the views and wishes of the community and other key stakeholders, and focuses on how the town can become a place for its people. Mobility, connectivity and inclusion have been key guiding principles, attempting to knit the town together as one whole rather than a sum of disparate parts.

It brings together proposals for the four key focus areas, and the opportunity sites located along key movement corridors and integrated through a network of existing and proposed landscaped spaces. These proposals have been shaped by the comments received at the engagement and consultation sessions. In particular, during the course of community engagement, specific representatives from the town council and Ladygrove residents raised concerns regarding

Land use



the proposals around Ladygrove Park and Didcot Gateway North. These centred on the loss of open space and amenity amongst others. As a response, whilst the area remains identified as a potential future opportunity site, it has been decided to take these proposals out of the delivery plan.

These proposals illustrate Didcot's potential and give a sense of what the Town could look like. They are subject to further discussions with individual landowners, developers, stakeholders and interested parties. Many of these have been put forth as initial ideas and need to undergo rigorous testing to determine their capacity and feasibility.

Within chapter 9.6, phasing options have been provided that categorise proposals as early wins, medium and long term. This helps to prioritise options and also channel and focus funding avenues. Further detail is provided within this section, on the proposals for the focus areas identified in chapter 9.3.3.

Landscape

Refer also to landscape plan for further detail in chapter 8.2.3	
	Park, formal garden, play, amenity and cemetery
	Publicly accessible natural green space
	Allotments, community garden, and city farm
	Proposed green buffer around necklace of villages
	Orchard
	Water/ wetland
a de la	Woodland
•••••	Green corridor
	Garden Line





9.4.2 Town centre inset masterplan



Didcot town centre will be the vibrant heart of the town. A bustling centre of activity, providing a network of high quality landscaped streets and spaces for pedestrians. With a growing variety of shops, leisure facilities, entertainment, public facilities (such as public toilets) and a more coherent, inclusive and intuitive street network, it will be the destination of choice for both the town and the wider area.

Station arrival

Instil a sense of arrival with a new public space fronting the station with appropriate street furniture to encourage intuitive wayfinding.

Enhance entrance to the Railway Centre with increased visibility, ensuring this is well integrated with public spaces.

Prontage on to station

Future development to provide high guality frontage and overlooking onto Station Road, setting a new image for Didcot.

Station/ Broadway connections

Pedestrian and cycle connections between station and Broadway to be 6 Orchard Centre south entrance enhanced through:

- additional signage
- planting/landscaping
- high quality surface treatments

Connections via Cow Lane

For improved connectivity and reduced congestion, consider limiting Cow Lane access to two-way pedestrian and cycle traffic, subject to transport modelling. The underpass can be further enhanced through inclusion of public art.

5 Upper Broadway regeneration

Reconfigure existing public footpaths and parking into a linear public space. This can be delivered as early win public space improvements to enhance the image of Broadway. Such a public space can host community events and small business retail, subject to a retail strategy for the town centre.

In order to better integrate Rich's Sidings and Broadway with the town centre, a public space and enhanced southern entrance into Orchard Centre phase two should be considered. This would be

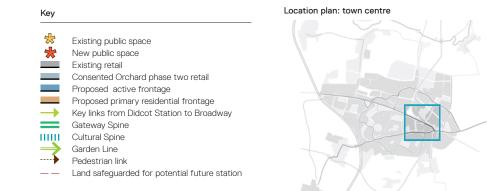
considerably improved if service access planned for the Orchard Centre Phase two scheme could be relocated, subject to further discussion with the developer.

Termination of Broadway

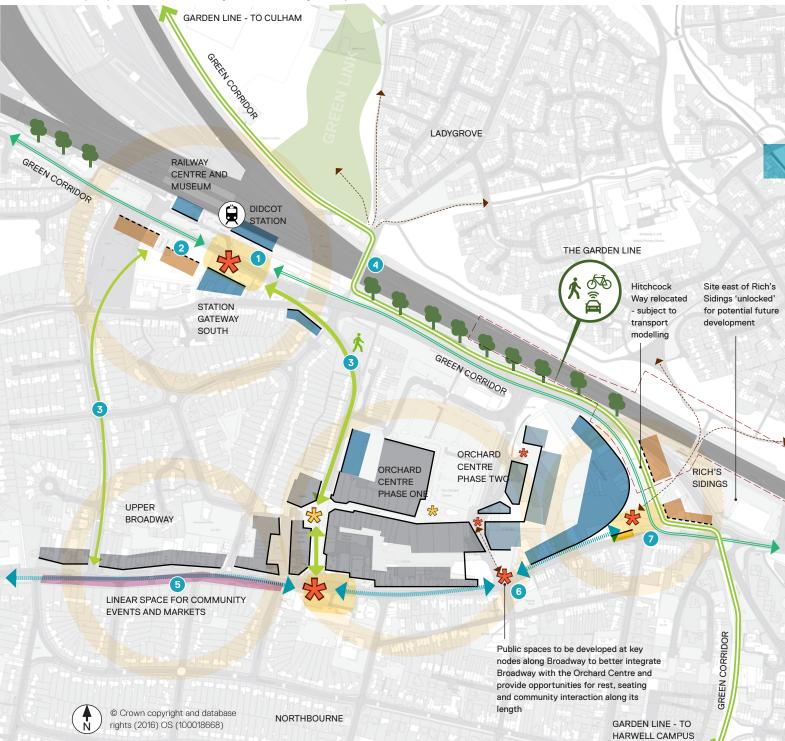
Consider inclusion of a well fronted and activated public space located within Rich's Sidings to provide an appropriate termination to Broadway.



Existing: Didcot Station



The principles show here can serve as guidance for the design development of individual sites:



Proposals for town centre

The town centre masterplan provides the opportunity to consider proposals for individual sites within an overall strategic framework that ensures that these are integrated. It overcomes constraints posed by ownership boundaries and also considers proposals that work individually and for the town as a whole. This masterplan can be used as a benchmark in assessing individual applications. It is supported by a set of principles that can serve to provide guidance for design development.

1 Didcot Station and Didcot Railway Centre

Subject to further study with Network Rail, there is an opportunity to upgrade and enhance Didcot Station to meet growing passenger demand. Currently the station lacks a distinct arrival space and onward wayfinding. The station platforms are accessed via a pedestrian underpass which is prone to flooding and is shared with Dicot Railway Centre. Masterplan proposals include a new arrival space for the station along with potential station extension with overhead access to platforms. The station square extends across Station Road as a shared surface giving pedestrians priority, with public realm improvements providing intuitive wayfinding towards the town centre.

Didcot Railway Centre is well situated adjacent to the station, however suffers from poor visibility and access. An upgrade to the railway centre could be considered in conjunction with station improvements. With appropriate funding, the centre has great potential to become a key destination within Didcot celebrating its railway heritage.

2 Didcot Gateway South

The site south of Didcot Station is predominantly in use as an at-grade car park. It is also home to SOHA housing offices, the Prince of Wales pub and Lydalls Nursery School. The site is long overdue for development and it is hoped that this masterplan will pave the way for its regeneration, taking into consideration the potential re-housing of current uses, with possible retention of the pub, as

appropriate. Masterplan proposals for this site consider inclusion of high density, high quality residential use with a mix of some commercial along with ground floor uses such as a café to help activate **6** Land East of Rich's Sidings the public areas. Routes across the site would be enhanced with landscape and to aid wayfinding and connections to the town centre.

3 Rich's Sidings

Rich's Sidings is a pivotal site at the junction of Broadway and Hitchcock 6 Relocated station opportunity site Way with potential to offer a valuable extension to the town centre. It is currently occupied by a number of trade businesses, including Travis Perkins. Considering suitable relocation of the current occupiers, this site could offer new homes and jobs, as well as public space improvements to address pedestrian and cycle movement in the town centre.

This site can also help to reconfigure Hitchcock Way and provide a new public space for an improved termination to Broadway. This would also help to rationalise Jubilee roundabout into a signalised junction. The proposals for the site include a mix of high quality, high to medium density housing within a layout (8) Edinburgh Drive car park that gives shape to the surrounding streets and spaces.

Public space improvement at the junction of Station Road and Broadway

Situated at the junction of two of Didcot's most important streets, this pivotal space can be reconfigured to form a new shared surface square as a

community focus. It is fronted by Baptist House, and a number of retail businesses including a Broadways pub and Boots.

Currently occupied by a supermarket and vehicle hire company, this site could offer high quality future development. Proposals for Rich's Sidings should consider how this site will be integrated with the town in the future.

The potential long term option of a relocated station is reflected within the masterplan as an area which may be safeguarded.

(7) Orchard Centre phase two

The second phase extension of the Orchard Centre has been granted planning permission and will deliver new retail and public spaces. With increased emphasis on Broadway as a new cultural spine, it would be beneficial to consider how the new Orchard Centre may better integrate with proposals along the Broadway for an improved retail experience.

Potential site for a multi-storey car park as part of a wider town centre parking strategy, subject to further testing.

(9) Gasometer Site

This site has potential to contribute towards future parking provision for the centre, subject to further testing.



Didcot Gateway South

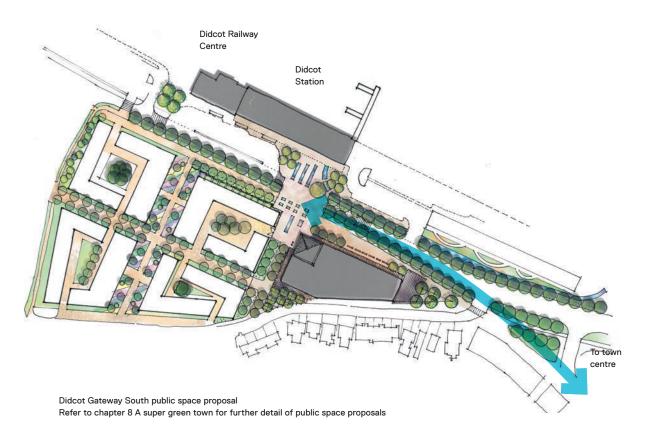


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Rich's Sidings



Rich's Sidings public realm proposal Refer to chapter 8 A super green town for further detail of public space proposals



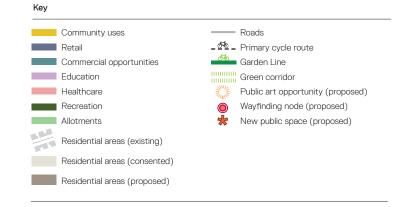
9.4.3 Cultural Spine inset masterplan

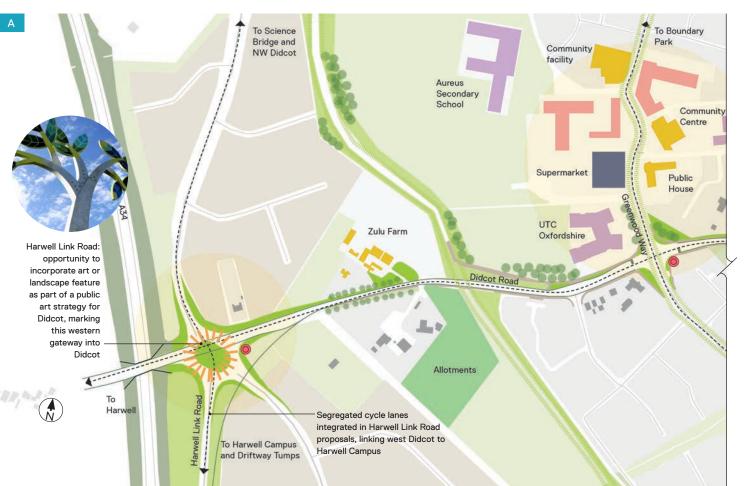


Didcot's Cultural Spine extends along Didcot Road, Wantage Road and Broadway and includes Cornerstone Arts Centre. The masterplan proposes a series of animated public spaces to serve as a platform for community events and activities, accommodating a number of shops, cafés and nightlife establishments. The street will incorporate high quality cycle infrastructure to serve as a commuting route connecting to Harwell village and Campus. The proposals for the Cultural Spine are presented in the following sections.

Cultural Spine - Didcot Road

This section of the Cultural Spine includes Didcot Road, extending through Great Western Park (part completed) and through the future Valley Park development. Currently much of this area is open green field, however, in the future, the character of the street will be dominated by surrounding residential development. Garden town aspirations for this area are to facilitate good segregated cycle links from east to west and onward to Harwell village and Harwell Campus. A further opportunity to integrate public art at the proposed Harwell Link Road roundabout should also be explored as part of a wider public art strategy.



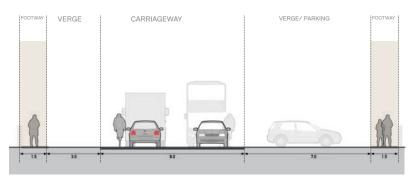


Location plan: Cultural Spine

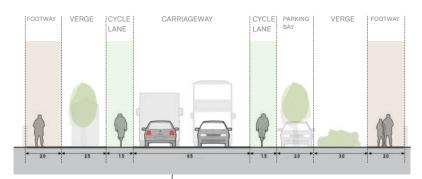


Cultural Spine - Wantage Road

Wantage Road is predominantly residential in character and includes Didcot Community Hospital. The street would benefit from infrastructural improvements to deliver improved cycle and pedestrian paths, as well as improved crossing points, particularly opposite the hospital. This would be subject to future study to determine how the existing space can be reconfigured as shown in the adjacent sections. Refer to the infrastructure Strategy for further detail.





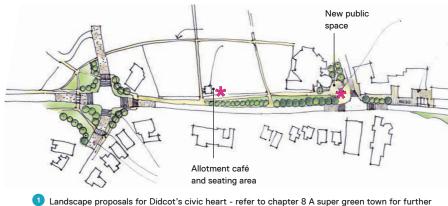


Section A-B: proposed

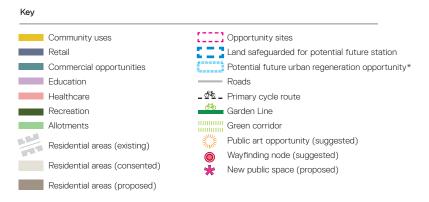


Improving the public spaces along Broadway's civic heart

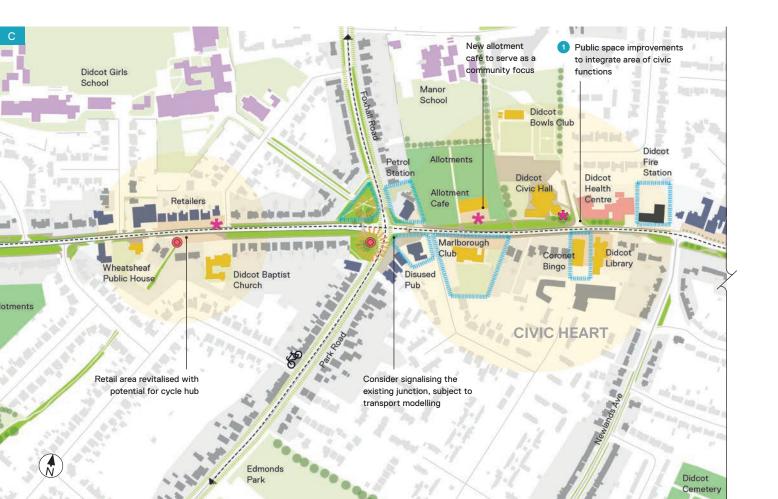




Landscape proposals for Didcot's civic neart - refer to chapter 8 A super green town for furthdetail



^{*} Sites identified as part of the garden town delivery plan but subject to further study and discussion with individual landowners and developers



Cultural Spine - Broadway/ civic heart

To the western end of Broadway the Cultural Spine is flanked by a number of community uses including Didcot's central allotments, civic hall and library. A strategy of public space improvements can help to bind these into an integrated civic heart for the town helping to strengthen the cultural identity.

Location plan: Cultural Spine



Cultural Spine - Broadway/ retail heart

Proposals for the eastern end of the Cultural Spine support the town centre strategy of a series of inter-connected public spaces that unlock the retail potential of Broadway. In order to secure vibrant town centre services, and activities for a future population of approximately 62,000, a new retail strategy is recommended. Such a strategy would help determine the best means of supporting independent retailers and SMEs, as well as how public space improvements should be prioritised.



2 Landscape proposals for Didcot town square - refer to landscape strategy for further detail







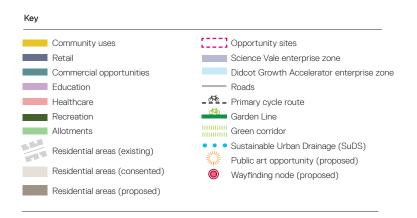
9.4.4 Gateway Spine inset masterplan

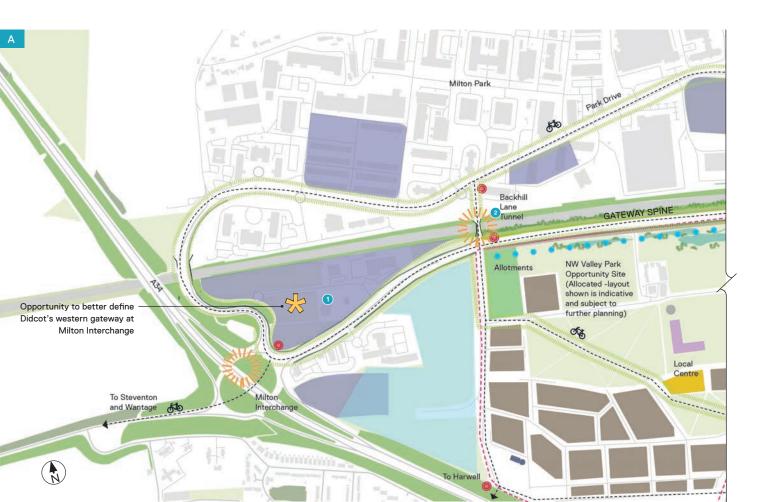


Didcot's Gateway Spine is comprised of the A4130, B4493, Station Road and Hitchcock Road. The spine will serve as the gateway to the town. As a key movement corridor it will seamlessly connect east and west parts of the town working equally for all modes of transport. To the east, it will accommodate a landscaped arrival space at the extended station creating a new image for the town. To the west, it will provide a 'gateway' development to sign-post the town and Milton Park employment area from the A34.

Milton Gate (A4130)

At its western end, the masterplan proposes that the Gateway Spine accommodate a landmark development visible from Milton Interchange, to sign-post Didcot and Milton Park from the A34. The re-opening of the Backhill Lane tunnel would allow seamless cycle and pedestrian connections into Milton Park from the A4130, greatly improving sustainable connections to this employment area from the station.





Location plan: Gateway Spine

Science Bridge area (A4130)

development and

A new Science Bridge is proposed,

to connect across the railway line between the future Valley Park

leading on towards the northern

perimeter road. This will provide relief

to traffic passing through Didcot.

The new bridge will accommodate

appropriate infrastructure for cycles

and pedestrians and will become a

recognisable landmark. Consideration

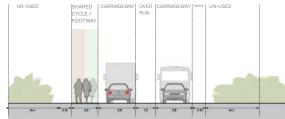
should be given towards how the

bridge is integrated in its surroundings.

north

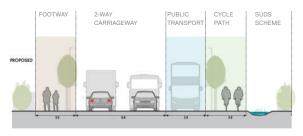
Didcot,

Infrastructure upgrades



Section A-B: existing

With new planting, SuDS, segregated cycle lanes and pedestrian footways and lighting, the Gateway Spine will function as a 'street' knitting together disparate parts of Didcot.



Section A-B: proposed

1 Milton Gate and enterprise zone

Site to accommodate a landmark development that acts as Didcot's 'western gateway' to signpost Milton Park, addressing arrival from the A34.

2 Backhill Lane tunnel

Tunnel reopened to improve cycle and pedestrian connectivity to Milton Park from south of the railway.

3 Science Bridge

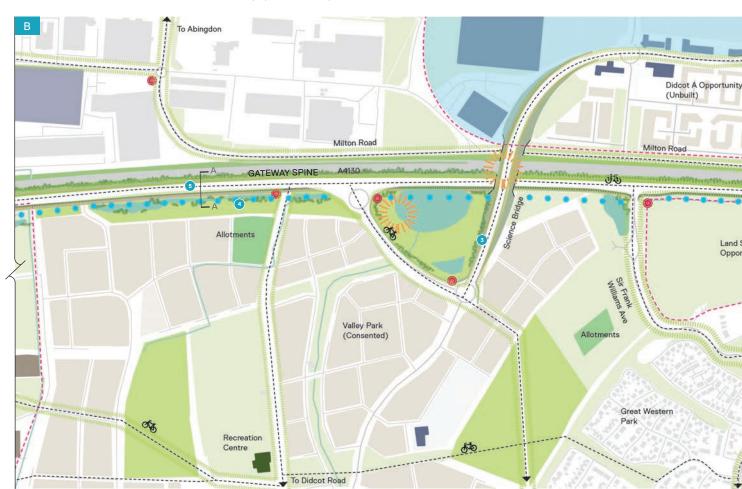
Bridge to accommodate cycle and pedestrian infrastructure with good integration into existing and proposed cycle and pedestrian network.

Gateway Spine SuDS scheme

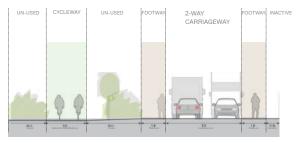
Gateway Spine to accommodate a linear SuDS scheme integrated into infrastructure upgrades along its length. Refer to chapter 8 A super green town for further detail.

Infrastructure upgrades

Gateway spine to include east-west cycle superhighway. Carriageway improvements including widening/ upgrading to a dual carriageway are to be considered to accommodate traffic flows, allow future proofing and provide improved street environment for pedestrians. Refer to chapter 5.1.4 a New movement pattern" for further detail.

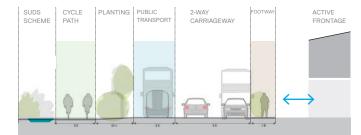


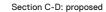
Infrastructure upgrades



Section C-D: existing

Gateway Spine infrastructure upgrades - refer to movement strategy

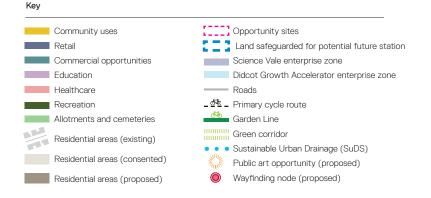






The character of this section of road is open and flanked by heavy vegetation, especially to the north. It is characterised by a number of vacant sites, or sites such as the Vauxhall Barracks which are set back from the road and do not provide quality frontage.

Opportunity sites here should provide improved frontage, overlooking and definition to the road.





Location plan: Gateway Spine

Station Gateway area



Gateway Spine SuDS Scheme - refer to landscape strategy



The eastern section of the Gateway Spine accommodates Didcot Station. Whilst much of the Gateway Spine focusses on the facilitation movement for all modes of transport and on the creation of 'street', this section of the spine is about the creation of 'place'. Traffic management and pedestrian priority through the inclusion of a shared surface station square and pedestrian crossings, will facilitate movement across the road and enhance the arrival experience into Didcot. New development to the south will provide much needed frontage, enhanced greatly by potential station improvements.

6 Land south of A4130

This opportunity site could provide new accessible green space and future housing for Didcot providing new frontage onto the Gateway Spine.

7 Manor Bridge and roundabout

Roundabout to be improved to deliver safer and more seamless connections for cyclists and pedestrians. Conversion to signalised junction to be considered, subject to transport modeling. Public art to be considered for the roundabout and bridge as part of a wider public art strategy.

Foxhall Road roundabout and bridge See above (point 7).

Vauxhall Barracks opportunity site

Long term opportunity site for green space and future housing. Site to provide high quality frontage onto the B4493.

10 Didcot Gateway South

Refer to chapter 9.4.2 for further detail.

1 Rich's Sidings

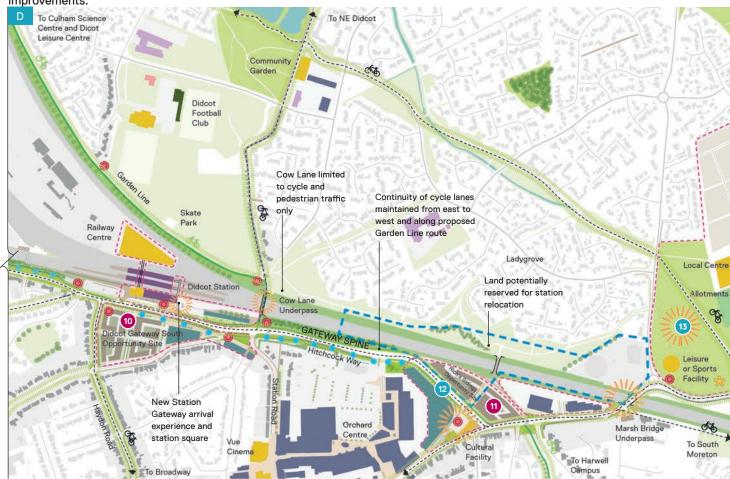
Refer to chapter 9.4.2 for further detail.

12 Hitchcock Way

Subject to transport modelling, consideration should be given towards the realignment of Hitchcock Way to better integrate the Gateway Spine with Broadway and the town centre.

13 Ladygrove East

Site to deliver a new public park and landscape landmark for Didcot marking the eastern terminus of the Gateway Spine and providing onward connectivity with the existing network of cycle and pedestrian routes in Ladygrove.



Didcot Station Gateway vision

The Station Gateway site can deliver a 21st century garden town interchange which will serve the future needs of Didcot and its neighbours. It will accommodate an improved and extended station, together with a new footbridge, a new Railway Centre entrance and exhibition. The area in front of the station will be refurbished to form a new station square, incorporating a shared surface, traffic calming measures and cafés. Cycle lanes will be improved and integrated with the station arrival space. This will include the Garden Line, a key north south route which will provide a convenient and predominantly traffic free green link to Culham Science Centre and Harwell Campus. The Gateway South site will facilitate new high quality sustainable apartments, incorporating the latest in smart technology. It will be home to a new commercial hub directly opposite and visible from the station, with potential for a science innovation centre for Didcot and its Science Vale partners.





9.5 Guidance for key sites



9.5.0 Guidance for key sites

Appropriate development of sites in line with Didcot Garden Town masterplan priorities can greatly assist in the delivery of the masterplan. This section provides further detail on guidance for the individual sites identified in the inset masterplans. These sites are highlighted in the plan below.

Key

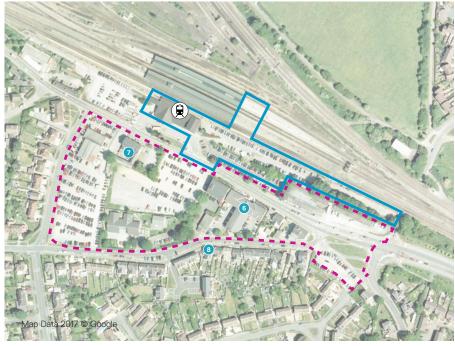
 Didcot Station and Station Gateway South (2) 	Refer to chapter 9.5.1
 ⊘ Rich's Sidings ④ Ladygrove East ③ North West Valley Park ④ D-Tech ↔ Land west of North East Didcot 	Refer to chapter 9.5.2 Refer to chapter 9.5.3 Refer to chapter 9.5.4 Refer to chapter 9.5.4 Refer to chapter 9.5.4



9.5.1 Station Gateway South

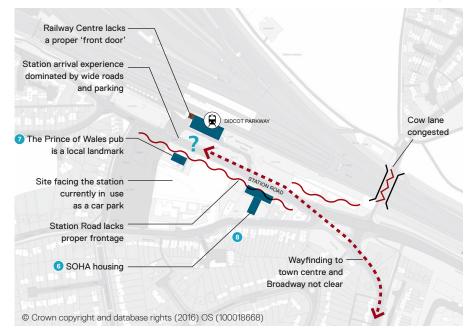
The site at Station Gateway South is instrumental in developing Didcot Station into a 21st century interchange. Proposals should address the station, enhance the arrival experience and first impression of Didcot, as well as facilitate intuitive onward connections to the town centre, Science Vale and other destinations.

Station Gateway South - existing



Station Gateway South - key challenges

Gateway South site boundaryPotential station redevelopment



Guidance

Didcot Station

Provide appropriate extension of the station to the east to accommodate upgrade of facilities. Provision of a public square fronting the station to function as a key arrival space. The square should facilitate interchange with appropriate landscaping, street furniture, wayfinding and information panels to streamline onward travel and aid connectivity to the town centre. It can also incorporate public art as a way to enhance the space and create an identifiable local landmark.

2 Didcot Railway Centre

Potential to provide new Railway Centre entrance and exhibition fronting onto Station Road. Consideration should be given to facilitating better visibility and presence for the centre, to elevate its appeal as one of Didcots treasured destinations. This could be achieved by refurbishing the existing station ticketing hall or with a new building as part of a wider station regeneration project.

3 Commercial Opportunities

Buildings to provide high quality active frontage onto Station Road to define the route to the town centre.

4 Connectivity hub and café

Potential for a commercial hub with science innovation space and cafe serving station area and animating the station arrival area.

5 New housing

The station gateway site should seek to accommodate new high quality housing, providing a mix of one, two and three bed apartments predominantly. Housing to be sensitive in scale towards neighbouring properties with primary frontage facing Station Road. Layout of housing to facilitate pedestrian and cycle permeability towards town centre via both routes indicated.

6 SOHA housing

New offices for SOHA housing should be included in any proposed development.

Prince of Wales pub

Consider retention as part of overall redevelopment or appropriate relocation in discussion with owners or developers as may be appropriate.

8 Lydalls Road Nursery

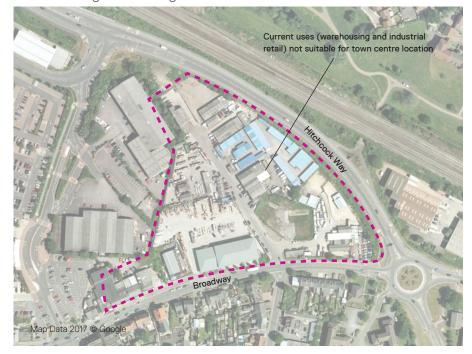
Due to safeguarding issues associated with operating a nursery adjacent to a construction site and subsequent overlooking buildings, it is proposed to relocate the nursery to an alternative suitable site as close as possible to the current one.

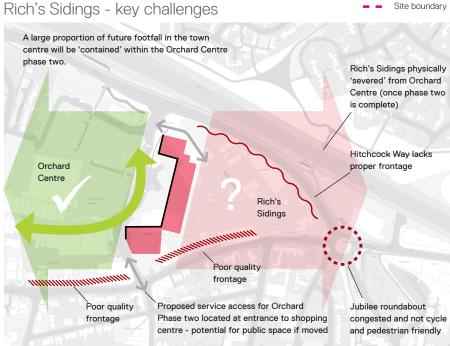


9.5.2 Rich's Sidings

The Rich's Sidings site offers real opportunity to create an appropriate termination to the town centre at its eastern end while serving to complement the offer with a distinct variety of functions that bring value to the town and its people.

Rich's Sidings - existing





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Guidance

0 Hitchcock Way

Development of Rich's sidings should explore the opportunity to divert Hitchcock Way in order to:

- Safeguard an area for the potential future relocation of the station (subject to further study)
- Activate the site by providing a 'street' as the central focus
- Potentially accommodate buses such that Station Road can remain as pedestrian realm
- Accommodate a cycle way (Garden Line)

2 Jubilee roundabout

Jubilee Roundabout replaced with a series of signalised junctions (subject to transport modelling), improving connectivity.

Orchard Centre south entrance 3

Potential for future public space and enhanced southern entrance into Orchard Centre phase two. This would require relocation of retail service access and hence further study and engagement with developer would be needed.

Orchard Centre service access

Potential to provide alternative service entrance into Orchard Centre phase two.

5 Commercial provision

Rich's Sidings should seek to accommodate new commercial premises. High quality frontage, street definition and overlooking should be provided by new buildings.

6 New housing

Rich's Sidings should seek to accommodate new high quality housing, providing a mix of one, two and three bed apartments predominantly.

Land safeguarded for future station See text on following page.

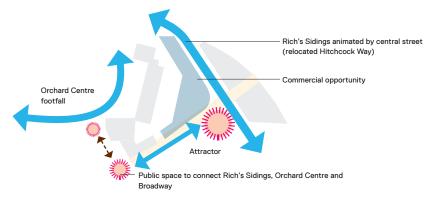
8 Cultural facility

The site should seek to facilitate a cultural landmark, in order to:

- Provide a suitable 'termination' to Broadway
- Provide active frontage onto a public space
- terminating Broadway Act as an attractor to the site
- Act as an intermediary between the Rich's
- Sidings development adjacent residential areas south of Rich's Sidinas
- Help develop Didcot as a destination

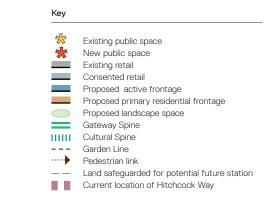
9 New public square

To provide a proper termination to Broadway and a focus for the site, a new public square should be provided, overlooked with high quality frontage, and with opportunity for local public art to be explored.



Rich's Sidings strategy

Design guidance for Rich's Sidings



(7) Potential future station Subject to further study, the area highlighted below may be required to be safeguarded for a future station. In this case, suitable interim uses may include temporary parking, additional green space for the town or 'meanwhile' uses. То Didcot Station Hitchcock Way (current) Car park Orchard Centre pha two 3 6 Supermarket Image: Construction of the second s 8 Garden Line - to Harwell N © Crown copyright and database rights (2016) OS (100018668)

9.5.3 Ladygrove East

The Ladygrove East site has the potential to create a high quality eastern gateway into Didcot. It also offers the opportunity to include an active green space which is accessible from and well connected to the town centre and contribute to housing growth.

Provision of green space

5 Eastern edge

Development proposals should seek to provide a green space oriented to the west to address existing green links to the Ladygrove estate and links to the town centre. Impact of electricity pylons on usability and quality of 6 Woodland edge green space to be given further consideration.

2 A landmark at Didcot's eastern gateway

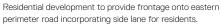
Proposals should seek to accommodate an exemplary 7 Future station connection building to mark Didcot's eastern gateway. This could potentially have a leisure function associated with the green space provision.

3 High quality frontage

Provision of high quality frontage along Hadden Hill and Abingdon Road to work as a catalyst for potential subsequent development of site located to the south of Hadden Hill

4 Street integration

New street layout to connect and be well integrated with the existing street network.



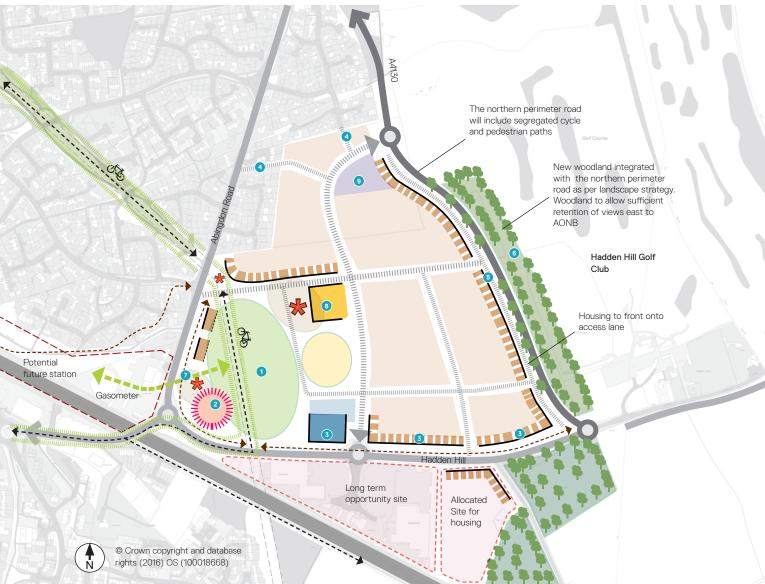
As per landscape recommendations, a woodland area to be incorporated east of the northern perimeter road.

Consideration to be given towards the need to safeguard a future connection from the site to Didcot Station, should it be relocated to the gasometer site adjacent.

8 Local centre

Location of local centre to take into account walking distances and accessibility from new neighbourhoods, and provide a degree of activation of green space.





9.5.4 Guidance for further sites

😔 East-west movement corridor - including Science Bridge

The east-west movement spine is comprised of the A4130 and a two major proposed infrastructure projects, the Science Bridge plus new link road via Didcot A power station and the Northern perimeter road extension.

Science Bridge

A new Science Bridge will connect South West Didcot to North West Didcot, facilitating better traffic flow around the town and better access to Milton Park. The Science Bridge will be an important and highly visible new feature in Didcot. It is recommended that the bridge be designed with appropriate segregated provision for cyclists and pedestrians, and that a design review panel for Didcot is consulted at the early stages of the project to review the appearance of the bridge and integration with its surroundings.

Northern perimeter road extension

This road will facilitate better traffic flows and alleviate traffic on Abingdon Road, and will include segregated cycle and pedestrian paths. Consideration should be given to the integration of this road with Ladygrove East development proposals - see previous page for detail.

Existing A4130 - North East Didcot

Currently the A4130 is built to highway standards and aids in facilitating vehicular flow with little regard for pedestrian and cycle traffic. Didcot Garden Town aims to facilitate movement for all modes of transport. This would require these roads to be upgraded to accommodate pedestrians and cyclists along its length and at crossing points appropriate to the predominantly residential context.

D-Tech

Proposals should seek to:

- Implement or safeguard future cycle connections and green links through the site as defined by infrastructure strategy
- Provide high quality and appropriate frontage onto The A4130
- Safeguard a route for potential future River Thames Crossing - refer to infrastructure strategy for detail

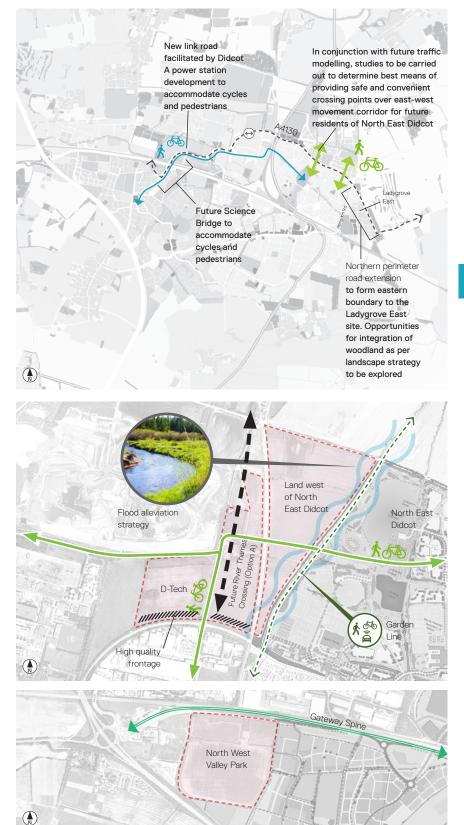
Land West of North East Didcot

Proposals should seek to:

- Examine opportunities to incorporate a flood alleviation scheme in conjunction with Moor Ditch
 refer to recommendations made in Appendix
 J - Flood risk and sustainable drainage strategic Initiatives"
- Accommodate Blue Infrastructure proposals as outlined in chapter 8.3.8 which may include a natural braided channel. This could possibly happen in conjunction with works to upgrade cycle infrastructure along the Garden Line

North West Valley Park

- Refer to chapter 8 for recommendations in respect
 of green and blue infrastructure
- It is recommended that proposals for this sizable and important site involve the advice of a design review panel for the garden town from an early stage
- See also Gateway Spine masterplan in chapter 9.4.4



9.6 Phasing

9.6.1 Phasing

Didcot's growth will be an evolutionary process which will happen incrementally over many years, with the timing of its delivery influenced by a range of factors. The phasing strategy shows an initial understanding of the potential implementation of the masterplan, broadly delivered in three phases: near, medium and long term.

The Didcot Garden Town masterplan will take shape incrementally over a period of 14 years, with some aspirational projects likely to take shape beyond this period. It is important that a degree of flexibility is built into its delivery. This flexibility allowing for changing economic cycles, market demands and availability of funding. To allow for this flexibility, the growth of the town has been considered across three broad phases: near term, medium term and long term, with a number of key development sites, landscape and infrastructure projects identified within each phase.

Didcot today



Near term phase - 2016 - 2026

These can be classified as 'quick wins' owing to a degree of certainty in their development potential, and based upon consideration of the following:

- level of investment required
- Council priority
- developer/ land owner engagement
- overall demand/ need

It is anticipated for some to function as catalysts for future development, improving the viability of medium and long term projects by bringing increased value and investment into Didcot.

Existing areas

- Existing built areas
- Existing green spaces
- ightarrow Existing green links

Proposed development in this phase

- Built development
- Green spaces
- Major infrastructure projects (refer to infrastructure phasing in chapter 5 for details of further infrastructure projects not shown here)
 Key green links (all green links not shown)
- Public art programme (locations indicative)

 \rightarrow Roads (not shown separated by phase)

Key projects

- 1 Didcot Gateway South 2 Orchard Centre phase two 0 Cultural Spine phase one Improvements Õ Gateway Spine phase one Improvements Ō Didcot Leisure Centre 6 Community hub (location to be determined) 6 Public art programme (locations to be determined) A Harwell link road 9 The Garden Line phase one (cycle and pedestrian improvements to Harwell Campus)
- Valley Park early phases (area shown indicatively)
 Driftway Tumps
- Improvements to Edmonds Park and other existing green spaces (refer to landscape strategy)
- 13 Moor Ditch restoration
- D-Tech (first phase)
- Didcot A power station
- ⁰ Didcot northern perimeter road extension



Medium term phase - 2016 - 2031

These are projects either undefined in their degree of certainty, necessitating a greater investment, or of a large scale requiring a longer time-scale for implementation.

Existing areas

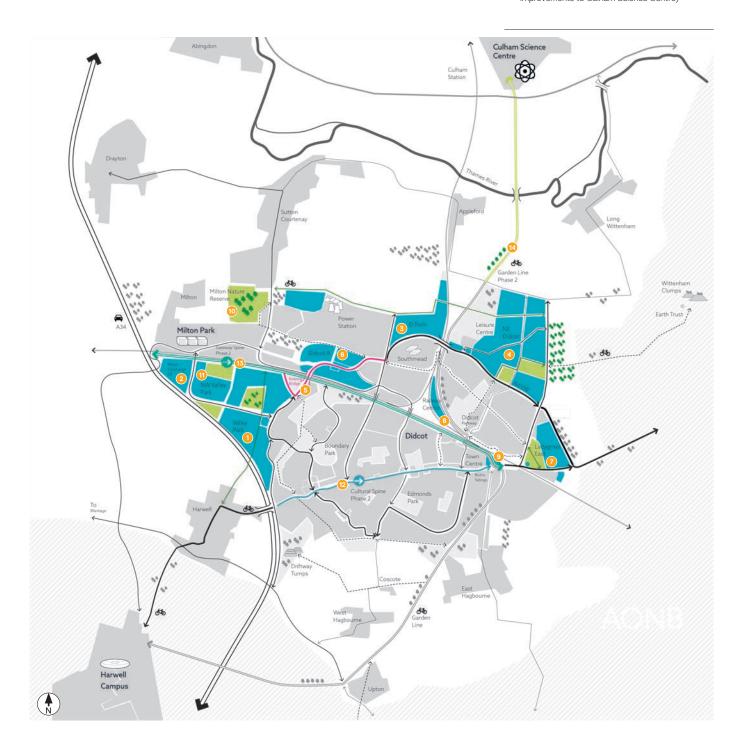
Existing built areas

- Existing green spaces
- ightarrow Existing green links

Proposed development in this phase

- Built development
- Green spaces
- Major infrastructure projects (refer to infrastructure phasing in chapter 5 for details of further infrastructure projects not shown here)
 → Key green links (all green links not shown)
- _____
- ightarrow Roads (not shown separated by phase)
- 1 Valley Park later phases (area shown indicatively) 2 Milton Interchange D-Tech (final phases) 3 North East Didcot 5 Science Bridge 6 Didcot A (final phases) 2 Ladygrove East Õ Railway museum upgrade Rich's Sidings Milton Nature Reserve
 North West Valley Park North West Valley Park ¹2 Cultural Spine phase two improvements (3) Gateway Spine phase two improvements 1 The Garden Line phase two (cycle and pedestrian improvements to Culham Science Centre)

Key Projects



Long term phase - 2026 - 2031+

Some of these are aspirational projects that will help to reinforce the quality and character of the garden town. It is expected that with time and investment, these projects will become viable and deliverable.

Existing areas

- Existing built areas
- Existing green spaces
- --> Existing green links

Proposed development in this phase

- Built development
- Green spaces
- Major infrastructure projects (refer to infrastructure phasing in chapter 5 for details of further infrastructure projects not shown here)
- ightarrow Key green links (all green links not shown)
- ightarrow Roads (not shown separated by phase)

Key Projects

- Appleford Nature Park
- 2 Land west of North East Didcot
- 3 Vauxhall Barracks
- New River Thames Crossing (location TBC)
 Garden Line phase three development for autonomous vehicles/ overhead transportation system
- Didcot power station site (possible site for a new gas fired power station and advanced technology energy park)



9.7 A design review panel for Didcot



9.7.1 A design review panel for Didcot

A significant function of the garden town is to establish mechanisms for quality control, ensuring that the principles of the garden town masterplan are adhered to and delivered. Establishing a design review panel to provide impartial advice on proposed development presents a good option to support the quality of design, aligned to the masterplan framework.

To aid in the implementation of the garden town masterplan and ensure that development sites adhere to its principles, it is advisable to consider the setting up a design review panel.

Design review panels are particularly beneficial as they provide impartial external advice on the design of a scheme and its performance when measured against the masterplan and its principles. They also help to improve the quality of schemes and provide excellent opportunities for raising difficult questions, and are of great benefit to the success of each scheme in fulfilling aspirations.

It is considered that only sites of a certain size and strategic importance need to be reviewed by the panel. This would help regulate the number of design reviews required and ensure that only sites that are critical to the delivery of the garden town are considered.

Generally, it is recommended that applicants should participate in design reviews at three different stages in the design process:

- 1. At the laying out stage to define strategic objectives
- 1. On embarking on elevation and street design
- 2. At detailed design stage

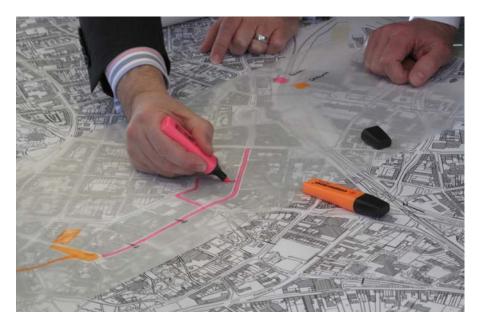
It is important to carefully consider the make of the panel. Usually, the design review panel comprises of independent and impartial group of volunteer built environment experts, recognised for their talents and wide range of experience. The panel is organised by the Design Review Panel (www.designreviewpanel. co.uk) and sits independently to the local planning authority.

The design review panel would:

- Offer applicants and their design teams clear and constructive comments and guidance on schemes, aiding their improvement, but not to fundamentally redesign them
- Advise and empower the decision makers on how to improve design quality, so as to meet the needs of their communities and stakeholders
- Support decision makers in resisting poorly designed schemes
- Support applicants and decision makers in gaining planning approval for well-designed schemes

Setting up a design review panel as described will help raise the quality of the applications submitted for housing development in Didcot Garden Town. With suitable publicity of schemes reviewed and design accolades awarded to those with exceptional design quality this sends a strong message to developers that design is an important criteria and that low standards will not result in consented schemes.

Further information on setting up a design review panel can be sought via the Design Council guidance document "Design Review, Principles and Practice", 2013. Once established, ongoing management could be integrated as part of the governance structure of the garden town.



9.8 Progressing the masterplan

9.8.1 Progressing the masterplan

The publication of the garden town delivery plan marks the beginning of the process of implementation.

It is critical that the delivery of the masterplan does not lose momentum following the publication of the delivery plan. To ensure this does not happen, implementation has been at the heart of the delivery plan.

The garden town masterplan is visionary and aspirational yet it is recognised that it is not a rigid blueprint for design and development. Rather it sets the context for individual projects to come forward by adopting a balanced degree of flexibility and adaptability within a broad framework. The success of the masterplan will ultimately depend on the delivery of high quality design at a more detailed level.

Given the masterplan will be delivered over a period of 15 years, this flexibility is critical to allow for economic cycles, changes in technology requirements, ownership, and governance to occur while ensuring the principles of the masterplan lives on and continues through delivery.

The phasing strategy accompanying the masterplan is critical in identifying projects that can be delivered early. Such projects no matter how small, if delivered to a high standard can help instil investor and community confidence in the masterplan, change the perception of Didcot, set a benchmark for quality and be a catalyst for further development.

The garden town masterplan is accompanied by a list of quick wins, medium and long term projects, and it is this careful prioritising that will begin to give way to the success of the masterplan.

The following list sets out a number of key steps that are critical to the ongoing delivery of the masterplan:

Design codes

Whilst the masterplan has set down the broad framework for growth, it is the quality of the projects that will be critical to its success. To ensure quality in design and detail, it is helpful for the masterplan to be accompanied by a set of design codes. This is particularly critical to the Didcot masterplan given large areas of land have already gained consent setting their broad parameters. Design codes can assist in ensuring that the detailed delivery of the ensuing phases is to a high quality.

Extant consent engagement

Further to design codes, it is critical to establish an engagement process with consented sites to ensure work collaboratively to integrate the garden town principles and aims where possible.

The following are some of the masterplan recommendations that could be delivered through the consented projects:

North East Didcot

- Role in facilitating the Garden Line
- Better pedestrian crossings over the A4130
- Improved frontage to the northern perimeter road for an improved street environment

Valley Park

- Proposed additional green spaces including Driftway Tumps
- Proposed green links
- Improved street hierarchy for better legibility and wayfinding

Orchard Centre

 Interface with Rich's Sidings and potential public space to the south on Broadway

Further to this, during the Didcot Garden Town masterplan process, comments were received from external stakeholders which should be brought forward to developers of consented sites. This will help ensure that developers are encouraged to meaningfully engage with external stakeholders (for example, Sport England) at the detailed design stage, such that comments can be taken on board.

Development of strategies

The masterplan makes a number of recommendations that would benefit from further testing through the development of strategies. Some of these are:

Retail strategy

To test recommendations such as providing support to independent retailers and small businesses as a balance to retail being delivered as part of Orchard Centre phase two.

Parking strategy

To test the option for reconfiguration of parking along Broadway and also to determine best sites for parking allocation ensuring that this does not dominate the public spaces with large areas of parking.

Public art strategy

The masterplan makes recommendations for the inclusion of public art as a means towards revitalising areas such as underpasses, public spaces, gateways and reinforcement of character areas. Inclusion of public art needs to be tested within a wider public art strategy to ensure consistency across the town.

Detailed cycle strategy

Encouraging and reinforcing cycling as an alternate means of transport has been a major aim within the masterplan, with the identification of a network of safe cycling routes. To ensure robustness in this network, it should be tested through an appropriate cycling strategy that would complement the wider Science Vale cycle strategy. Such a strategy would work to identify quick wins and help to build an evidence base.

Public spaces strategy

In addition to public art, a public spaces strategy would help to set the standards for landscape and public space improvements across the town. Embedded within this would be a wayfinding and signage strategy to encourage intuitive wayfinding across Didcot.

Transport modelling

Many of the recommendations within the masterplan are subject to detailed transport modelling, including the closure of Cow Lane to vehicular traffic, the potential for traffic calming of Station Road, and the potential to close parts of Broadway on market days for improved pedestrian environment, to name a few.

Stakeholder engagement

Key to the success of the masterplan is ongoing engagement with stakeholders, the community and interested parties. Many of the recommendations within the masterplan need a meaningful dialogue to be established so that delivery strategies and options can be discussed and aims and aspirations can be aligned. In addition to the consented sites identified above, the following projects would benefit from such a dialogue:

Didcot Railway Centre

Explore ideas regarding how the centre can become an intrinsic part of the masterplan with strategies for further development of the museum.

Didcot Leisure Centre

Engagement with parties involved with the leisure centre such as the providers, the investors and the developers will be key to ensure quality in delivery.

Appleford landfill

Consider long term plans for development.

Wittenham Clumps

Consider how a new cycle link could connect to Didcot.

Rich's Sidings

Given that this site is an intrinsic part of the town centre masterplan, it will be useful to discuss strategies for redevelopment and relocation.

Feasibility studies

A number of recommendations within the masterplan are subject to further detailed study to determine capacity and feasibility such as:

- Station study to determine options for upgrade and potential relocation
- The Garden Line study to determine viability and to enable discussions with landowners, Harwell Campus and Culham Science Centre, stakeholders, relevant organisations and residents to name a few. Such a study would also look at the physical viability of the route highlighting pinch points and would consider options for implementation and funding
- Cultural Spine study to determine the overall viability and to highlight key early win projects. This would be supported by a public spaces strategy developed through engagement with local residents, the retailers and owners of identified opportunity sites
- Gateway Spine study to consider viability with specific input on flooding, traffic modelling and highway engineering

Design briefs

Development of design briefs for sites critical to the delivery of the garden town masterplan to ensure eventual development adheres to the established principles. These sites would include Rich's Sidings, Ladygrove East and potentially Didcot A power station.

Design review panel sites

The establishment of a design review panel has already been considered. This would be helpful in the design development of a number of sites such as D-Tech, North West Valley Park, Ladygrove East and also in the consideration of detailed phases of Valley Park and North East Didcot.

10. Managing delivery of the masterplan

Just as important as having the right vision for Didcot is ensuring that the vision can be made real and the Garden Town proposals can be delivered. In order to do that, the councils need to use their policy toolkits to ensure that all new development in Didcot reflects the garden town vision. An effective governing body must also be put in place to champion the vision, now and into the future. This chapter sets out the planning strategy and governance structure that will ensure the Didcot Garden Town vision endures.

10. Managing delivery of the masterplan

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10.1 An overview of planning and governance

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10.1.1 An overview of planning and governance

Didcot has long been earmarked as an appropriate location for growth. Some of the town's key development sites, such as Ladygrove East, have been allocated for development for over a decade. But development has been slow to come forward in Didcot, and where it has come forward in recent years, residents feel that it has not been good enough quality. Addressing these key issues of delivery and quality is critical if the vision for Didcot Garden Town is going to be lifted off these pages and made a reality.

Why is it taking so long for allocated sites to be built out, and why has Didcot been under-delivering despite its significant allocations? There are a number of factors that are contributing to the slow pace of delivery in Didcot, including:

- relatively low property values
- complex land ownership and acquisition issues
- an infrastructure funding gap

The delivery plan sets out a strategy to tackle these issues by improving Didcot's brand and identity, establishing a governance and delivery team capable of becoming more involved in delivering Didcot's future and securing future funding to realise the garden town vision. Making sure that the vision is embedded in the Councils' policies and championed by the councils' leaders is at the heart of getting Didcot Garden Town up and running – this chapter sets out how the councils will put these actions into motion.

10.2 Planning

Children at Berks, Bucks & Oxon Wildlife Trust Sutton Courtenay © Ric Mellis

10.2.1 Introduction to planning

It is important that the Didcot Garden Town proposals, including the masterplan, are embedded into planning policy. The garden town vision and principles should be set out in policy strongly enough to influence the determination of planning applications, including the refusal of consent where proposals do not contribute to, or impede, the realisation of the garden town vision. It is also critical that the proposals are set out in such a way that they send a strong and clear message to developers and landowners about the councils' positive plans for Didcot's future, the opportunity this presents and the change in quality that will be expected.

This section sets out the means by which the Didcot Garden Town proposals should be embedded in planning policy and identifies opportunities to start influencing development immediately, before the formal adoption of specific planning policy for the garden town.

10.2.2 The emerging local plans

Both South Oxfordshire and Vale of White Horse District Councils are in the process of developing new local plans. As agreed amongst the garden town team and the councils at the outset of the process, the garden town project has not slowed down the local plan process for either district. Rather than have the local plans wait for the garden town proposals to crystallise enough to be written into policy in detail, interim text has been developed for inclusion within the emerging local plans which sets out the up-to-date position of the garden town work. It has always been the intention for this document, the garden town delivery plan, to recommend how the proposals should be taken forward in planning policy terms. That is the purpose of this section of the report.

Vale of White Horse District Council Local Plan 2031

Vale of White Horse District Council adopted its Local Plan 2031 Part 1 in December 2016, which sets out the planning strategy for the district. This plan makes provision for 23,000 jobs and 20,560 homes and so fully meets the 'objectively assessed' housing need for the district. The council is now developing its Local Plan Part 2 which sets out more detailed policies to complement Part 1 and allocate additional land for housing (to meet the agreed proportion of Oxford City's unmet housing need to be addressed within the Vale and support economic arowth and infrastructure delivery within the Science Vale area. The council published its preferred options (Regulation 18) version of the local plan part 2 for public consultation in March 2017.

The council intends to consult on the 'Publication' version (Regulation 19)

of the local plan part 2 in November 2017 and then to submit the plan to the Secretary of State for examination in February 2018. The council is targeting adoption of the local plan part 2 in late 2018.

South Oxfordshire District Council emerging local plan

South Oxfordshire is also developing a new local plan. The council consulted on a preferred options (Regulation 18) version of its emerging local plan from June to August 2016. The garden town proposals were at an early stage when the preferred options draft was prepared, but the garden town team worked with officers to include a section explaining the purpose and broad aims of the garden town project within chapter 9: Didcot and Science Vale. The relevant extract from the emerging local plan preferred options draft (June 2016) is included at Appendix M. The council published an updated preferred options (Regulation 18) version for consultation in March 2017.

South Oxfordshire District Council is intending to consult on a full (Regulation 19) version of the emerging local plan in November 2017 and then to submit the plan to the Secretary of State for examination in February 2018. The council is targeting adoption of the emerging local plan in December 2018.

The role of the Didcot Garden Town in the emerging local plans

It has always been recognised that the development of the garden town proposals should not slow down the local plan process for either council. Although the garden town principles were established relatively early in the Didcot Garden Town process, the proposals set out within this report – which provide significantly more detail – have been evolving continually whilst the two councils have been drafting their respective local plan documents.

The garden town team has been working closely with the two councils to make sure that the local plan drafts each include up to date information about the emerging garden town proposals. A proportionate approach in the interim stage (whilst the garden town proposals were developing and before the councils have endorsed them) has been to include the high level garden town principles (set out at chapter 3.1.5 of this report) in the emerging local plans along with a commitment to provide more detailed policies about the garden town proposals once these become available.

The text included in the Vale of White Horse District Council Local Plan Part 2 Preferred Options is included at Appendix N. In line with the recommendation (in chapter 10.3 of this report) that Didcot should have a single vision endorsed by both district councils, the same text (with relevant amendments) has been proposed for inclusion in the emerging preferred options version of South Oxfordshire District Council's local plan.

It is important that the garden town principles, which underpin the more detailed proposals, are included within the emerging local plans at the first opportunity so that they can establish a policy environment within which the more detailed Proposals can be developed through the emerging plans.

10.2.3 Embedding the garden town proposals in planning policy

Once endorsed by the councils, the garden town proposals, including the masterplan, should be embedded in local planning policy as soon as possible. There are three main policy vehicles through which the proposals could be formally adopted.

These are:

- the two separate local plans for the councils
- a standalone joint development plan document (DPD) for the Didcot Garden Town masterplan area (spanning the two councils) such as a 'Didcot Garden Town Masterplan Area Action Plan'
- a joint supplementary planning document (SPD) for the Didcot Garden Town masterplan area (spanning the two councils)

The principal considerations when assessing the merits of each option are:

- the weight the policies would have
- how quickly and easily the policies could be formally adopted
- the scope and unity of the policy document

The third consideration relates to the scope of the policy document and its degree of focus on the garden town.

A policy document that sets out the proposals for the whole of the Didcot Garden Town masterplan area in one place would send a strong message to developers and other interested parties. It would demonstrate that the two councils are united in their vision for the garden town and that Didcot has been planned, and its proposals will be considered, as a part of this single vision. The alternative, setting out the garden town policies across different policy documents (i.e. in the separate local plans of the two councils) would not send a unified message, and it would make it more difficult for interested parties to interpret the comprehensive plans for Didcot. A separate approach may also inhibit funding bids, which may need to cross boundaries or be based on the clarity of a unified agenda.

Garden town policies, both inserted directly into the councils' local plans or as part of a standalone DPD, would have great weight as they would form part of the councils' local development plans once adopted. Both a standalone DPD or SPD would create a single place for all policies relating to Didcot Garden Town, but an SPD would have less strength than a DPD because it would be 'supplementary' to the development plan. The table below sets out a simplified assessment of the three policy vehicles against the identified considerations. The merits of these options are discussed in greater detail below.

Within the local plans

As the two councils are in the process of developing new local plans it would be possible to include additional policies relating to the garden town within these. The policies would be subject to examination in public as part of the plans, as already planned. Both local plans are currently at a Regulation 18 stage (i.e. the first of two statutory stages of publication and public consultation), which means that they will be subject to Regulation 19 (i.e. the second of the two stages) consultation prior to their submission to the Planning Inspectorate for examination.

However, it is likely that the inclusion of substantially different or entirely new policies (such as detailed garden town policies) after the Regulation 18 stage of the plans would necessitate a further round of Regulation 18 consultation in order to satisfy the regulations and ensure that the public has been given sufficient opportunity to comment on the councils' policy proposals. An additional round of

Policy options	Strength	Ease	Focus
Within local plans	\checkmark	×	×
Didcot DPD	~	×	~
Didcot SPD	×	\checkmark	\checkmark

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Figure 10.1 - Comparison of policy options for Didcot Garden Town

consultation would slow down the local plan process; it could potentially add several months to the programme to adoption for each local plan.

Another drawback to introducing the garden town policies into the two local plans is that the opportunity to set out the proposals and policies for Didcot Garden Town within a single document would be missed. The policies would instead be spread between the two local plans.

Didcot DPD

A standalone joint DPD for the garden town masterplan area was initially recommended by the two councils following the designation of Didcot as a garden town to replace the then-emerging Science Vale Area Action Plan. Creating a standalone DPD that sets out the garden town policies would carry just as much weight as inserting the policies within the local plans themselves, whilst having the particular benefit of consolidating the proposals within a single document.

The main constraint to developing a standalone DPD is time. It would take longer than inserting the policies into the separate local plans for each council because the draft document would need to be prepared, published for two separate stages of statutory public consultation (Regulation 18 and 19) and the final version would be subject to public examination by the Planning Inspectorate. Given that the two authorities are not going through a joint examination process for their local plans, a DPD would be subject to a separate examination process. It would, however, also mean that there would be a risk that the late insertion of more Didcot detail into the emerging local plans would slow them down.

Whilst a Didcot DPD would take longer to put in place than policies within the two local plans or an SPD, it is the best option for Didcot Garden Town. A DPD will afford the garden town principles the strength and clarity that they need in policy terms to genuinely influence, coordinate and direct future development. The time it takes to prepare and adopt the document will be justified by the weight that it will give to the garden town vision.

In order to ensure that a DPD remains a viable option for Didcot, a statement has been included within the draft emerging local plans for both councils which states that more detailed policy for the garden town will be brought forward through a DPD or SPD. Direct reference to the role and importance of a further policy document within the development plan lends additional strength to any future Garden Town DPD.

SPD

Creating an SPD for the garden town masterplan area would be very similar to a DPD in form, but it would carry less weight in policy terms because it would not be subject to examination and would remain supplementary to the development plan.

An SPD would be quicker and easier to put into place than either a DPD or putting policies into the two local plans because it does not need to go through an examination process. As noted above, a statement has been included within the draft emerging local plans for both councils which states that more detailed policy for the garden town will be brought forward through a DPD or SPD. This direct reference to the role and importance of a further policy document within the development plan lends additional credibility to any future garden town SPD.

Recommendation

It is recommended that a standalone joint DPD is developed for Didcot Garden Town. This would embed the garden town proposals in the adopted development plan for both councils: the strongest level of planning policy. It would also set out the councils' shared vision and plans for Didcot in a single place, providing clarity for developers and landowners and a strong message that Didcot is a single place, with a single vision.

This garden town delivery plan goes a long way toward setting out the content of a garden town DPD. Building upon this work, a draft DPD could – and should – be prepared jointly by the two councils and brought forward as quickly as practical.

10.2.4 The status of this document in the meantime

Once approved by the district councils, officers and members should publish and treat this garden town delivery plan as a non-statutory planning document when considering applications within the garden town masterplan area or on sites which contribute towards the garden town housing target.

The garden town proposals will only be fully effective once formally adopted as planning policy. In the meantime, however, whilst the proposals will have no formal status in development plan policy terms, they can be a material consideration and will be a clear public statement by the councils of the level of ambition they have for Didcot and the quality of its development. Given the national importance of garden towns designated by government, the document can carry weight in the determination of planning applications.

Once endorsed by the councils, this delivery plan will signal the councils' unified commitment to the delivery of the garden town vision set out in this document. It should be seen as a precursor to formal garden town policies and be treated as a non-statutory plan that sends a clear message about the councils' intentions for the development of Didcot as a garden town. It should give confidence to developers, landowners and other stakeholders to bring forward development in the context of the garden town vision and principles. It will also provide a clear basis to support funding bids.

Precedent: Birmingham's 'Big City Plan'

Birmingham City Council published *The Big City Plan: City Centre Masterplan* in 2010. The Big City Plan is a non-statutory planning and regeneration framework for Birmingham's city centre that is endorsed by the Council.

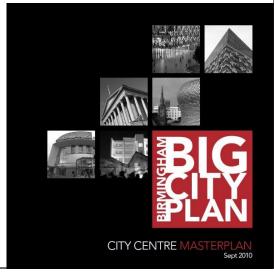
The Big City Plan was published whilst the council was in the process of developing a new local plan for Birmingham. It was developed to act as a formal statement of the council's intentions for the city and to help guide development in the interim period before the new local plan could be adopted.

According to Waheed Nazir, Birmingham City Council's Director of Planning and Regeneration, the principal benefit of the Big City Plan initiative has been in providing a platform to explain the council's vision to outside sources and to take advantage of the various funding and development opportunities that have arisen.

"At the present time many local authorities are still reforming their development plans. This is invariably a long and complex process... If the current statutory framework is too constraining, then [local authorities] should explore alternative formats, just as we have done."

- Waheed Nazir, Director of Planning and Regeneration, Birmingham City Council

(Para 22, Delivering the growth agenda: The experiences of Birmingham City Council, 41st Joint Planning Law Conference Oxford, September 2013)



10.2.5 What should the garden town policies be?

The garden town vision, principles and masterplan should be set out in planning policy as described in chapter 3. The principles, which are included in the emerging local plans, should be supplemented with additional detail that clarifies how each principle will be interpreted for the purposes of directing development and considering planning applications. Before this text is worked up in detail through a DPD, a preliminary, high level version should be approved by the Councils in the interim to serve as non-statutory planning policy. A draft version of this interim policy is set out below.

Didcot Garden Town principles for policy

Design

The garden town will be characterised by design that adds value to Didcot and endures over time; it will encourage pioneering architecture of buildings and careful urban design of the spaces in between, prioritising green spaces over roads and car parks. All new proposals should show the application of the council's adopted design guide SPD and demonstrate best practice design standards.

- High quality public spaces will be secured throughout the town
- Only developments that meet best practice urban design standards will be consented
- Wherever possible, new proposals should build upon local examples of high quality design or locally representative character, meaning:
- Design of new developments and public spaces will add value to Didcot and look to enhance the garden town, rather than merely according with the lowest common denominator
- Design should have regard to the local vernacular without being pastiche. It should signal Didcot's place at the heart of the innovation taking place in Science Vale

Local character

The garden town will establish a confident and unique identity, becoming a destination in itself that is distinctive from surrounding towns and villages whilst respecting and protecting their rural character and setting. Didcot's identity will champion science, natural beauty, and green living, in part delivered through strengthened physical connections and active public and private sector collaboration with the Science Vale.

- The garden town will be characterised by a series of neighbourhoods, each with a local identity borne of its location and function within the town
- The constituent neighbourhoods of the garden town will collectively and organically evolve to support Didcot's identity. This character may be enforced through supplementary neighbourhood design guides in future
- The three conservation areas that are central to Didcot – Didcot old area, Didcot Station Road and Didcot Northbourne – will continue to be protected through policy. However, new proposals within the setting of, or nearby to, these conservation areas which demonstrate exemplar design, reflect the garden town principles and better reveal the character of the conservation areas will be welcomed and encouraged.

- Links for walkers and cyclists between Didcot and its surrounding natural assets and strategic employment sites will be strengthened and enhanced. These include the North Wessex Downs Area of Outstanding Natural Beauty (AONB), the River Thames and the science campuses.
- The rural character of the villages surrounding the garden town will be protected. Strategic landscape areas will be established to create a buffer between Didcot and these villages. When considering planning applications, attention will be paid to the appropriateness of the character of the development in relation to its location and design.

Density and tenure

The garden town will incorporate a variety of densities, housing types and tenures to meet the needs of a diverse community. This will include high density development in suitable locations in central Didcot and near sustainable transport hubs, higher density development will be balanced by good levels of public areas and accessible green space.

- Mixed tenure homes and housing typologies will include affordable housing at a level that is responsive to demand and to local employment needs
- · Professionally managed homes for

private rent (also known as build to rent) have an important role to play in meeting the housing need arising from the science and innovation sector. Such schemes will be supported within the garden town as part of a diverse housing market

- Higher densities will be promoted where they allow for the critical mass of development needed to support services, facilities and public transport. High densities will be balanced with high quality public realm and accessible green space
- In areas which affect the setting of sensitive landscape designations, such as the AONB, new proposals will be carefully designed to respect and respond to their special setting. Lower density development may be appropriate in these areas.

Transport and movement

The garden town will reduce reliance on motorised vehicles and will promote a step-change towards active and public transport through the creation of highly legible, attractive and accessible movement network and the appropriate location of housing, employment and leisure facilities. Cycling and pedestrian links between the garden town, its surrounding villages, and natural assets and the strategic employment sites will be enhanced.

- New and upgraded walking and cycling networks across the garden town will be prioritised to create greater connectivity between existing communities and with new communities.
- Connections between Didcot Garden Town and the Science Vale will be enhanced through improved public transport and active travel networks. Building

upon its reputation for research and innovation, a strategy for new and radical transport interventions may be brought forward – this would explore options such as light rail and driverless cars

- New homes will be located within easy commuting distance of employment areas, connected through cycle and pedestrian that promote active networks travel or, where required, public transport. In particular, housing will be promoted in strategic locations near to Science Vale to support its significant employment opportunities as far as possible
- Improvements to existing public transport and the provision of new public transport infrastructure will ensure that housing, leisure and commercial areas are conveniently and affordably accessible. Commercial developments will in turn reduce car parking provision in response to falling demand

Landscape and green infrastructure

New development in the garden town will enhance the natural environment, increase biodiversity and support climate resilience through the use of traditional measures and new technology. Innovative habitat planting and food growing zones will characterise the garden town and, in turn, these measures will support quality of life and public health.

- A multi-layered and multifunctional landscape will be created across the garden town in line with a green infrastructure and landscape strategy, including:
- 1. Urban zones that should incorporate allotments, vertical

gardens, green walls and green roofs where appropriate

- 2. Rural zones that should incorporate food growing zones, vegetable gardens and orchards
- Strategic landscape areas will be established to create a buffer to the villages which surround the garden town.
- Improving and increasing Didcot's green spaces is a priority for the garden town, and all new developments will meet as a minimum, and exceed wherever possible, current policy requirements for the provision accessible green space
- The reuse of land in the River Thames floodplain should be sympathetic to the area's low-lying, floodplain character type

Social benefits and community engagement

The planning of the garden town will be community-focussed, creating accessible and vibrant neighbourhoods around a strong town centre offer of cultural. leisure. recreational and commercial amenities that support wellbeing, healthy lifestyle choices, social cohesion and vibrant communities. The garden town will embrace community participation throughout its evolution. It will promote community ownership of land and long-term stewardship of assets where desirable.

- Land value capture should benefit the community through strong and responsible governance by the local authorities and stakeholders
- There should be strong input from the community into the garden town vision, leadership and its continuing development

- New and existing neighbourhoods should be within walking distance of facilities that meet their day to day needs and there should be direct and safe links between these neighbourhoods and Didcot town centre which will serve a more strategic in meeting cultural, leisure, recreation and retail needs
- Didcot should develop a diverse and thriving economy that supports a range of businesses, from start-ups to local SMEs to large corporations. The science and technology sectors will be promoted through the activities of the Science Vale but professional and services sectors will also be encouraged to ensure that Didcot is a place to do business for all
- Strenuous efforts should be made to ensure that all groups within the community are fully represented and involved in the future governance arrangements for the garden town. In particular, young people should be encouraged to become involved in the various sub-groups operating under the garden town board, so that they can influence the growth of Didcot and create a town that young people want to live in as they get older

Both interim non-statutory policies and garden town policies to be adopted in future should apply to the whole of the garden town masterplan area in chapter 10.4.

Garden town policy, to be set out in a DPD, should carry forward the thrust of the interim policies set out above, providing further detail where necessary and embedding the masterplan into policy. The policies should also be clear about the councils' intended role in delivering the garden town vision by stating that: The councils will take a positive approach to delivering the garden town Vision, including taking an active role in delivery where necessary. The councils will seek to unlock stalled sites within the garden town masterplan area by using the powers available to them where appropriate, including:

- Local development orders (LDO)
- Compulsory purchase powers.

Local development orders

Local development orders (LDOs) are used to accelerate delivery through the simplification of planning. From the perspective of a local authority, LDOs signal a shift away from waiting for the market to realise development aspirations for a particular area, and towards initiating development activity by pro-actively granting consent for those aspirations.

The use of LDOs can make development less expensive, less risky and faster for developers as they remove the need to prepare a planning application, pay fees and wait for a decision from the local authority. By creating more planning certainty through consenting development outright, LDOs can make investment in a specific area more attractive to developers. LDOs should be made with a view to what is viable in the local market conditions so that the development they consent is likely to be deliverable and attractive to developers or landowners.

LDOs effectively grant planning consent for particular types of development in a designated area. Conditions, including compliance with a design code, can be imposed on development within the LDO and details to satisfy these conditions must be agreed with the local authority as and when development comes forward. Developer contributions can also be specified within an LDO. LDOs do not preclude planning applications being made for development that does not comply with the LDO parameters.

In order to prepare and adopt an LDO, councils must gather sufficient environmental information to assess the environmental effects of the development that would be consented by the LDO. Like traditional forms of planning consent, LDOs are subject to Environmental Impact Assessment (EIA) where they are considered likely to give rise to significant environmental effects. LDOs can be costly to prepare and timely to put in place. But they can also be seen as an upfront investment in realising planning policies and encouraging future development which will bring economic benefits to their area.

Most of the housing coming forward as part of the garden town already has planning permission or a resolution to grant. Planning risk does not appear to be the issue stalling most housing sites in and around Didcot – most are consented whilst others are allocated or about to be allocated through the emerging local plans. It is also important to note that an LDO for the Didcot Garden Town masterplan area would be likely to require EIA.

The marginal reduction in planning risk for those sites which do not yet have planning permission (i.e. Ladygrove East and Rich's Sidings) would not be likely to justify the cost of preparing an LDO for the masterplan area generally but an LDO could be a suitable way of advancing the development of key or stalled sites. As delivery of the masterplan progresses, the councils should continue to encourage the creative use of LDOs and to consider the use of LDOs generated by the councils where such sites are not coming forward relatively quickly in line with the garden town vision.

LDOs do not replace planning policy, but they could be used in conjunction with an effective garden town planning policy document to help enable the delivery of the masterplan by unlocking key sites. Because LDOs do not preclude planning applications for development that exceeds their parameters, putting in place clear and effective garden town planning policy will remain critical to the delivery of the garden town vision. The garden town planning policy will ensure that the quality of new proposals coming forward throughout the garden town – on key sites and on smaller sites in between – contributes towards the garden town vision.

10.2.6 Handling existing planning consents

Most of the homes that comprise the 15,050 homes set out in the garden town bid are already well progressed – over 10,000 have a resolution to grant or full planning consent. Figure 10.2 below sets out the proposed housing numbers and status of each site contributing to the garden town's housing delivery target. These housing sites are allocated within South Oxfordshire and Vale of White Horse District Councils' emerging local plans and the scale of this consented development is substantial. The delivery of these planning consents, which include two substantial urban extensions to Didcot, will influence the function and feel of the town.

	Site	Bid doc	Updated position	Status
South Oxfordshire	1. North East Didcot	2,100	2,030	Resolution to grant for 1,880 and remaining allo- cation
	2. Ladygrove East	700	642	Allocation for 642
	3. Rich's Sidings	300	400	Allocation for 300
	4. Gateway South	300	400	Resolution to grant for 300
	5. Great Western Park	3,500	3,300	Consented
	6. Culham No. 1		500*	Proposed allocation
	7. Vauxhall Barracks	400	300*	Allocation for 300
	8. Hadden Hill		74	Consented
Both	9. Didcot A	400	400	Resolution to grant
Vale of White Horse	10. Valley Park	4,300	4,254	Resolution to grant
	11. North West Valley Park	800	800	Allocation
	12. Harwell Campus	1400	1000	Proposed allocation
	13. Harwell Village		100	Proposed allocation
	14. Milton Heights	450	458	Application pending
	15. West of Harwell	200	207	Consented
	16. East of Sutton Courtenay	200	200	Application pending
	Total	15,050	15,065	

* Potential opportunity to increase the number of homes at these sites to be explored further through the South Oxfordshire District Council's emerging local plan.

One of the greatest challenges for the garden town will be to realise the Didcot Garden Town vision within the context of these large consented sites. Now that planning consent has been granted (subject to section 106 agreements on some sites), the councils' ability to influence these proposals is significantly reduced.

Nevertheless, there are still opportunities to retrofit consented schemes to incorporate elements of the garden town vision and principles. Methods for influencing proposals with planning consent fall into two categories:

- 1. using remaining planning controls, such as planning conditions and reserved matters applications, to influence the schemes and embed the garden town principles as far as possible within consented parameters
- 2. incentivising developers to voluntarily adapt their proposals to reflect the garden town principles and help deliver the garden town vision

The councils should pro-actively pursue both approaches to shape consented schemes into proposals which actively contribute towards the realisation of the garden town vision as far as possible.

For the large outline consents of North East Didcot and Valley Park, there will be significant potential within the conditions imposed on the planning consents to influence the final scheme that is delivered on site. For example, conditions are expected to require the development and agreement of detailed design codes for these large sites and subsequent reserved matters applications will need to conform to those design codes. Although it will not be possible to impose changes to high level elements of the proposals (such as layout and density) without willing cooperation from the developer, details to be agreed by condition offer an opportunity to ensure the proposals accord with the Didcot Garden Town principles as far as possible.

When considering reserved matters applications and details pursuant to conditions on sites within the garden town masterplan area, or on sites which have been identified as contributing towards the garden town's housing target (listed in Figure 10.2), the councils should ensure that the proposals and details are compliant with the garden town principles and serve to deliver the garden town vision as far as possible.

The extent to which schemes could be changed by incentivising developers or landowners to propose amendments themselves is substantial. It will be important to seriously consider ways in which consented schemes could be changed to better align with the garden town vision that would also improve the scheme's value. Such 'win-win' opportunities may be rare, but their potential for positive change is so great that they should be actively sought out through discussions with developers and landowners. For example. increasing development densities on sites in sustainable locations could potentially achieve garden town principles whilst also increasing development values. This, and any other similar opportunities, should be discussed with developers of consented sites at the earliest opportunity.

The garden town team has engaged with developers of Valley Park and North East Didcot to discuss opportunities to amend the proposals at these sites to better align them with the garden town principles. The council has also become aware of an opportunity to review the residential element of the proposals at Didcot A power station and align them with the garden town vision and principles.

Planning Freedoms

The Housing and Planning Act 2016 has introduced a new tool for local authorities called 'planning freedoms'. Provision for planning freedoms is made in Section 154 of the Act, which came into effect on 13 July 2016. Local authorities can apply to the Secretary of State for planning freedoms in areas where there is a need for a significant increase in housing. Planning freedoms would allow the local authority to disapply or modify planning provisions in order to contribute to such an increase.

The Locally-led Garden Villages, Towns and Cities prospectus published by DCLG in March 2016 makes reference to the potential application of planning freedoms for garden towns. It states:

40. We are interested in working with local authorities which have a good track record of housing delivery who are prepared to commit to delivery of housing over and above their objectively assessed housing need through the creation of new garden villages.

41. In exchange for guaranteed housing delivery, we will work with you to identify and deliver planning freedoms to support housing growth including, for example, ensuring that there is greater ability to resist speculative residential planning applications, and to continue protecting the Green Belt.

The recently announced Garden Towns of Aylesbury, Taunton, and Harlow and Gilston have each requested planning freedoms within their Expression of Interest, citing the need for policy protection against speculative housing proposals.

In order for a local authority to request planning freedoms they must be able to demonstrate that they have adequately consulted on the proposed changes by publishing an explanation of what the proposed planning freedoms scheme is expected to involve. No local authority so far has published details of any proposed planning freedoms scheme.

It is yet to be seen what type of planning freedoms will be sought by local authorities or how these proposals will be received by the Secretary of State. But government has clearly signalled an opportunity to use planning freedoms in the context of garden towns – they could potentially be applied to resist speculative housing development if this were seen to enable local authorities to focus on delivering the housing growth committed to as part of the garden town.

The potential use of planning freedoms should be considered in the context of Didcot Garden Town. Such freedoms could be a helpful tool to enable the councils to resist speculative housing proposals around Didcot which would harm the garden town's natural setting in order to focus efforts instead on delivering the garden town vision. The councils should work with government to investigate how such freedoms could be used to reinforce the delivery of the vision for the garden town.



10.3 Suggested approach to governance

Berks, Bucks & Oxon Wildlife Trust Sutton Courtenay © Ric Mellis

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10.3.1 Suggested approach to governance

Convincing, decisive and credible governance is critical to the delivery of the garden town proposals. To achieve this, the garden town should be championed by a single governance body whose primary aim is to deliver the garden town vision. This body should be established without delay, building upon the momentum of Didcot's garden town status and looking ahead to address the challenges and capitalise on the opportunities and that will come with Didcot's significant planned growth.

In the past, Didcot has suffered from a lack of a coherent and focused approach to how it should grow as a place, leading to piecemeal development across the town and an increasing strain on its social and physical infrastructure. Work has been done previously to identify how Didcot should evolve, including a masterplan prepared by Savills in 2013, but these proposals have not been realised. The establishment of a single governance body whose primary aim is to deliver the garden town vision will be a major step to ensuring that the garden town proposals are achieved.

It will also be important to demonstrate to government that there is a strong and credible governance mechanism in place that is capable and focused on delivering the garden town vision. This will be vital to securing ongoing government support for the delivery of the garden town proposals. A number of governance models have been considered for Didcot Garden Town, including an urban regeneration company, urban development corporation and a variety of 'do-ityourself' options. A detailed note which considers the merits of each option is included in Appendix O of this delivery plan; its conclusion is that a bespoke governance mechanism is the most appropriate option for Didcot Garden Town. This chapter describes the needs, composition, functions and strengths of the recommended bespoke governance structure.



Stakeholder engagement event © Councillor John Cotton

10.3.2 A single unitary council for Oxfordshire

South Oxfordshire and Vale of White Horse District Councils have reached a consensus that, in the context of reduced government funding and the urgent need for capital investment, a step-change is needed in the way council services are run. To address this the council leaders have agreed to work together with Oxfordshire County Council on a joint bid to government to create a unitary authority for Oxfordshire. The three councils recently submitted a robust proposal to government for the creation of a new unitary authority. This proposal aims to deliver a "Better Oxfordshire" and the three councils are hopeful that government will decide to support this as a way of delivering more efficient and effective local government across Oxfordshire.

The creation of a new unitary authority would address some of the governance issues that Didcot currently faces, such as cross-boundary coordination between the two district councils. However, given the early stage of these proposals, it is important to establish a mechanism to address these governance issues in the short term to ensure that the garden town initiative is rolled out as soon as possible. The governance structure set out in this section has been developed with the specific aim of enabling the effective delivery of the garden town vision. The proposal has been developed in the current context of the district councils, and it is not reliant upon any changes to existing district boundaries. Nevertheless, it provides a robust governance framework to deliver the garden town vision now and in the future. If a new unitary authority is established going forward, the garden town governance body could be updated within the proposed structure to reflect the, joined-up nature of a new unitary authority.



10.3.3 Powers

A new governance structure for the Garden town should focus on the creation of a single body whose primary aim is to deliver the garden town vision. The governance body will need to have appropriate powers in order to be effective, including powers for:

- plan making
- development management (determining planning applications)
- Compulsory Purchase Order (CPO)
- access to and control over funding

Each of these powers is discussed further below.

Plan making powers and development management

Consolidating plan-making and development management powers serves one fundamental purpose which is to ensure that all planning matters in Didcot are determined with special regard to the needs of the garden town as a whole. Consolidated plan making powers should be used to create a single planning policy document setting out the garden town vision, principles and masterplan. The detail of this document is discussed further in chapter 10.2 Planning. The joint determination of planning applications by committee should be carried out by a joint planning committee. The creation of a joint planning committee would require approval from the Secretary of State.

Compulsory Purchase Order(CPO)

CPO powers can be an important tool in bringing forward development and enabling local authorities to take an active role in realising their vision for an area. These powers are not used lightly and there are strict rules that govern when and how they can be applied. But as a last resort, CPO can be effective in unlocking stalled sites and bringing about the regeneration of an area in line with the council's plans. A bespoke governance structure would not have its own CPO powers but it would be able to draw upon the powers available to the two local authorities.

Funding

The powers to leverage funding and decide how it is allocated are essential to the delivery of the garden town vision. Control of funding will ensure that developer contributions and other sources of funding are used in a co-ordinated manner that has regard to the priorities of the garden town. A convincing funding strategy will inspire confidence from government – and other investors – that Didcot is capable of effectively stewarding investment.

A trade-off?

When establishing a new governance body, there is a trade-off between how quick and easy it is to set up and how powerful it is. For example, setting up a body that reassigns the powers of elected officials, like an urban development corporation does, would alter the democratic structure of councils and therefore require approval by the Secretary of State not a quick or easy process, but the result is powerful and has government support. Other structures that can be set up within the Council's existing powers should be easier to put in place quickly, but do not necessarily have government support.

For Didcot Garden Town, it will be important to strike the right balance between putting a new governance mechanism in place quickly enough to capture the momentum of the work being done now, and ensuring that it is sufficiently powerful to be meaningful. A bespoke mechanism can strike the most effective balance, as set out in the supporting detailed note on governance at Appendix O.

10.3.4 Didcot Garden Town governance structure

The recommended structure

The recommended governance structure for Didcot Garden Town is a bespoke governance model that is tailored to Didcot's unique needs and context. The district councils already have all of the powers that are needed to make a success of Didcot Garden Town's projected growth, with the exception of creating a joint planning committee – this would require the approval of the Secretary of State.

The proposed bespoke governance model has been developed on the basis that the district councils could, together, better use the powers available to them in a coordinated and focused approach to planning Didcot's growth. Unlike other governance models considered, а bespoke governance structure can be powerful, relatively easy to set up and it can function within the councils' existing democratic structure. It can also be sufficiently credible to demonstrate convincingly to government and other potential investors the councils' intent to work with stakeholders and the community to proactively pursue the delivery of the garden town vision.

The proposed governance structure is set out at Figure 10.3. It is led by a Didcot Garden Town Board, which is supported by a number of groups which each perform specific functions. The proposed governance structure identifies co-ordinated roles for politicians, local businesses, sectorspecific stakeholders and community groups – all of which have a stake in shaping the garden town vision and delivering its proposals.

The latest proposals for governance arrangements, following consultation, can be found at Appendix S.

Didcot Garden Town Board

The Didcot Garden Town Board has the ultimate responsibility for ensuring that the values, vision and strategy of the plan are sustained throughout the governance structure. The Board will have significant autonomy under delegated power; the board will make recommendations directly to cabinet for any decisions that cannot be taken under its delegated powers. The board will review all recommendations relating to the delivery plan, primarily tabled by the Strategy Board and Delivery Group, and will relay its decisions to the Delivery Group and Joint Planning Committee. The chair of the board should be a well-respected independent individual. The 'Business Leader' will either be elected by the local businesses working group or nominated by the OxLEP.

Joint Cabinet Briefings

South Oxfordshire and Vale of White Horse District Councils' cabinets will agree a scheme of delegation setting out decisions that can be made directly by the Didcot Garden Town Board and those that must be referred to cabinets. Joint cabinet briefings present an opportunity for the two cabinets to help inform and shape proposals from the Strategy Group and Delivery Group in relation to matters that cannot be delegated; this provides a 'sense-checking' mechanism before proposals are considered by the Didcot Garden Town Board. Following joint cabinet briefings, the Strategy Group and/ or Delivery Group will have the opportunity to amend proposals before submitting them to the Didcot Garden Town Board for consideration. These briefings should be held as needed when the Strategy Group or Delivery Group are preparing to

present proposals to the board which would require non-delegated powers (i.e. cabinet approval). It is very important that this process is carried out efficiently such that it speeds up decision-making for Didcot Garden Town. Should this mechanism be found to slow down decision-making or be overly cumbersome, its role should be reviewed.

Strategy Group

The Strategy Group will advise on visionary and strategic matters in relation to the garden town and represent sectors (see Workina Groups). It serves as an arena for discussion amongst stakeholders, and will help the groups to identify priorities and inform proposals relating to the garden town. Proposals from the Strategy Group will first be put to members via joint cabinet briefings; feedback from briefings will inform finalised proposals presented to the Didcot Garden Town Board. One councillor from each of the district councils will sit on the Strategy Group, who will be nominated by the cabinets and will chair meetings alternately. Although the Strategy Group Chair will sit on the Didcot Garden Town Board to represent the Strategy Group's interest, they will absent themselves from discussions regarding the performance of the Strategy Group.

Delivery Group

The Delivery Group will source funding, apply for bids, recommend funding allocations to the Didcot Garden Town Board and distribute funding (with approval of the board and sign-off from cabinet when required). Like the Strategy Group, the Delivery Group will present draft proposals at joint cabinet briefings before finalising proposals for consideration by the board. The group will be led by a council officer (i.e. Head of Development, Regeneration and Housing) whose role is to coordinate delivery of the garden town proposals in line with decisions made by the Didcot Garden Town Board and cabinets where appropriate. The group will be chaired by an elected member nominated by cabinet and, although this person will also sit on the board as the Delivery Group representative, they will absent themselves from discussions regarding the performance of the Delivery Group.

Working Groups

Working Groups are sector specific groups formed of voluntary participants who represent the interests of their organisations in relation to the garden town. A representative of each Working Group sits on the Strategy Group and relays the Working Group's perspective. The Working Groups will be autonomous. The extent of their input into the garden town will therefore be dependent on their voluntary involvement. The role and purpose of each working group will become clearer as they meet. Therefore, they be will allowed sufficient flexibility to organise and re-organise themselves, subject to their needs. Those listed in the Governance diagram are initial options and may be re-worked or expanded as required. For example, they may create sub-groups if helpful, and members may choose to sit in multiple Working Groups if appropriate.

Community Representatives Group

The Community Representatives Group will be comprised of residents' groups or representatives and the town and parish councils whose jurisdiction fully or partially covers the garden town masterplan area. The group will function similarly to the Working Groups, acting as a forum for discussion on community and local business matters. Local businesses may be members of both the Community Representatives Group and any of the Working Groups relevant to their business interests, or may choose to sit in only one of these groups. The group will have a seat on the Strategy Group to shape and inform garden town strategies and proposals. The group will also have four seats on the board: one for Didcot Town Council, one for an elected representative from the remaining parishes, one elected representative directly from the community; and one for an elected representative of the local businesses. This group will keep channels of discussion between the board and the community open and ensure that the community is always at the heart of shaping the garden town.

Didcot Garden Town Planning Unit

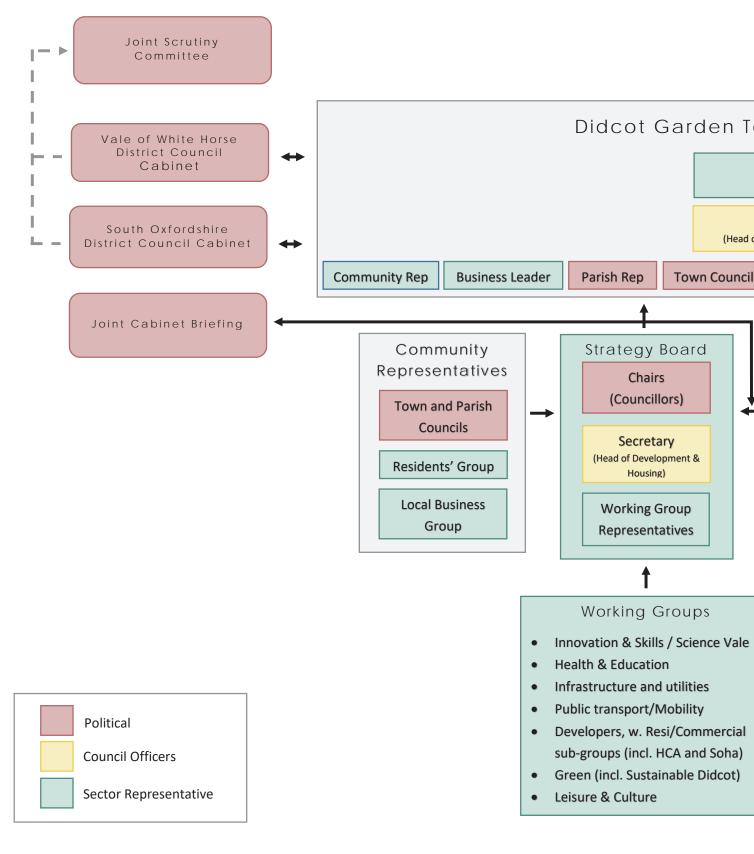
A joint planning unit for Didcot Garden Town is needed to support the joined up approach to planning proposed in chapter 10.2 of this report. This will draw on existing planning resources from the district councils' planning teams. The Garden Town Planning Unit will perform day-to-day functions of planning teams for Didcot Garden Town and lend strategic oversight. It will make recommendations to the Delivery Group regarding the spatial implications and deliverability of strategies and interventions and to the Strategy Group on strategic issues. It will have the ability to prepare planning policy documents and process planning applications across the Didcot Garden Town.

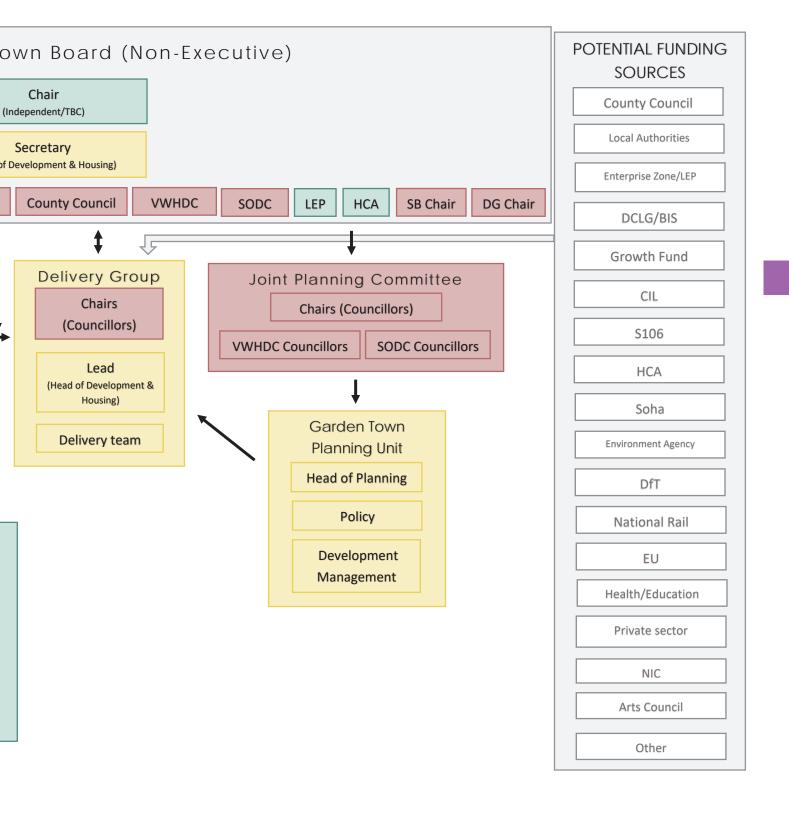
Joint Planning Committee

The Joint Planning Committee will determine all planning applications within the garden town masterplan area boundary that would be determined by planning committee (as per the district councils' existing schemes of delegation). Committee members will be kept informed of the garden town proposals by the Garden Town Planning Unit. Decisions should be made with the needs of Didcot Garden Town in mind. The Joint Planning Committee will be comprised of an equal number members from both district of councils. The committee will be chaired alternately by councillors from the two district councils. Setting up the Joint Planning Committee for the garden town masterplan area would require approval from the Secretary of State.

Volunteering

Resident and community involvement in the various sub-groups within the governance structure will be on a voluntary basis. However, the Garden Town Board will actively consider how additional volunteering can be encouraged to help implement various aspects of the delivery plan. This could be an important mechanism for encouraging community involvement in the garden town.





Community engagement strategy

The councils have engaged with experts on community engagement in order to consider the detailed ways in which the community can be actively involved in delivering the Didcot Garden Town vision in the short and long term. This work is complementary to the proposed governance structure, and provides some further detail of how the Community Representatives Group might function. The report commissioned by the councils is appended to this delivery plan at Appendix P. The main features of this proposal are:

1) Creating an accessible, updatable garden town outline for continuing local engagement

This seeks to establish a 'live' strategy that sets out the long-term means of engaging the community and its role in the delivery of Didcot Garden Town, and can be continually updated.

2) Appointing a dedicated voluntary sector coordinator and establishing a programme of engagement with the voluntary sector and parish councils/ residents groups

This proposal would help to facilitate the Community Representatives Group by coordinating the role, presence and importance of the community and voluntary sector in Didcot Garden Town. This coordinator could sit within the Delivery Group and work to ensure that the community is formally engaged in the plans for the garden town on an ongoing basis.

3) Developing a set of projects suitable for voluntary sector delivery which would contribute to delivery of major goals such as the cycle link

This feeds in to the 'quick wins' aspect of Didcot Garden Town proposals and offers a role for the community to lead in the delivery of these projects, thereby taking stewardship of the garden town and helping to encourage involvement from the outset.

4) Investing in growing the voluntary sector (i.e. through space in the Didoct Garden Town hub or by helping to take on new roles)

This would give the community and voluntary sector a physical and central presence in the garden town, thereby establishing the importance of these groups and providing an obvious location and tangible means by which the community can get involved – as opposed to merely responding to surveys or consultation documents.

5) The Didcot Garden Town Board to adopt an objective for the voluntary sector and broad principles for membership balancing openness, commitment and compromise

The underlying aim behind this is to ensure that the Didot Garden Town Board is explicit about the important role the community and voluntary sector should play in the garden town, and to make a formalised commitment to hearing and taking into account their views.

A garden town delivery company A proposal by Garden City Developments

A further option that could be incorporated into the recommended structure is a garden town delivery company.

In response to the garden town consultant team's recommended governance structure, the district councils commissioned Garden City Developments to explore options for a more interventionist delivery vehicle that would become directly involved in delivering the garden town masterplan and provide long-term stewardship over public assets. The full paper is appended to this document at Appendix Q. The document endorses the governance structure proposed in this delivery plan document and suggests an opportunity to take this further by establishing a 'Garden City Development Corporation' intended to foster confidence in the delivery of the garden town development. A 'Community Trust' would also be created that would have stewardship responsibilities over community facilities.

This proposal to establish a council-owned company that delivers infrastructure upfront and generates returns from a share of development profits attracts a significant amount of risk. Given that most of the available major sites in Didcot already have planning consent, this vehicle may not be required in the short term but may be an appropriate option to consider as part of a longer-term garden town delivery strategy. Such a company could be developed within the proposed bespoke governance structure once established and if further significant development opportunities come forward. This opportunity should be considered further by the Delivery Group and Didcot Garden Town Board when established.

10.3.5 How has this recommendation incorporated local views?

During community engagement, the council received a number of comments relating to governance. This structure has been recommended following consideration of this feedback. In summary, feedback regarding governance has included the following:

- the need for transparency
- calls for stronger planning leadership that is 'responsive and diligent', 'joined-up, visionary, skilled and brave', and seeks to protect Didcot's rural setting
- calls for a locally-led plan that is 'compatible with the ethos of a garden town'
- calls for better cross-boundary coordination, for example: the opinion that the two district councils should be one or that a development corporation should be established for the town, and, conversely, that the garden town boundary should not result in a change to parish boundaries
- ensuring that the garden town boundaries do not impinge on the setting of the surrounding villages
- using the garden town designation as an opportunity to determine planning applications within the garden town by a single body
- concerns about the need to manage and influence the impacts of the pace of change in Didcot, which is perceived by some as too fast and poorly managed. There has been an expression of the need for the governance mechanism to help mitigate strains on infrastructure resulting from this, and concern that the garden town designation should not just be a 'green light for developers' or cause urban sprawl
- concerns over the need for local representation and for a strategy that is informed by in depth local knowledge

 desires to encourage investment in Didcot

The bespoke governance recommendation has also been discussed with the Didcot Garden Town Advisory Board (comprising councillors from both councils including the leader of each, the chief executive of both councils and the head of development, regeneration and housing of both councils). The following feedback was given:

- the need to ensure the democratic accountability of the governance structure
- the need to include political representation within each body of the governance structure
- concerns that a joint planning committee could allow members from one authority disproportionate influence in decisions which primarily affect the other

These comments have informed, and the majority echo, the issues which the new garden town governance structure seeks to address. The governance recommendations have incorporated these views where appropriate. The proposals ultimately seek to ensure that local views are continuously heard and reflected by an evolving garden town strategy. In particular, the governance proposals respond to the above feedback with:

- a bespoke garden town governance structure that has an overview of Didcot's growth and is charged with managing change in line with the garden town vision
- a Didcot Garden Town Board that is supported by locally-interested stakeholder groups and is accountable to the district councils' cabinets. This recommendation is

intended to resolve cross-boundary coordination issues and is founded on the belief that accountability can be achieved through the guiding presence of councillors within the Didcot Garden Town Board itself and the requirement to gain the councils' cabinet approval where necessary. The supporting bodies should grow and organise themselves organically reflect their aspirations for to Didcot. This will allow local aspirations to drive the momentum of the garden town whilst ensuring that the strategies taken forward are deliverable

- a dedicated Delivery Group that actively seeks out and coordinates investment. This is vital to ensuring that the benefits of the garden town are felt by all and that the garden town proposals are prioritised and delivered accordingly
- a Community Representative Group that provides a formal and flexible mechanism through which local people can be involved in the garden town now and in the future. The council is eager to receive views about the arrangements for this group during consultation on this delivery plan
- a Garden Town Planning Unit and Joint Planning Committee to overcome cross-boundary coordination issues and establish a single body focused on all planning matters relating to the garden town.

The recommended governance structure allows experts, professionals and local people to have their views heard within a structure that maintains political accountability at its highest tier.

10.3.6 Summary and conclusion

The success of the Didcot Garden Town Delivery Plan relies on the political will to take a more strategic view of managing Didcot's growth. Leveraging the powers and funding available to manage this change and deliver the infrastructure to support planned growth will be fundamental to the garden town's successful delivery. It will be essential to demonstrate that a coordinated, accountable and effective governance structure is in place to deliver the garden town proposals in order to gain government support and attract further funding for the garden town going forward. This is a significant opportunity - one which the garden town is eager to capitalise upon.

In essence, the recommended governance structure enables the consolidation of planning and funding powers already within the councils' possession into one body, as far as possible. This is necessary to support their strategic and coordinated use to deliver the garden town vision and delivery plan, identified in this chapter as:

being rooted in existing Didcot

Garden Town governance arrangements. It has identified the core themes underlying this existing arrangement – leadership, strategy, planning and delivery, stakeholder involvement and community – and seeks to incorporate and enhance these elements through attributing clear roles to dedicated groups within a coordinated and accountable structure that will work now and in the future

- strengthening joint working and delivery through the establishment of the Garden Town Planning Unit and Joint Planning Committee in order to focus decision making within Didcot Garden Town boundary to align with the priorities of the garden town itself
- maintaining the democratic nature of the councils: recommendations are strongly influenced by elected members and ultimate decisionmaking powers rest with the (existing) cabinets
- being flexible, leaving open the option to reorganise the Working Groups and Community Representatives Group in response to the needs of each, and to reorganise the Delivery

Group into a company if helpful in future

- responding to stakeholder and public engagement in an ongoing manner
- providing a sustainable mechanism for the long-term stewardship of the garden town by establishing ongoing, accountable strategic oversight of delivery of the garden town vision.

The swift adoption of this bespoke governance structure will carry forward the momentum of the work being done now and provide Didcot with the toolkit it needs to overcome its current challenges, capitalise upon the opportunities that come with its garden town status, and will provide a major step towards ensuring the Didcot Garden Town's long-term success.

10.3.7 Governance structure development

Following approval by the district councils to proceed with the proposed governance structure the recommended next steps for putting this in place are set out below. It is most important that the existing Didcot Garden Town Advisory and the district councils are proactive in formally establishing and implementing the Didcot Garden Town governance structure.

1. Detailed stage: seek legal advice, draft terms, agree amendments

- Seek legal advice on the steps required to establish each element of the governance structure and the measures necessary to form a joint planning committee
- Draft a constitution* for the governance structure
- Draft terms of reference** to which each constituent body of the governance structure must agree
- Prepare and publish community engagement strategy for consultation
- Optional: identify a 'brand' name in order to give the governance structure a single identity and clear purpose in advance of engagement with government and public launch. For example, Didcot Garden Town Partnership

2. Internal approval: agreement by cabinets

 Cabinets of each district council to formally approve the implementation of the garden town governance structure, including agreeing the constitution, schemes of delegation and terms of references for its constituent bodies

3. Engage with government

 Engage with government to make them aware of the intended governance structure and body and formally request Secretary of State approval to establish a Joint Planning Committee

4. Formation: Public announcement, invitation to form Working Groups and the Community Representatives Groups, selection of board members and employees

 Councils invite applications from/ make offers to organisations or individuals to take up positions in the garden town governance body, including for the selection of the chair of the Didcot Garden Town Board

- Advertise establishment of Working Groups to public, encouraging interested parties to come together as a working group and to formally notify the councils of their interest
- Publish community engagement strategy, making clear the ways in which the community can become involved in the partnership and the development of Didcot Garden Town

5. Launch: Formal establishment and implementation of garden town governance structure

- Dissolution of temporary garden town governance bodies.
- Public announcement at launch event
- First meetings held by all constituent bodies. All bodies and their members must agree to the terms of reference required by the cabinets
- Working Groups and Community Representatives Groups each to write their own group charters***

^{*}The constitution will include terms of reference for each constituent body and a scheme of delegation that will allow the transferral of powers to the Didcot Garden Town Board or its relevant constituent bodies and officers. The scheme of delegation should allow the separate planning committees to continue to make planning decisions until such a time as a Joint Planning Committee is approved by the Secretary of State.

^{**} Terms of reference will set out the role, responsibilities and membership of each constituent body of the garden town governance structure, and will be embedded in the constitution (and therefore cannot be amended by the bodies without approval by the cabinets). For the Working Groups and Community Representatives Groups, the 'role' section should be high-level, such that these groups may still determine the extent to which they feed into the garden town.

^{***} Charters will set out how these groups intend to function on a day-to-day basis; including regularity of meetings, time commitments expected of members, desired deliverables and outcomes.



10.4 Garden town areas

10.4.1 Garden town areas

When Didcot was announced as a garden town, one of the first questions to arise was: what exactly is the garden town? Not only has it been important to define what garden town status means for Didcot, but it has been critical to determine exactly where the garden town would start and end. Local people and businesses need to know whether they are in or out of the garden town, and what that might mean for them.

In response to these questions it is important to understand that the garden town project does not involve changing administrative boundaries the garden town makes no attempt alter Didcot town boundary, to parish boundaries or district council boundaries. However, the consultant proposed two boundaries team relating to the garden town project: one for the garden town masterplan boundary and one for a wider area of influence that may be affected by some of the proposals included in the Didcot Garden Town Delivery Plan (e.g. those relating to green infrastructure or urban/rural coalescence). These boundaries were the subject of public consultation in November-December 2016, and have since been updated to reflect the comments received. This section sets out the purpose of each garden town boundary and explains why they have been drawn as they are (please see Figure 10.4).

What is the garden town masterplan area?

The Didcot Garden Town masterplan area is the extent of Didcot that is covered by the garden town masterplan, it is shown at Figure 10.4. This area has been considered in detail to identify both appropriate development opportunities and in order to plan investment and improvements in transport, landscape, green infrastructure, public spaces and social services. The masterplan's primary focus is the garden town masterplan area, but proposals that relate to connectivity – such as transport and green infrastructure – in some cases extend beyond the garden town boundary in order to join Didcot up with surrounding networks.

The Didcot Garden Town masterplan area is intended to cover the current and future extent of Didcot: the area where you might reasonably describe yourself as being 'in Didcot' if you lived or worked there. Didcot has already transcended its historic boundary in some areas to incorporate new homes and employment uses and its planned growth will extend Didcot's boundary further into neighbouring parishes. For example, parts of Great Western Park and the planned development at Valley Park are within the parish of Harwell, and the majority of the proposals for North East Didcot are within the parish of Long Wittenham.

Most of the people that live and work in these new developments will use Didcot's town centre for their day to day needs. It is therefore important that these new developments are included within the Didcot Garden Town masterplan boundary, to ensure a comprehensive approach to planning Didcot now and in the future.

Chapter 10.2 describes how garden town vision, principles and masterplan will be set out in planning policy. Garden town policy should apply to the whole of the garden town masterplan boundary.

Didcot Garden Town area of influence

As part of developing proposals for Didcot Garden Town, it has been important to look beyond Didcot's immediate boundary to consider sites and areas that are strongly linked to the garden town. This wider area around Didcot, called the area of influence and shown at Figure 10.4, is important in setting the scene for the garden town. It has provided context for the garden town masterplan and some proposals (such as those which relate to connectivity) extend beyond the garden town masterplan area into the area of influence itself.

A number of factors have been taken into account when defining the area of influence. All housing sites identified in the garden town expression of interest as contributing towards the garden town housing target have been included within the area of influence. Given the strong ties between Didcot and the Science Vale, the area of influence includes the three major science campuses: Harwell, Milton Park and Culham. As well-known and valued landscape features near to Didcot. Wittenham Clumps and the River Thames are important features contributing to Didcot's natural setting, these are included within the area of influence. Finally, Didcot acts as a primary service centre for a number of surrounding villages; this relationship influences Didcot's economy and transport network, and so these villages are included within the area of influence.

By considering Didcot within this wider area of influence the garden town proposals are outward-looking and responsive to Didcot's wider context. This approach has also prompted

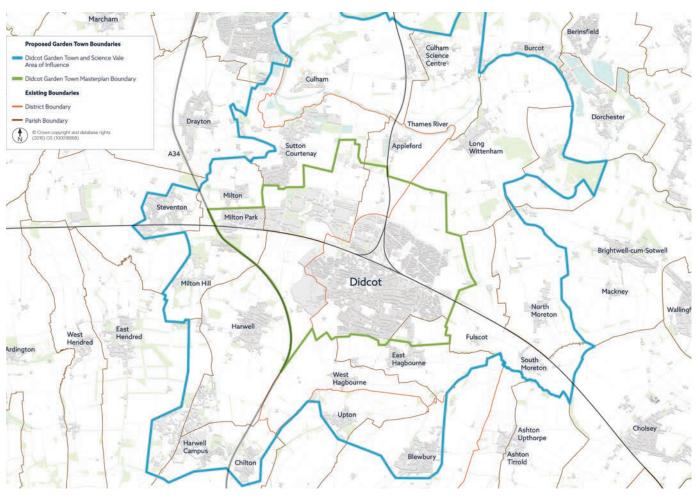


Figure 10.4 - Map of garden town areas

engagement and consultation with the people who live and work not only within Didcot, but in the surrounding area. The area of influence boundary has itself been the subject of public emgagement, and has been amended to reflect comments received.¹

Garden town policy (discussed in chapter 10.2) will not apply to the area of influence as a whole, but it will apply to individual housing sites that contribute to the garden town target of 15,050 homes – some of these lie outside the garden town masterplan area but within the area of influence because they are separate to the built up area of Didcot.

Garden town masterplan area description

The garden town masterplan area boundary includes allocated housing and employment sites in the built up area of Didcot (i.e. Ladygrove East, North East Didcot, Didcot A power station, Valley Park, North West Valley Park, Milton Park and Enterprise Zones (EZs)) and sites which are considered important for green infrastructure or similar interventions.

The detailed explanation of the boundary, starting at the southernmost point at the intersection of the A34 and A417 and moving clockwise is as follows:

 The A34 forms a natural boundary and follows the Valley Park, North West Valley Park and A34 service area allocations in the Vale of White Horse District Council Local Plan Part 1. North of Milton Interchange, the boundary cuts east to trace the northern edge of Milton Park, including the EZ sites here whilst excluding Milton Village to the north From Milton Park, the boundary turns north to include the northernmost EZ at Milton Park and the power station site. It then continues north to capture the full extent of the gravel pit and landfill sites before joining the B4016 to the

south and heading east

- The boundary follows the B4016 east and then turns south along the edge of the North East Didcot site. It then joins South Moreton parish boundary, which coincides with the Area of Outstanding Natural Beauty boundary, and travels south
- The boundary cuts west across the Parish of East Hagbourne, including the green gap which separates the Didcot from East Hagbourne village. Part of this land was the subject of a recent planning appeal which was dismissed, reinforcing the strategic role that this open space plays in preventing the coalescence of Didcot and its surrounding villages. This area has been included within the boundary so that it can be carefully planned as part of the garden town vision
- To the west of East Hagbourne, the boundary re-joins the East Hagbourne parish boundary and follows this west, joining the West Hagbourne parish boundary which reconnects with the A34

It is important to remember that the garden town boundary does not indicate the area of Didcot to be developed. The masterplan also includes areas to be retained as open space and indicates where new green infrastructure should be introduced.

Didcot Garden Town area of influence description

This area includes Harwell Campus, Milton Park, Culham Science Centre and all housing sites which are earmarked to contribute towards the 15,050 new homes to be delivered as part of the garden town but which are separate from the built up area of Didcot. The boundary follows parish boundaries where possible because these are long established and widely understood, but it has been necessary to deviate from these in order to capture specific sites or villages which are considered to influence, or be influenced by, the garden town.

The detailed explanation of the boundary, starting at the south and working clockwise, is as follows:

- To the south of Didcot, the boundary cuts across the parish boundaries of Blewbury, Upton and Chilton in order to include these villages, for which Didcot acts as the service centre
- From Chilton, the boundary runs west and then north around Harwell Campus, and then directly north from the campus to meet the A417 where it rejoins Milton parish boundary running west and then north
- The boundary again deviates from Milton parish to include the village of Steventon for which Didcot acts as the service centre. To the north of Steventon, the boundary cuts back east to again trace the

parish boundaries of Milton, Sutton Courtenay and Culham. Incidentally, the boundary also follows the River Thames at the north which forms a natural geographical boundary

- The boundary follows the Clifton Hampden parish boundary north and east of Culham Science Park, but then cuts south through the parish to rejoin the River Thames to the south. This deviation has been introduced to keep the boundary relevant to the garden town and to exclude the village of Berinsfield to the east which is served primarily by Abingdon
- The boundary continues to follow the River Thames east and then south and loops around the Wittenham Clumps which are considered a key landscape feature relevant to the garden town. It then rejoins the parish boundary of Little Wittenham and runs south along the boundaries of North Moreton and South Moreton to include the villages of the same names, before turning west along the boundary of South Moreton. It then joins the boundary of East Hagbourne and travels south west before deviating to include Blewbury (as described above)

Great Western Park playground opening © South Oxfordshire District Council

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11. Funding and implementing the proposals

Garden towns don't grow on trees. Funding the proposed infrastructure, projects and initiatives will be key to securing the jobs, homes and benefits for the town. The delivery plan sets out a framework for a viable and deliverable garden town, this chapter sets out the further work needed to complete the pre-implementation phase. The work will refine a viable proposition for private and public sector funders, adding to the funding already in place to deliver the proposals in full.

11. Funding and implementing the proposals

11.1.1	Delivering the garden town
11.1.2	Summary funding table



11.1.1 Delivering the garden town

The garden town offers a unique opportunity to benefit local people and the UK economy. For local people there will be new green space, community facilities and a thriving town centre. More widely, the 15,000 new homes, 20,000 new jobs and substantial value generated within the Science Vale will play a significant part in the national economy.

Pre-implementation

Implementation

The first stage in realising the homes, jobs and economic benefits is to undertake further technical work and facilitate the next stage of engagement with businesses, investors and the community. The following table sets out these pre-implementation costs, broadly fitting into the following areas:

- Research, technical and feasibility studies - This involves the next stage of design, engineering and technical work to get projects ready to start on site. It also includes developing key strategies and policies to shape emerging proposals, ensuring that all of those delivering projects in the area support the objectives of the garden town.
- A garden town team Building on the work to date, establishing a garden town team within the councils for the next five years. The team will direct the various specialist work described above and manage the council-led projects. It will also act as a point of contact for investors, developers, businesses and community organisations, ensuring that people know how they can work with the garden town principles and benefit from this.

The cost of the research, studies and garden town team amounts to ± 10.8 m. The council will be discussing the best way to fund these costs with central government.

The delivery plan includes a wide range of proposals, ranging from low cost early priorities, through major long term infrastructure projects to residential and commercial development. The summary funding table includes over 60 individual proposals, together with anticipated costs for these and planned or secured funding. The key categories of costs are:

- Transport infrastructure £256.2m
- Sustainable travel and energy £52.5m
- Governance, culture, events, business support and community engagement - £18.5m
- Town centre upgrades and social infrastructure - £60.8m
- Key development projects (residential and commercial) -£224m

The total of the above costs is £612.1m. The following table also identifies planned or secured funding and project revenue sources (including those from third parties delivering development projects) amounting to £293.3m. To implement the proposals in full therefore requires a further £318.8m of funds. The pre-implementation funding described above will be critical in firming up this funding requirement and further exploring private and public sector funding sources. Options include central government grant or loan funding, revenue generating projects, funding from development via community infrastructure levy or other methods, local government funding or borrowing, and a range of private sector partnership opportunities.

The projects and ideas outlined within the delivery plan are very ambitious and we therefore appreciate that some of these may need to be reduced in scale or prioritised once it is clear what resources are available to support the implementation of the plan. The garden town team are currently producing a prioritised infrastructure requirements report to determine the priority of various infrastructure projects within the garden town.

11.1.2 Summary funding table

			Max. cos Research	st estimate	Project revenue	
No.	Project name	Description	/ feasibility phase	Implemen- tation phase	or planned funding	Comments
1	Didcot Garden Town governance and project delivery Consultation	Building upon the work to date, establish an on- going garden town team within the district coun- cils, specifically focussed on delivery of the gar- den town objectives. The team will drive all of the actions within the delivery plan and act as a point of contact for developers and other private sector partners wishing to invest in and deliver elements of the plan. Undertake a full public consultation on the draft	n/a	£14,700,000	£0	£750,000 per an- num until 2031 for dedicated delivery team, £300,000 per year until 2031 for project support. The first five years funding for the
	delivery plan	delivery plan. Consider and incorporate views received so that the final plan reflects the wishes of the community.				delivery team (£5,250,000) should be provided as part of the initial capacity
	Hosting stakeholder events	Arrange nomination of stakeholder representatives and host garden town update sessions to maintain the involvement of the community.				funding required for the research/ feasi- bility phase. The re- maining £9,450,000 should be provided in
	Meanwhile / tempo- rary uses research	Garden town team to research best practice and support opportunities for temporary, meanwhile and pop-up uses around the town.				two further tranches of \pounds 4,725,000 in years 5 and 10.
	Create meanwhile use project plan	Garden town team to create a plan for the mean- while use projects which will attract interest from potential participants and form the basis of a busi- ness plan / funding plan.				
	Endorse and publish garden town policy state- ment	Both councils to formally endorse non-statutory garden town policy statement and publish it as a stand alone document available on the planning policy section of their websites.				
	DPD devel- opment	Develop a programme for development, consulta- tion and adoption of a garden town development plan documents and include it in both councils' lo- cal development schemes.				
	Align consents with garden town princi- ples	Liaise with developers working group (see chapter 10) to explore opportunities to retrospectively align extant consents with garden town principles.				
	Work with government	Work with government to investigate how planning freedoms could be used to reinforce the delivery of the vision for the garden town.				
	Draft governance structure constitution and terms of reference	Draft a constitution and terms of reference to which each constituent body of the governance structure must agree.				
	Governance structure consultation	Prepare, publish and carry out a community engagement strategy.				
	Governance structure brand	Develop a unified brand in order to give the governance structure a single identity and clear purpose.				
2	Create 'Be in Didcot Gar- den Town' website	Engage a web designer to create the website, which links to the Science Vale website, creating a central location for information on the garden town and for community updates.		n/a	£0	
3	Didcot Garden Town exhibtion and conference event	Organise this event which celebrates achieve- ments within the town and encourage continued community involvement.	£40,000	n/a	£0	To be organised with Cornerstone Arts Centre.

			Max. cos	st estimate	Project	
No.	Project name	Description	Research / feasibility phase	Implemen- tation phase	revenue or planned funding	Comments
4	Arts and culture strategy	Produce a town wide strategy that sets out how the town will build its cultural offer across public art, community engagement and cultural amen- ities, encompassing milestones, partners and funding.	£60,000	n/a	£0	
5	Create events plan	Bring together key science, arts and environment stakeholders to create an events plan, this can be an early stage in the commissioning of an arts and cultural strategy.	£10,000	n/a	£0	
6	Wayfinding strategy, design and installation	Create a wayfinding strategy and design the layout and information so that improved signage and navigation aids can be installed. Installation of wayfinding totems around Didcot, including interactive maps at the station.	£80,000	£180,000	£0	
7	Connectivity hub	Conduct a feasibility study for the connectivity hub (garden town HQ) and then construct the preferred option.	£27,500	£3,000,000	£0	
8	Didcot town centre manager	Run feasibility testing for introducing a town cen- tre manager role to Didcot.	£5,000	£250,000	£0	
9	Social enterprise action plan	Develop an action plan for involving social enter- prises in future activities linked to the achievement of garden town objectives.	£15,000	£200,000	£0	
10	Multi-use transport model	Establish a multi-use transport model that will al- low for improved transport planning and ensure fu- ture infrastructure meets the needs of users.	n/a	£60,000	£0	Initial model building will take 3-4 months with additional model testing required after.
11	Smart travel and new technology	Develop smart travel initiatives to promote sustain- able transport options and implement new travel technologies.	£50,000	£5,000,000	£0	
12	First and second phase of Garden Line cycle im- provements	Deliver the first and second phase of the cycle im- provements for the Garden Line, encouraging the uptake of cycling. The works include upgrade of routes for autonomous vehicles.	£200,000	£35,000,000	£0	
13	Cycling network improve- ments	Upgrade to cycling network within the whole town.	£50,000	£9,300,000	£4,500,000	This improvement is identified as essential within the enterprise zone plan but is not prioritised within the LGF3* and devolution programmes.
14	Enhanced cycling network	Extending and enhancing the cycling network including creating micro hubs.	Inc above	£2,000,000	£0	
15	Science Bridge and A4130 capacity improve- ments	Implement the proposed capacity improvements.	Complete	£43,200,000	£14,200,000	This improvement is identified as essen- tial within the enter- prise zone plan and is prioritised within the LGF3* and devolution programmes.

				st estimate	Project	
No.	Project name	Description	Research / feasibility phase	Implemen- tation phase	revenue or planned funding	Comments
16	Central Didcot trans- port Corridor (Cultural Spine and Gateway Spine)	Provide a package of works for the proposed Cul- tural Spine and Gateway Spine.	£400,000	£60,000,000	£0	Elements of this im- provement are iden- tified as essential within the enterprise zone plan but is not prioritised within the LGF3 and devolution programmes.
17	Northern perimeter road and east-west movement corridor	Providing a package of new highway improve- ments.	£100,000	£12,200,000	£6,000,000	Elements of this im- provement are iden- tified as essential within the enterprise zone plan but is not prioritised within the LGF3 and devolution programmes.
18	Access to Culham Science Centre Phase one	Install first stage of improvements for access to Culham Science Centre.	£150,000	£15,780,000	£4,000,000	Elements of this im- provement are iden- tified as essential within the enterprise zone plan but is not prioritised within the LGF3 and devolution programmes.
19	Didcot Station and rail feasibility and options study	Study for options for station location and track configuration including connectivity improvements, taking cognisance of Didcot-Oxford four-tracking and Didcot East grade separation.	£300,000	TBC	£0	Project costs and benefits are to be determined following Completion of the detailed options study.
20	Public transport strategy	Develop a strategy for public transport to improve services for users and encourage in increase in use.	£100,000	n/a	£0	
21	Parking strategy	Create a parking strategy for the town centre and station to enable efficient use of limited space.	£75,000	n/a	£0	
22	New River Thames crossing	Implement the second stage of improvements to access to Culham Science Centre, including a new crossing over the River Thames.	£150,000	£125,000,000	£0	This improvement is identified as essential within the enterprise zone plan but is not prioritised within the LGF3 and devolution programmes.
23	Backhill lane cycle and pedestrian scheme	Make improvements to Backhill lane for cyclists and pedestrians.	£20,000	£1,200,000	£1,200,000	£1.2m of funding confirmed from the OxLEP growth point fund.
24	Utilities companies engagement	Garden town team to facilitate engagement with all utilities companies to share developers' build programme and ensure capacity upgrades are in advance of delivery.	£5,000	n/a	£0	
25	Feasibility study for rainwater / greywater harvesting	Carry out a feasibility study, including costing for installation of rainwater or greywater harvesting for new build and retrofit housing.	£15,000	n/a	£0	

		Max. cost estimate Projec			Project	
No.	Project name	Description	Research / feasibility phase	Implemen- tation phase	revenue or planned funding	Comments
26	Feasibility study for renewable energy sources	Conduct a feasibility study, including costing for installation of renewable energy sources for new build and retrofit housing.	£15,000	n/a	£0	
27	Liaise with the county council to identify location for new HWRC	Conduct options study for potential locations for new household waste recycling centre.	£20,000	n/a	£0	
28	Feasibil- ity study for public charging stations	Carry out feasibility and costing for viable network of electric vehicle charging stations.	£10,000	n/a	£0	
29	Watercourse enhance- ment study	Engage with Environment Agency to identify potential improvement works to watercourses and carry out feasibility study.	£25,000	n/a	£0	
30	District heating feasibility study	Conduct detailed techno-economic modelling from 2017-18.	£30,000	n/a	£30,000	Subject to outcomes of heat mapping study. Anticipated funding from the Council and the gov- ernment heat net- works programme.
31	District heating detailed project development	Develop the business case and procurement strategy from 2018-2019.	£40,000	n/a	£40,000	Subject to outcomes of heat mapping study. Anticipated funding from the council and the gov- ernment heat net- works programme.
32	District heating commerciali- sation phase	Engaging with private sector partners, implement commercialisation of district heating from 2019 onwards	n/a	£40,000	£40,000	Subject to previ- ous stages of work. Anticipated funding from the council and the government heat networks programme.
33	Speciaist elderly housing plan	Develop plan for innovative elderly care in Didcot to meet the growing need.	£12,000	n/a	£0	
34	Cultural, leisure and recreational provision study	Commission further studies into: opportunities for commercial leisure/ professional team provision; health and leisure; age-friendly design and annual programme of events across Didcot.	£80,000	£60,000,000	£0	
35	Higher/ further education partner discussion	Councils to discuss with relevant stakeholders and undertake feasibility testing to consider the poten- tial for Didcot to have a higher/ further education presence.	n/a	n/a	£0	Council garden town team to implement.

			Max. cos Research	st estimate	Project revenue	
No.	Project name	Description	/ feasibility phase	Implemen- tation phase	or planned funding	Comments
36	Investigating opportunities for off-site construction of hous- ing units in Didcot Garden Town.	 Support growth in the off-site sector through: 1. Mapping the housing delivery pipeline to offer visibility / public data on demand over time. 2. Engaging with off-site manufacturers to support establishment of production facilities. 3. Testing suitability of council-led projects and those by other organisation such as registered providers for off-site construction. Shaping projects to suit this approach and using them to stimulate the sector. 	£65,000	n/a	£0	The private sector will undertake the delivery stage and should gain finan- cially from this, there is therefore no cost for implementation works.
37	Process for supporting high quality housing	Formulate a formal process for the approach described under chapter 6.1.3 (Supporting high quality housing). This will involve establishing the contents of the local area analysis and scheme location/ character steps and the input data for affordable housing product valuation/ affordability testing.	£20,000	n/a	£0	
38	Feasibility study for sustainable fuels	Carry out feasibility and costing for implementa- tion of sustainable fuels for council fleet and local private fleet operators.	£24,000	n/a	£0	
39	Feasibility study for combined recovery hub in Didcot	Carry out feasibility and costing for introduction of recycling centre combined with reuse shop and community initiatives.	£20,000	n/a	£0	
40	Feasibility study for community initiatives for small scale renewables	Carry out feasibility and costing for introduction of community initiatives relating to renewables.	£14,000	n/a	£0	
41	Feasibility study for water saving	Carry out investigation into potential for grants etc. for installation of water saving devices.	£15,000	n/a	£0	
42	Engage- ment with developers for enhanced SuDS schemes	Work with existing developers and Environment Agency to identify potential options for en- hanced SuDS schemes, including potential funding streams.	£30,000	n/a	£0	
43	Strategies required for technology implementa- tion	Create strategies to guide the deployment of technology products and solutions in projects. These will be determined with the coun- cils' technology partners, but may include: mass transit solutions strategy, programme management frameworks, digital platform strategy.	tbc	n/a	£0	
44	Public Spaces and landscape strategy	Produce a public spaces and landscape strategy to provide a comprehensive plan to develop public areas and integrate it with the landscape strategy for the town.	£120,000	n/a	£0	
45	Design briefs for proposals at Rich's Sid- ings, station square and town square	Develop the public realm brief for series of spaces associated with new built development at each location.	£50,000	n/a	£0	

Project Research revenue / feasibility Implemen- or planned				Max. cos	st estimate	Project	
No. name Description phase tation phase funding Comments 46 Detailed strategy for retworks Develop detailed indicage design for proposed extension of cycle and pedes- train path. Include scape management and mathemane bases promise of increased health and wellbeing. 99,000 n/a £0		Project			Implemen-		
is intregy for groon curvesis intregy for sourcesis intregy for sourcesis intregy for sourcesis interval sourcesis interval 	No.		Description	•			Comments
IndexSpreight into matterscape management and maintenance based on matterSinceSinceSince48Strategy for promotion of for growing local food, from community groups, bio-schene organisations and landowners to bring about a strategy for projects.E45,000n/a£049Mastergy for proving local atout of tor growing local strategy for projects.E12,000n/a£050Detailed design and proving coal detailed strategy for the enhancement of the water quality and environment of Moor Ditch. Phasing diagrams for development of the grav- enhance.£70,000n/a£051Strategy for enhances and proving coal detailed strategy to enhance the of Moor£70,000n/a£052Neigh- bourhood street character and neighbourhoods to provide ashes and detailed replanting proposals for group potential of the River Thames corridor.£30,000n/a£053Develop a hubis group detailed trategy of the energy not contain and potential or the water quality and proposals including potential or the regree infrastructure.£0,000n/a£054Conduct a comprehensive review of existing ror Columbaria to be included. Design and pro- store tharacter and neighbourhoods to provide ashes£0,000n/a£055Design code ashesCrow, code, et community gradening and cooking ror Columbaria to be included. Design and pro- vision of new combaria will address the lock of ashes£0,000n/a£056Design code ashesContinued design chare green infrastructure.£0,000	46	strategy for green routes	extension of cycle and pedes- train paths. Include design briefs for cycle facilities at station square,	£90,000	n/a	£0	
Image: Biology and Biology	47	project into maintenance of landscape	scape management and maintenance based on	£40,000	n/a	£0	
for gravel working zonephasing diagrams for development of the grav- appleford.Frame gravelFrame appleford.50Detailed design and phasing of 	48	promotion of growing local	for growing local food, from community groups, bio-science organisations and landowners to bring	£45,000	n/a	£0	
design and phasing of enhance- mentthe water quality and environment of Moor Ditch.Number and solution51Strategy tor River Thames enhance- mentCreate a comprehensive strategy to enhance the environment and make proposals for greater leisure potential of the River Thames corridor.£95,000n/a£052Neigh- bourhood re-grean strategyConduct a comprehensive review of existing strate character and neighbourhoods to provide are companie strate character and neighbourhoods to provide are companie strate character and neighbourhoods to provide are companie strate character and neighbourhoods to provide are companies including potential for other green infrastructure.£0,000A53Develop a places for ashesIn the design of the new multi-functional spaces, or for Columbaria to be included. Design and pro- vision of new colombaria will address the lack of usinal and community arenity and be part of the open space strategy.£0,000£054Community centre.Grow, cook, eat community gardening and cooking in the the detailed delivery of the ensuing phases is in the design codes which will assist in ensuing that the detailed delivery of the ensuing phases is is to a high quality.n/a£15,000£055Design codesDevelop design codes which will assist in ensuing that the detailed delivery of the ensuing phases is is to a high quality.n/a£15,000£056Extant consent engagement to a high quality.Consent dename phase phase on board and site a high quality.n/a£15,000£0	49	for gravel	phasing diagrams for development of the grav- el workings area between Sutton Courtenay and	£120,000	n/a	£0	
for River Thames leisure enhance- 	50	design and phasing of enhance- ment of Moor	•	£70,000	n/a	£O	
bourhood re-greening strategystreet character and neighbourhoods to provide a phasing plan and detailed replanting proposals including potential for other green infrastructure.Street character and neighbourhoods to provide a phasing plan and detailed replanting proposals including potential for other green infrastructure.Stoppolon/a£053Develop a policy for nu upgrading existing open spaces, a suitable place for Columbaria to be included. Design and pro- vision of new colombaria will address the lack of ashes£50,000n/a£054Community places for 	51	for River Thames leisure enhance-	environment and make proposals for greater leisure	£95,000	n/a	£0	
policy for new resting places for ashesin upgrading existing open spaces, a suitable place for Columbaria to be included. Design and pro- vision of new colombaria will address the lack of burial space within the town, can provide cultural and community amenity and be part of the open space strategy.*********************************	52	bourhood re-greening	street character and neighbourhoods to provide a phasing plan and detailed replanting proposals	£35,000	n/a	£0	
hubcentre.55Design codesDevelop design codes which will assist in ensuring that the detailed delivery of the ensuing phases is to a high quality.n/a£150,000£056Extant consent 	53	policy for new resting places for	in upgrading existing open spaces, a suitable place for Columbaria to be included. Design and pro- vision of new colombaria will address the lack of burial space within the town, can provide cultural and community amenity and be part of the open	£50,000	n/a	£O	
that the detailed delivery of the ensuing phases is to a high quality.56Extant consent engagementContinued engagement process with consented sites to ensure the key principles and aims of the garden town masterplan are taken on board and delivered through detailed design. Including but not limited to: • North East Didcotn/a£15,000£0	54	•		n/a	£800,000	£0	
consent sites to ensure the key principles and aims of the garden town masterplan are taken on board and delivered through detailed design. Including but not limited to: North East Didcot 	55	Design codes	that the detailed delivery of the ensuing phases is	n/a	£150,000	£0	
Orchard Centre Didcot A	56	consent	sites to ensure the key principles and aims of the garden town masterplan are taken on board and delivered through detailed design. Including but not limited to: • North East Didcot • Valley Park • Orchard Centre	n/a	£15,000	£O	
57 Retail Test recommendations such as providing support £20,000 n/a £0 to independent retailers and small businesses as a balance of retail being delivered as part of Orchard Centre Phase two.	57		to independent retailers and small businesses as a balance of retail being delivered as part of Orchard	£20,000	n/a	£0	

No.	Project name	Description	Max. cos Research / feasibility phase	st estimate Implemen- tation phase	Project revenue or planned funding	Comments
58	Feasibility studies	Conduct design studies to determine capacity and feasibility of recommendations within the masterplan such as: station study, Garden Line study, Cultural Spine study, Gateway Spine study.	£600,000	n/a	£0	
59	Design briefs	Develop of Design Briefs for sites critical to the delivery of the Garden Town Masterplan to ensure eventual development adheres to the established principles. These sites would include Rich's Sid- ings, Ladygrove East and potentially Didcot A.	£120,000	n/a	£0	
60	Didcot Gateway South pro- ject	Undertake financial and technical studies for feasibility phase through to planning permission. Subsequently work with third parties who will implement project.	£750,000	£99,000,000	£113,000,000	
61	Rich's Sidings	Undertake financial and technical studies for feasibility phase through to planning permission. Subsequently work with third parties who will implement project.	£750,000	£125,000,000	£145,000,000	
62	Potential projects	Undertake initial development appraisal, invest- ment and procurement reviews to identify further opportunities for the councils to take the lead in working with third parties to deliver projects.	£75,000	n/a	£0	
53	Governance structure legal advice	Seek legal advice on the steps required to estab- lish each element of the governance structure and the measures necessary to form a joint planning committee.	£20,000	n/a	£0	
64	Develop development plan document	Engage specialist planning experts to work with the council's team to draft a development plan document.	£150,000	n/a	£0	

Pre-implementation and capacity funding

Total of pre-implementation funding	£5,497,500
Council garden town team capacity funding (first 5 years)	£5,250,000
Total pre-implementation and capacity	£10,747,500

Implementation funding	
Total implementation cost	£612,075,000
Less planned / confirmed funding	(£288,010,000)
Less garden town team capacity funding included above	(£5,250,000)
Funding required to implement all proposals	£318,815,000



12. Appendices

12.1.1 Appendices available for download

In keeping with the garden town's focus on sustainability the appendices have not been printed. Instead they are available for download at: www.didcotgardentown.co.uk. You can also scan the below QR code with your mobile device.

- A Phase one community engagement summary report
- B Phase two community engagement summary report
- C Hotel school research
- D Social and economic baseline
- E Utilities assessment
- F Waste and environmental services
- G Energy and renewables
- H Social infrastructure comparators
- I Supported community village
- J Flood risk and sustainable drainage initiatives
- K Green infrastructure strategy
- L Landscape character assessment
- M Extract from South Oxfordshire District Council Local Plan June 2016
- N Text for Vale of White Horse District Council Local Plan Part two
- O Governance note
- P Community engagement strategy
- Q Garden city developments note
- R Didcot Garden Town consultation feedback report
- S Didcot Garden Town Project Advisory Board governance proposals



This report was produced with the help of technical consultancy provided by:



Hard copies of this document can be requested from South Oxfordshire and Vale of White Horse District Councils at a cost of £74.99

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