Connecting Oxfordshire:
Local Transport Plan 2015-2031

Volume 1: Policy & Overall Strategy

CONTENTS

Other documents forming part of *Connecting Oxfordshire*

Document	Status
Mode Strategies • Science Transit • Bus • Rail • Active and Healthy Travel (including walking and cycling) • Freight	Published alongside this document
Area Transport Strategies • Banbury • Bicester • Carterton • Oxford • Science Vale • Witney	Published alongside this document
Corridor Strategies • A40 • A420	Published alongside this document
Network Strategies • Oxfordshire Rights of Way Management Plan • Highways Asset Management Plan	Adopted November 2014, available from www.oxfordshire.gov.uk Adopted September 2014, available from www.oxfordshire.gov.uk

1. Foreword

Oxfordshire is a prosperous and vibrant county, combining a successful, thriving economy with a high quality environment. It is the most rural county in south east England, and yet is a world leader in innovation and enterprise in areas including life sciences, space technologies, electronic & sensors, creative & digital and automotive

Current forecasts are for over 85,000 new jobs and 100,000 new homes in the county by 2031. Major development areas identified include Science Vale and Oxford, while Bicester and Didcot have been awarded 'Garden Town' status. We are now working with seven partners to develop our England's Economic Heartland alliance, to seek devolved powers from the Government that will help us grow further and faster. Together, this growth will have a significant impact on our transport network, with an ever increasing number of people and goods needing to use it. Given the existing pressures on the network and the scale of growth we are anticipating, we cannot rely on small, short-term solutions; more radical solutions are required to transform transport in Oxfordshire for its people and growing economy over the next twenty years and beyond.

Connecting Oxfordshire is our new Local Transport Plan (LTP4) setting out our proposed transport solutions for the county up to 2031, with ambitions beyond that in some cases. It has been informed by public feedback received in response to a series of public meetings and two public consultations in summer 2014 and spring 2015, as well as detailed discussions with a wide range of stakeholders.

During this LTP4 period, we have a huge challenge to enable people to make the journeys they need to as the population grows, and avoid damage to the economy caused by severe congestion, as well as to protect the environment. So there needs to be a significant shift away from dependence on private cars, towards more people using forms of transport that use less road capacity and damage the environment less – where possible walking, cycling, and/or using public transport. However, this is at a time of unprecedented reductions in local government funding evidenced by our decision to stop subsidies for local bus services as we can simply no longer afford to do this. Our aim is to make this happen by transforming travel by these means, supported by innovation. Our strategy seeks to make this more possible and more attractive, for more people, particularly on our busiest routes

We need to make these other forms of transport equally if not more attractive than using the car, for the majority of people. This is not going to be easy: it requires us to consider some radical solutions as well as smaller-scale improvements, which I believe will make a huge positive impact on people's lives and provide a firm, future-proofed foundation for economic growth and prosperity for Oxfordshire's residents.

Councillor Ian Hudspeth,
Leader, Oxfordshire County Council

2. Executive Summary

Connecting Oxfordshire, our new Local Transport Plan (LTP4), sets out Oxfordshire County Council's policy and strategy for developing the transport system in Oxfordshire to 2031. We have developed it with input from Oxfordshire's district and city councils, its businesses, MPs, stakeholder groups and through public consultation. It fits our highest level strategic aims, as set out in *Oxfordshire 2030*, our Sustainable Community Strategy. It takes into account the plans and ambitions of the Oxfordshire Local Enterprise Partnership in its Strategic Economic Plan (SEP) for Oxfordshire and the aspirations of the England's Economic Heartland alliance, and so identifies transport schemes that will support the Knowledge Spine growth area. *Connecting Oxfordshire* is nonetheless a plan for the whole county; it also sets out our policy priorities for parts of the county less affected by the Knowledge Spine, thereby providing a basis for securing transport improvements to support development countywide.

Connecting Oxfordshire has been developed with three over-arching transport goals (economy, environment and society):

1. To support jobs and housing growth and economic vitality;
2. To reduce emissions, enhance air quality and support the transition to a low carbon economy
3. To protect and enhance Oxfordshire's environment and improve quality of life (including public health, safety and individual wellbeing)

To achieve these, we have developed ten objectives for transport, set out in Table 1. These support these goals, upon which we have based the structure of the policy section of this document. The objectives guide the area and route strategies and the bus, active and healthy travel and freight strategies that follow the policy section. This executive summary is not a substitute for, nor does it derogate from, the policies, strategies and text set out in the main document.

Context

Oxfordshire is experiencing economic growth. Its economy is recognised as one of the best performing in the UK and its contribution to the UK economy is well above average. For example, Workplace Gross Value Added per head averaged £30,485 in Oxfordshire in 2014, compared to the UK average of £24,958. It provides a high-performing home for start-up businesses and innovation, as recent studies have demonstrated.

Meanwhile, its population is rising: it was home to around 666,000 people in 2013, a figure that had grown by over 10% in the past decade. Economic and population growth is due to continue: Based on the Oxfordshire Strategic Housing Market Assessment, the city and

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district councils (via the Oxfordshire Growth Board) have identified a need of around 100,000 new homes in Oxfordshire up to 2031, and 85,000 new jobs. This ambition is further supported in Oxfordshire's Strategic Economic Plan 2014 (SEP).

Although Oxfordshire's transport system continues to be upgraded, it will face a major challenge to cope with the number of new homes and jobs being planned for in the county over the coming years. Public transport is currently crowded in many areas and roads are congested, especially in the peak hours. Many of our urban areas have poor air quality and climate change is an issue that we need to address. We need to undertake this in a climate of rapidly diminishing central Government funding and therefore need to identify new, innovative ways of solving transport problems and of resourcing projects, working with businesses, researchers and the public in Oxfordshire.

Goal 1 - Supporting growth and economic vitality
Connecting Oxfordshire supports the growth aspirations of the SEP, the economic growth strategy for the county. Peak time travel to work is prioritised for attention, because it presents the greatest challenge to transport networks and is vital for the economy. We need innovative and traditional approaches to provide transport improvements to tackle congestion and provide new connections between homes and jobs. We will work to ensure that the transport network supports sustainable economic and housing growth in the county, whilst protecting our environmental and heritage assets, and supporting the health and wellbeing of residents.

Oxfordshire County Council is one of eight councils which have formed England's Economic Heartland, which is a strategic alliance set up to harness the economic potential of the area by taking a co-ordinated approach to planning for and delivery of strategic infrastructure. The eight councils that make up the alliance are:

- Oxfordshire County Council
- Northamptonshire County Council
- Buckinghamshire County Council
- Milton Keynes Council
- Bedford Borough Council
- Central Bedfordshire Council
- Luton Borough Council
- Cambridgeshire County Council

This establishes a strategic leadership across the area targeted at addressing barriers to economic growth. The Government's commitment to devolution provides the opportunity to seek a new regional Growth Deal through which we can implement a new delivery model: one which brings together a range of powers, responsibilities and resources in a way previously unseen. We are currently developing our proposal so that it is of the greatest potential for residents and businesses across the region and gives us the potential to lead investment in infrastructure in the area.

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We will use *Connecting Oxfordshire* to seek external funding to support the delivery of transport infrastructure priorities as set out in the Strategic Economic Plan and forthcoming Infrastructure Delivery Plan. We will work in partnership with the Local Enterprise Partnership, district councils, Highways England and developers to meet the objectives of this plan and we will seek to influence and support the development of Neighbourhood Plans with a view to consistency with this plan.

Goal	Objective
Goal 1 - To support jobs and housing growth and economic vitality	Maintain and improve transport connections to support economic growth and vitality across the county
	Make most effective use of all available transport capacity through innovative management of the network
	Increase journey time reliability and minimise end-to-end public transport journey times on main routes
	Develop a high-quality, innovative and resilient integrated transport system that is attractive to customers and generates inward investment
Goal 2 - To reduce emissions, enhance air quality and support the transition to a low carbon economy	Minimise the need to travel
	Reduce the proportion of journeys made by private car by making the use of public transport, walking and cycling more attractive
	Influence the location and layout of development to maximise the use and value of existing and planned sustainable transport investment
	Reduce per capita carbon emissions from transport in Oxfordshire in line with UK Government targets
Goal 3 - To protect and enhance the environment and improve quality of life (including public health, safety and individual wellbeing)	Mitigate and wherever possible enhance the impacts of transport on the local built, historic and natural environment
	Improve public health and wellbeing by increasing levels of walking and cycling, reducing transport emissions, reducing casualties and enabling inclusive access to jobs, education, training and services.

Table 1: Connecting Oxfordshire's *goals and objectives*

We will work with partners to enhance capacity on strategic roads suffering from congestion and delays. We will work with Highways England to implement schemes to improve key junctions and traffic management on the A34, the key north-south road through Oxfordshire, although we recognise that a longer-term solution is needed to congestion on the road to

accommodate planned development and trip growth. The early years of this plan will see work on the Oxford to Cambridge expressway proposals, including examining on and off-line solutions for the A34.

We are developing a series of improvements to the A40 during this plan. This includes a new A40 park & ride site, a new eastbound bus lane from the site towards Oxford and improved facilities for cycling and walking. This will intercept car traffic west of Oxford Meadows and prevent congestion and pollution increasing on this stretch of the A40. It forms part of a more comprehensive, longer term strategy for improving transport between West Oxfordshire and Oxford, which also includes upgrade of the Cotswold Rail Line.

The A420 is another important principal route running through our county, linking Oxford with Swindon, which is congested in some areas at peak times. There is housing and employment growth both along the route in Oxfordshire, and across the county boundary in Swindon. We have developed a strategy to look at issues along the route and to suggest possible improvements should funding become available.

Congestion is not limited to the strategic road network; it is a problem throughout much of the county and in growth areas. The area strategies for Oxford, Science Vale, Bicester, Banbury, Witney and Carterton outline local transport improvements that may be required to accommodate the development identified for those areas and support Local Plans.

If we continue to see the same proportion of sole-occupancy car journeys in the future, we will simply not be able to accommodate the trips that people want to make. Through our involvement in strategic planning, we will ensure that the provision of infrastructure to support sustainable travel is a key criterion in identifying future areas of growth. We aim to minimise the need for additional road infrastructure, but where required, the investment is planned and delivered in the most sustainable manner. With housing located close to jobs, shops and schools, we can reduce the need to travel, encourage people to walk or cycle and offer more frequent and reliable high quality public transport links, reducing reliance on car travel. We will support measures that make more efficient use of the transport network and encourage and enable a greater proportion of journeys to be made on foot, cycle, or by public transport.

It is also vital that freight journeys are made using suitable routes and with minimal environmental impact and that we support initiatives to increase the proportion of freight carried by rail; we have developed a freight strategy which aims to improve the transport of freight within and through Oxfordshire, while reducing the impact of Heavy Goods Vehicles (HGVs) on communities.

Our transport strategy relies on public transport being attractive enough to offer an alternative to the private car on journeys across Oxford outside of the city centre; for travel within other towns; and on inter-urban journeys. To achieve this it will need to be very high-quality, easy to use and offer seamless integration on journeys involving different types of transport. Our LTP4 includes:

- Our **Science Transit Strategy**, which defines both our high-level vision and outline roadmap for the development of better-integrated, high-quality mobility systems across Oxfordshire, while promoting projects promoting innovation in mobility, healthy and sustainable travel (e.g. cycling, walking and Door to Door integrated travel) and integrated transport delivery, including the Oxfordshire Journey Planner;

- Our **Bus Strategy**, which sets out how we will work to improve the main countywide bus network, developing rapid transit services along the busiest routes, upgrading Premium services in the county and developing the commercial bus network;

- Our **Rail Strategy**, which sets out our ambition and priorities for rail investment in partnership with Network Rail and train operators, providing the capacity and train services necessary to support growth in the county and developing the rail network to provide inter-regional links. This includes better integration of rail and strategic bus networks and enhancing access to local rail stations.

- Our **Active & Healthy Travel Strategy**, which sets out our ambitions for walking, cycling and Door to Door integrated travel. This includes better integration of rail/bus and cycling/walking as well as developing a network of cycling routes and improving walking options

The Plan also supports access to, and development of, air travel services and facilities to support economic growth across the county, including promoting connections to Heathrow and supporting growth at London Oxford Airport.

Improving alternatives to the car will not always be enough to address congestion and pollution and the introduction of a workplace parking levy or other constraint will probably be necessary, as part of a wider programme of walking, cycling and public transport improvements. The Oxford Transport Strategy sets out proposals for this. We will manage the parking under our control and work with district and city councils to ensure that overall parking provision and controls support the objectives of local communities and this plan.

Keeping Oxfordshire's road and transport infrastructure in good condition is important for the county's economy. While potholes can cause damage to cars, they also can make bus journeys extremely uncomfortable and are a hazard to road users on two wheels. Poorly maintained footways can discourage people from walking, or even cause injuries. We will target new investment and maintain transport infrastructure to minimise long-term costs, publishing our policy on prioritisation of maintenance activity in the [Highways Asset Management Plan](#).

Goal 2 - To reduce emissions, enhance air quality and support the transition to a low carbon economy

We will seek to ensure that the location, layout and design of new developments minimise the need to travel. Approximately 12% of people in Oxfordshire work mainly from home and there is clearly potential for this to increase. In partnership with Department for Culture, Media, & Sport, and BT, we have delivered fibre broadband infrastructure across the county, enabling over 64,000 premises to now have access to superfast broadband. This represents an estimated 90% of residences and businesses in Oxfordshire. We are now delivering phase two of the programme which will enable an estimated 95% of premises in the county to have access to superfast broadband by December 2017.

Walking is a healthy, free, and zero emission form of transport. It can be built into every journey, whether from origin to destination or to travel to bus stops and rail stations, and provides significant health benefits. The Active & Healthy Travel Strategy includes a section on how we aim to encourage and enable walking. In area strategies we will review walking networks and improve routes with the greatest potential for increasing the numbers of people walking, particularly where enhancing the pedestrian environment would improve accessibility, support economic growth, reduce car use and make routes safer for all users, as well as enhancing the pedestrian environment.

Cycling is also zero emission, so where trips by bike replace vehicle trips, this helps to reduce emissions overall. Cycling also has huge health benefits, so increasing the proportion of people who cycle regularly will help to address the problems of obesity and ill health related to inactivity. Our cycling strategy and the individual area cycling strategies set out our ambitions and proposals for this area.

We will ensure that new development adheres to the principles and philosophy set out in DfT's *Manual for Streets* and supplementary *Manual for Streets 2* as well as to subsequent guidance which the OCC intends to publish. In residential areas this will include restrictions on parking, lower speed limits where appropriate, flexible street design and more through routes for pedestrians and cyclists than for motor vehicles. We will ensure that travel plans for new developments include measures to increase walking and cycling, and that these travel plans are implemented and enforced. We will carry out targeted safety improvements on walking and cycling routes to school, to encourage active travel and reduce pressure on school bus transport.

We will promote the use of low and zero emission forms of transport, including electric vehicles and associated infrastructure, where appropriate. We will work through our Science Transit Strategy to develop and introduce low emission technology. We are supporting trials of electric buses in our county and will support further pilots where appropriate, working with business and research institutions. We will also work to reduce the carbon footprint of our transport assets and operation where economically viable, taking into account energy consumption and the use of recycled materials.

Goal 3 - Improving quality of life

To ensure that the environmental and heritage impacts of this plan are considered fully, a Strategic Environmental Assessment has been carried out, the findings of which are contained in the *Connecting Oxfordshire's* Environmental Report. We will seek to avoid negative environmental and heritage impacts of transport, seeking opportunities with new infrastructure development and through the maintenance of highway assets to enhance the natural environment and improve biodiversity. Details of how we will manage our highway assets can be found in our Highways Asset Management Plan and our Tree Management Policy.

We will work with district councils to develop and implement transport interventions to support Air Quality Action Plans by reducing harmful emissions from vehicles where feasible, giving priority to measures which contribute to other transport objectives.

We will improve urban public open spaces that are part of highway land where it is part of a wider highway improvement scheme, and we will de-clutter the street environment. We will work with partners to support Oxfordshire's 'green infrastructure', which includes our public rights of way network.

Oxfordshire is relatively healthy compared to the average for England, but this overall prosperity masks the health inequalities in the areas of deprivation, especially in some urban areas: life expectancy varies by 6.2 years for men and 2.8 years for women between the most and least deprived wards. For many people, the easiest way to build exercise into their daily routine is through walking or cycling for local journeys. Improving walking, cycling and public transport together offer the best solution for bringing accessibility to deprived areas, both rural and urban. Better transport links will provide connections with more job opportunities, shops and local centres, giving the opportunity both to improve health and to counter deprivation.

Making transport fit for an ageing population will be an important consideration in making transport improvements in coming years – including mobility scooter use and electric cycles (the latter providing an element of physical exercise) - the number of people aged 65 and over increased by 18% from 2001 to 2011 and this will be a continuing trend. We will consult at an early stage on the development of schemes and initiatives so that the needs of individuals, communities and all groups sharing a protected characteristic under the Equalities Act 2010 are considered and, where appropriate, acted upon.

Road safety is an important objective, because of the harm done to individuals by road traffic accidents and the impact on the economy from congestion caused by accidents. We will give road users the opportunity to take advantage of new technologies, for example through the use of new, safer materials and infrastructure in highway schemes, and road safety adaptations that may become permissible under new legislation, e.g. in relation to in-vehicle technology that will alert drivers to risks and potentially manage, for example the headways between vehicles.

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We will provide information to support the development of road safety technologies. Monitoring casualty history allows us to target our behaviour-change programmes, and also identify sites that would benefit from maintenance or improvement schemes. We will work with partners to support road safety campaigns and will keep speed limits under review, including giving consideration to the introduction of lower speed limits and zones. We will propose engineering solutions where they would be effective in helping reduce accidents on parts of the highway network where a significant number of accidents occur.

3. Introduction

Transport and economic growth

1. Oxfordshire is expecting, and planning for, strong economic growth. It is already recognised nationally for its universities and the strength of its science-based knowledge industries, with many high-technology firms that now form an Oxfordshire technology cluster with outstanding strengths in four overlapping industries.[1] The ambition of the Oxfordshire Local Enterprise Partnership (LEP) is for it to be a global leader in 'Big Science'.
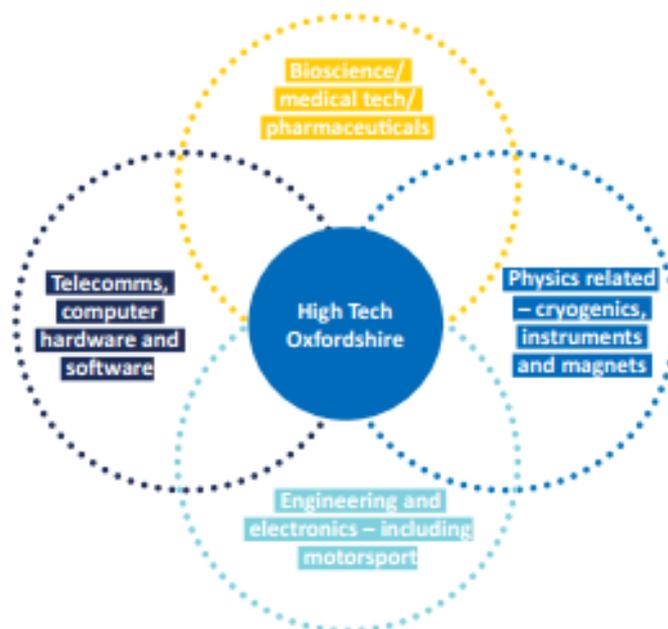
Figure 1: High Tech Oxfordshire (Source: Oxfordshire Strategic Economic Plan, 2013)

2. The growth of these sectors has been supported by a unique grouping of research facilities in Oxfordshire, including the UK Atomic Energy Authority Culham Centre

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[1] The Oxfordshire Innovation Engine, Realising the Growth Potential, SQW, October 2013
[2] 'Science Vale' is the term applied to an area encompassing the county's key high tech business parks: Milton Park, Culham and Harwell Campus, and their nearby towns of Wantage, Grove and Didcot.

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for Fusion Energy; the Science and Technology Facilities Council; Rutherford Appleton Laboratory; Diamond Light Source, the national synchrotron facility; the Medical Research Council's facilities at Harwell; Begbroke Science Park; and the Satellite Applications Catapult Centre. Proximity to these facilities, combined with Oxford's global academic reputation and its strategic position at one apex of the UK's 'Golden Triangle' with Cambridge and London, provides huge potential for inward investment and for businesses to spin out and grow in high quality business locations across the region: Oxford's science parks, Bicester, Science Vale[2], the Enterprise Zone, and beyond.

3. High-tech sectors are expected to create the majority of the 85,000 plus new jobs anticipated in the county up to 2031. To do this they will need to retain and attract a large, skilled workforce. To achieve the agglomeration benefits of location in Oxfordshire, there will need to be excellent links between businesses and research establishments in the county, as well as to research establishments, suppliers and customers elsewhere in the UK and globally.

4. The Oxfordshire LEP's Strategic Economic Plan (SEP) sets out the investment that will be required to realise this growth. It focuses on providing homes, developing skills and improving connectivity and is now the basis upon which the majority of central Government funding for transport improvements is awarded locally, via the Local Growth Fund (LGF). The SEP's focus on high tech economic activity means that Government funding for transport schemes will be largely focused on links within the area encompassing Bicester, Oxford and Science Vale, known as the Knowledge Spine, as well as improving access to it from important centres elsewhere in Oxfordshire, the UK and overseas.

5. In addition to Growth funding, the Government is investing heavily in strategic transport infrastructure that will support Oxfordshire's economic development. These include important schemes such as railway electrification, East-West Rail, which will reconnect Oxford to Milton Keynes and Cambridge by rail, and direct rail access from the west into Heathrow. Additionally, Highways England is developing a route based strategy linking Southampton and the East Midlands, which will include improvements to the A34 and the development of an Oxford to Cambridge expressway. However, where business cases for transport schemes cannot be linked to the SEP and are neither rail investment nor Highways England schemes, it will be more challenging to obtain central Government funding, with increased reliance on developer funding.

6. The authorities in England's Economic Heartland have set out a proposal for a strategic alliance to harness the economic potential of the area by taking a co-ordinated approach to planning for, and delivery of, strategic infrastructure. Through this alliance, we would be able to look across investment programmes – both locally and nationally – and best take advantage of the opportunities to fund transport and other strategic investment across the growth areas of the region. We are currently developing our proposals so that they are of the greatest potential for residents and businesses across the region and give us the potential to lead investment in infrastructure in the area.

7. *Connecting Oxfordshire* therefore sets out our policy and strategy for the whole county, supporting the SEP but also setting out our priorities for parts of the county less

affected by growth in the Knowledge Spine. It thereby provides a basis for securing transport improvements to support development countywide, providing a basis to build our investment decisions on in the coming years.
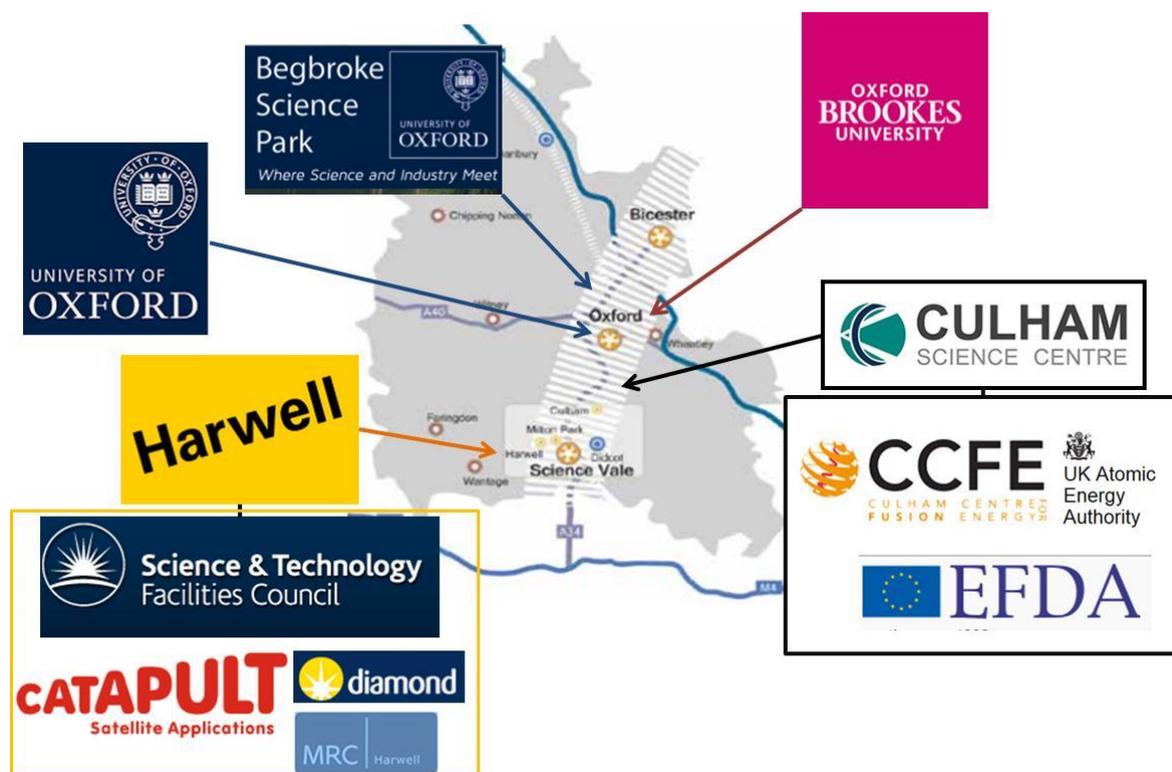
Figure 2: Oxfordshire's Knowledge Spine

Goals for transport

8. While *Connecting Oxfordshire* focuses on supporting growth in Oxfordshire, it also sets out how we will protect public health and the environment, which could be threatened by development unless action is taken. The growing economy and the transport improvements it brings have the potential to improve quality of life for all of Oxfordshire's residents; *Connecting Oxfordshire* aims to reduce inequality and promote equality of opportunity. This balanced approach fits with our highest level strategic aims, as set out in the Sustainable Community Strategy, *Oxfordshire 2030*, which sets out the long-term partnership vision and strategy for Oxfordshire. Its aims are to

   - Create a world class economy for Oxfordshire;
   - Have healthy and thriving communities;
   - Look after our environment and respond to the threat of climate change; and,
   - Reduce inequalities and break the cycle of deprivation.

9. The balanced approach of *Connecting Oxfordshire* also aligns with the Government's vision for local transport, as expressed in the 2011 White Paper *Creating Growth, Cutting Carbon: Making Sustainable Local Transport Happen*. Our vision is for a transport system that is an engine for economic growth, but one that is also greener, safer and improves quality of life in our communities.

10. With this vision and aims in mind, following consultation with the public and a wide range of stakeholders, we have developed a set of high level goals for transport improvement and innovation for *Connecting Oxfordshire*. These are:

   1. To support jobs and housing growth and economic vitality;

   2. To reduce emissions, enhance air quality and support the transition to a low carbon economy

   3. To protect and enhance the environment and improve quality of life (including public health, safety and individual wellbeing).

11. To achieve these goals we have developed ten objectives for transport:

Goal 1: Supporting growth and economic vitality

- Maintain and improve transport connections to support economic growth and vitality across the county;
- Make most effective use of all available transport capacity through innovative management of the network;
- Increase journey time reliability and minimise end-to-end public transport journey times on main routes; and
- Develop a high quality, innovative and resilient integrated transport system that is attractive to customers and generates inward investment.

Goal 2: Reduce emissions, enhance air quality and support the transition to a low carbon economy

- Minimise the need to travel;
- Reduce the proportion of journeys made by private car by making the use of public transport, walking and cycling more attractive;
- Influence the location and layout of development to maximise the use and value of existing and planned sustainable transport investment; and
- Reduce per capita carbon emissions from transport in Oxfordshire in line with UK Government targets.

Goal 3: Improving quality of life

- Mitigate and wherever possible enhance the impacts of transport on the local built, historic and natural environment; and
- Improve public health and wellbeing by increasing levels of walking and cycling, reducing transport emissions, reducing casualties, and enabling inclusive access to jobs, education, training and services.

The scope of *Connecting Oxfordshire*

12. *Connecting Oxfordshire* builds on an existing programme of highway and transport schemes focused on unlocking economic growth. It sets out a new transport strategy for the whole of Oxfordshire, covering the period 2015-2031. The end date of 2031 has been chosen to tie in with the period of the Local Plans published or being put in place by Oxfordshire's district councils. *Connecting Oxfordshire* considers the needs of

residents, employers, as well as people travelling to and through Oxfordshire, including tourists.

13. It has been developed with Oxfordshire's district and city councils in conjunction with the development plan process, to take account of the future location of housing and employment within the county. It also takes account of the transport challenges created by future development outside but close to the county boundary, for example on the east side of Swindon approved as part of the Swindon Local Plan.

14. However, the situation with regard to local plans is still evolving, largely in response to the 2014 Oxfordshire Strategic Housing Market Assessment (SHMA), and other spatial and related plans under development,. OCC in its capacity as infrastructure provider and enabler will continue to work with the district and city councils on spatial planning for the county to ensure efficient and effective allocations of future growth.

15. *Connecting Oxfordshire* therefore closely links national and local land-use and transport planning policies, and aligns with the National Planning Policy Framework (NPPF). It also takes into account national and local transport and enterprise policies. This is shown in Figure 3.

Strategic approach

16. Our strategy to 2031 acknowledges that predicting and providing fully for increased demand for road travel by car and freight vehicles, in the form of highway capacity improvements, is neither affordable, nor desirable from an environmental or economic perspective. It is vital that journeys made by sole-occupancy private vehicles make up a smaller proportion of transport mileage in future, and that more journeys are by means of transport that take up less road capacity or do not use roads at all. This is necessary simply to accommodate all the journeys that people and goods need to make. This plan does include road schemes to connect new developments, but we will be seeking to make best use of existing capacity taking advantage of smarter methods, mindful that any additional capacity has the potential to generate additional car traffic
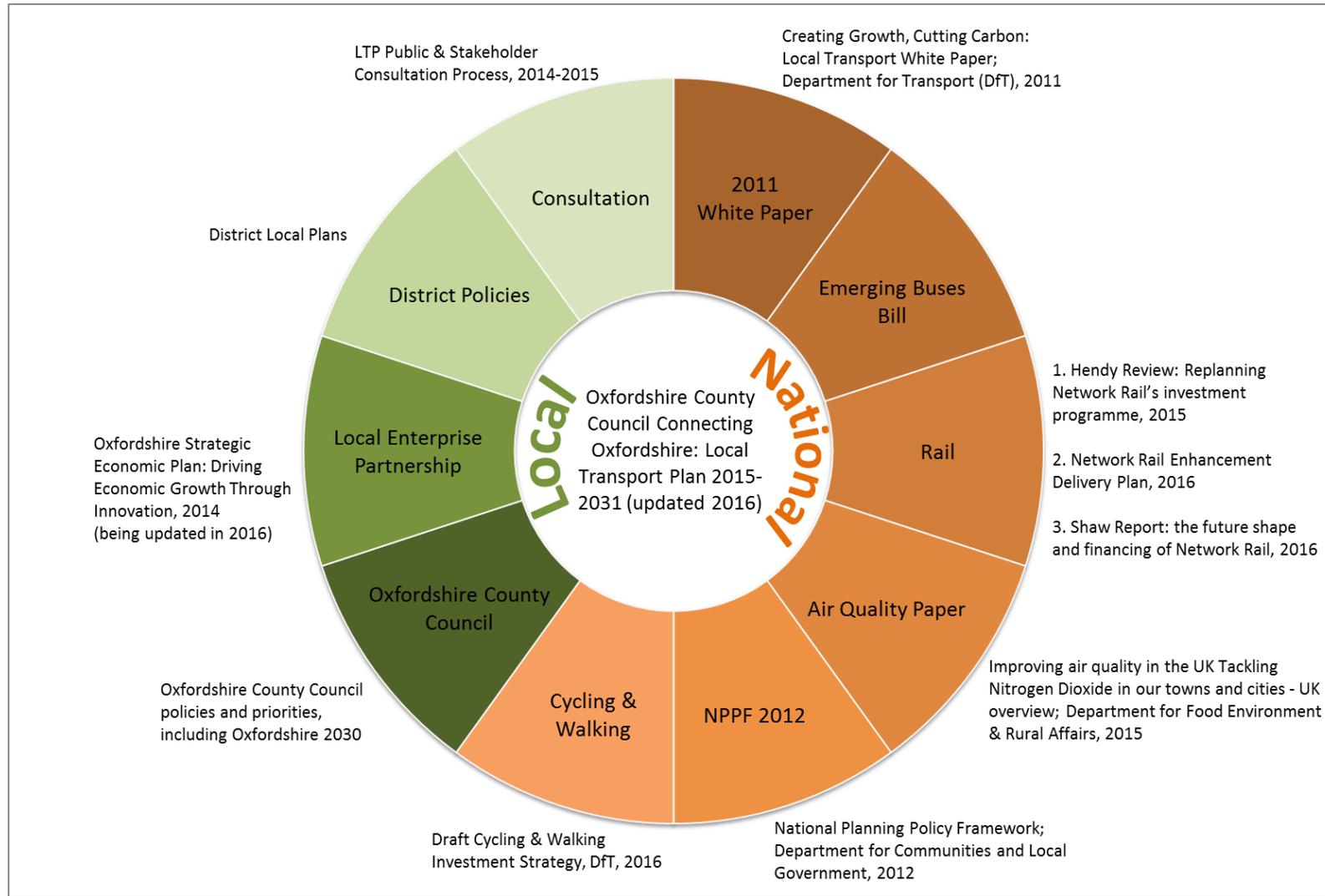
Figure 3: Connecting Oxfordshire*'s relationship with current national and local transport and planning policies and with the Oxfordshire Strategic Economic Plan*

4. Oxfordshire now and in 2031

Oxfordshire now

Population and health

17. Oxfordshire is home to around 666,000 people, an increase of over 10% in the past decade. The county is divided into five district council areas: Oxford City, Cherwell, South Oxfordshire, Vale of White Horse and West Oxfordshire. Nearly a quarter of the county's residents live in Oxford City with the remainder split fairly evenly over the other four districts. The county is the most rural county in the south east of England, and over 30% of the population live in towns and villages of less than 10,000 people.

18. Overall in the last decade, the population has become older, with the number of people aged 65 and over increasing by 18% while the number of people aged 85 years and over increased by 30%. The age profile of Oxford's population is very different from the rest of the county, however, with a smaller proportion of older people and a much larger population in the 20-30 age group due to the high numbers of students.

19. Oxfordshire's population is relatively healthy, with a relatively high percentage of physically active adults compared to the average for England. However, rising obesity, low exercise levels and related health issues are still concerns, as they are nationally: 20% of people walk for more than 20 minutes less than once a year or never in England. Oxfordshire's overall prosperity masks some stark contrasts, particularly within urban areas. There are nine wards containing small areas among the 20% most deprived in England: two in Banbury, one in Abingdon, and the rest in Oxford. This is reflected in health inequalities across the county, with poor health strongly linked to deprivation: life expectancy varies by 6.2 years for men and 2.8 years for women between the most and least deprived wards.
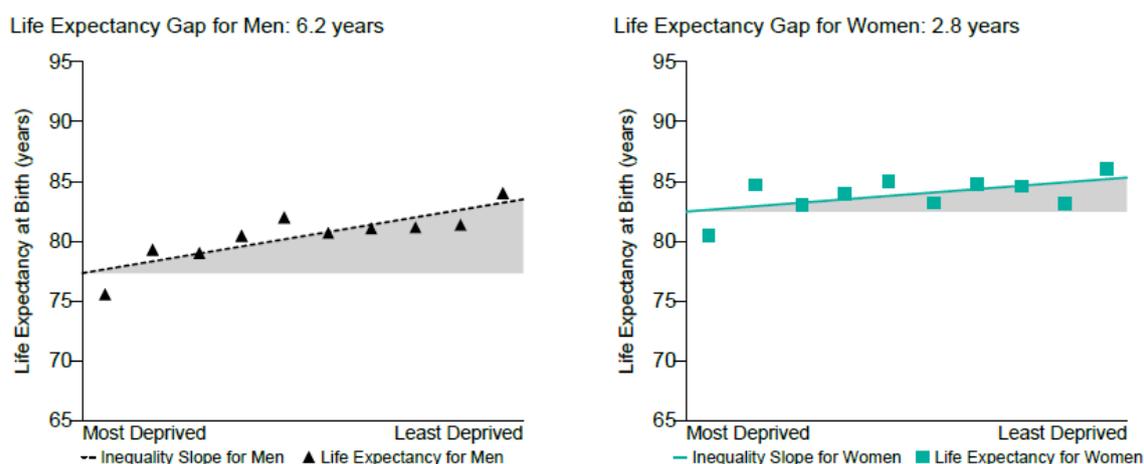
Figure 4: Life expectancy gap between most and least deprived wards in Oxfordshire (Source: Public Health England Health Profile 2014)
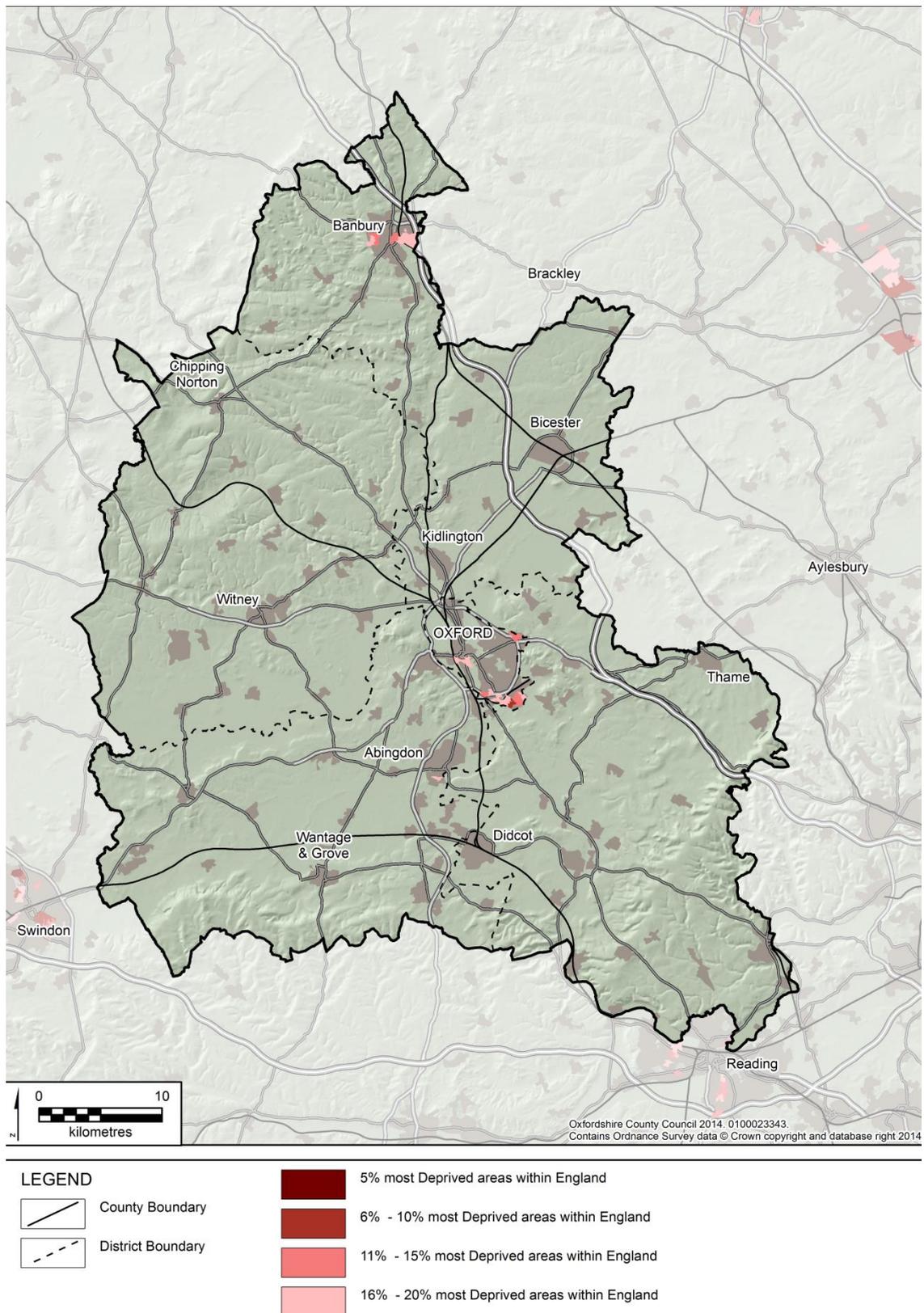
Figure 5: Deprivation in Oxfordshire: wards containing areas among the 20% most deprived in England (Source: DCLG Index of Multiple Deprivation)

Natural and historic environment

20. Oxfordshire has a rich and varied natural and historic environment, which makes it an attractive place to live, visit and work. To the north-west, the rolling hills and golden limestone villages of the Cotswolds are a magnet for tourists including walkers along the Ridgeway National Trail. To the south the landscape is dominated by the escarpments of the North Wessex Downs and the Chilterns. In between, the valleys and the flood plains of the Thames and its tributaries dominate the landscape, providing valuable farmland and lowland habitats, active gravel workings as well as a legacy of gravel extraction. The rivers themselves, particularly the Thames, offer a wealth of opportunities for leisure activities, including the Thames Path National Trail, but flood most winters with increasing severity and regularity, affecting the transport network and hundreds of homes.

21. The county contains part of three Areas of Outstanding Natural Beauty (AONB): the Cotswolds, North Wessex Downs, and the Chilterns, and a large area encircling Oxford is designed as Green Belt (see Figure 6).   There are seven internationally designated conservation sites (all Special Areas of Conservation) wholly or partly within Oxfordshire, 105 Sites of Special Scientific Interest (SSSI) and nine National Nature Reserves. However, despite the presence of these sites, a number of wildlife species have been lost from or have been in decline in Oxfordshire. For example, three species of butterfly have been lost from the county in the last ten years. Semi-natural habitats such as grassland and heathland have been in decline across the county. Poorly-managed and poorly-designed developments have also taken place in recent decades in both rural and urban locations that were home to wild plants and animals. More information is in the Strategic Environmental Assessment which accompanies this document.

22. Oxfordshire also has a rich heritage and archaeological resource, with Blenheim Palace UNESCO World Heritage Site (WHS), 55 Registered Parks and Gardens, nearly 13,000 listed buildings, 242 Conservation Areas, 2 historic battlefields and approximately 350 Scheduled Monuments. These help make the county a major tourist destination.

Figure 6: Oxford's Green Belt (source: CPRE)

Economy and travel characteristics

23. Oxfordshire is home to nearly 30,000 businesses, providing over 380,000 jobs, including a high proportion in research, science and technology, engineering, and high-tech manufacturing. The county's economy is recognised as one of the best performing in the UK and its contribution to the national economy is well above average. In 2014 Oxfordshire contributed £20.5 billion to the UK economy. Workplace Gross Value Added per head in Oxfordshire averaged £30,485 in 2014 up 4.8% from 2013, compared to the UK average of £24,958.

24. Oxford's unique character as a leading university city and a historic centre sets it apart from the rest of the county, and attracts much more travel than most towns or cities of comparable size. Tourism, business and academia are vital to the economy and 35% of the county's jobs are in the city. Due to the high number of jobs and the shortage and cost of housing in the city, more people commute to Oxford from outside the city than are working residents. The city also provides the majority of the county's hospital services, with three major teaching hospitals, as well as psychiatric and private

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hospitals. Oxford is therefore by far the most important 'centre of gravity' in the county, though as we have seen in the previous chapter, Bicester and the Science Vale are growing in economic importance.

25. Oxfordshire's rural areas are generally prosperous, however, so although many of its towns are largely commuter towns, they have managed to retain economic vitality as attractive and thriving local centres providing a good range of services. Banbury is more self-contained and experiencing jobs growth itself, with 60% of working residents having jobs in the town, besides the significant number commuting to Oxford.

26. Oxfordshire sits on the busy road and rail transport corridor between the south coast ports, the Midlands and the north and enjoys easy links to London and the West Midlands via the M40. However, it suffers a lack of connectivity to and from the east, in particular to the high-value growth areas around Milton Keynes and Cambridge. There are currently no direct rail connections to these centres, while travel by road involves cross-country single-carriageway routes or the use of the M25 around London. Improving the connectivity on this corridor – through East-West Rail and the Oxford to Cambridge Expressway projects - will place Oxfordshire at the centre of the south-east orbital corridor as a key hub for south-west to north-east transport. As a result, Oxfordshire will have improved agglomeration opportunities for jobs, growth and innovation, with its vastly-improved road and rail links to these high-value centres of the UK economy.

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	Total Travelling to	Total Travelling from	Net Migration
Oxford	18,102	4,787	13,315 In to Oxford
Banbury	2,329	2,748	-419 Out of Banbury
Bicester	2,409	4,819	-2,410 Out of Bicester
Witney	1,288	3,534	-2,246 Out of Witney
Abingdon	3,312	5,080	-1,768 Out of Abingdon
Didcot	1,261	3,090	-1,829 Out of Didcot
Grove & Wantage	532	2,047	-1,515 Out of Grove & Wantage
Thame	1,134	903	231 In to Thame
Chipping	341	636	-295 Out of Chipping
Kidlington	3,272	4,619	-1,347 Out of Kidlington
Reading	1,088	797	291 In to Reading
Swindon	658	1,359	-701 Out of Swindon
Aylesbury	686	1,281	-595 Out of Aylesbury
Milton Keynes	555	636	-81 Out of Milton Keynes
Brackley	626	1,257	-631 Out of Brackley

LEGEND

— County Boundary

--- District Boundary

△ Urban centre assessed for travel to work flows

High number (over 2000) people travelling to work

Low number (less than 60) people travelling to work

Figure 7: Main travel to work flows in Oxfordshire [Source: Census 2011]

27. The existing good links between Oxfordshire and London, Birmingham, Heathrow Airport and Southampton are currently used by a high volume of through traffic which can result in long delays to journeys by road. The M40 carries the most traffic, particularly on the stretch between junctions 9 and 10, which links the A34 via the A43 to the M1 and carries over 100,000 vehicles per day. The A34 carries up to 70,000 vehicles per day, including a large proportion of lorries. As the county relies heavily on the A34 for internal trips, and it forms part of the Oxford ring road, the severe congestion it suffers is damaging to the local, as well as the national economy. It is particularly vulnerable to disruption due to incidents, because of the lack of alternative north-south routes for journeys both within and through the county. The delivery of the Oxford-Cambridge Expressway will increase demand further for through travel on the A34, meaning that finding a long-term solution to congestion on the A34 will be important.
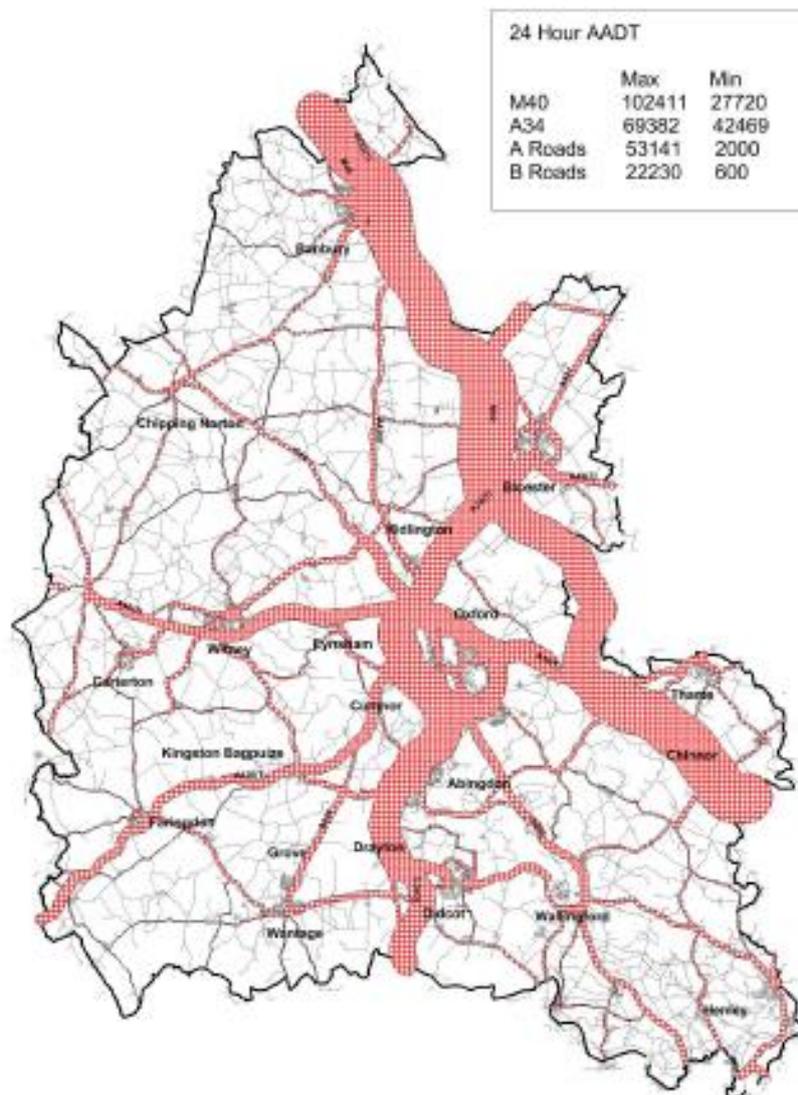
Figure 8: Annual average daily traffic flow bandwidth map – based on automated traffic counts throughout Oxfordshire. (Source: Oxfordshire County Council Transport Monitoring)

28. Car ownership and car usage is high outside Oxford, with 87% of households owning a car – compared with only 67% in Oxford. This is reflected in the high proportion of journeys made by car outside Oxford, including a large number of short trips within the county's towns. Although 50% of journeys to central Oxford are by bus, most of the city's jobs are in the more outlying areas to the east of the city, which are less accessible by public transport.
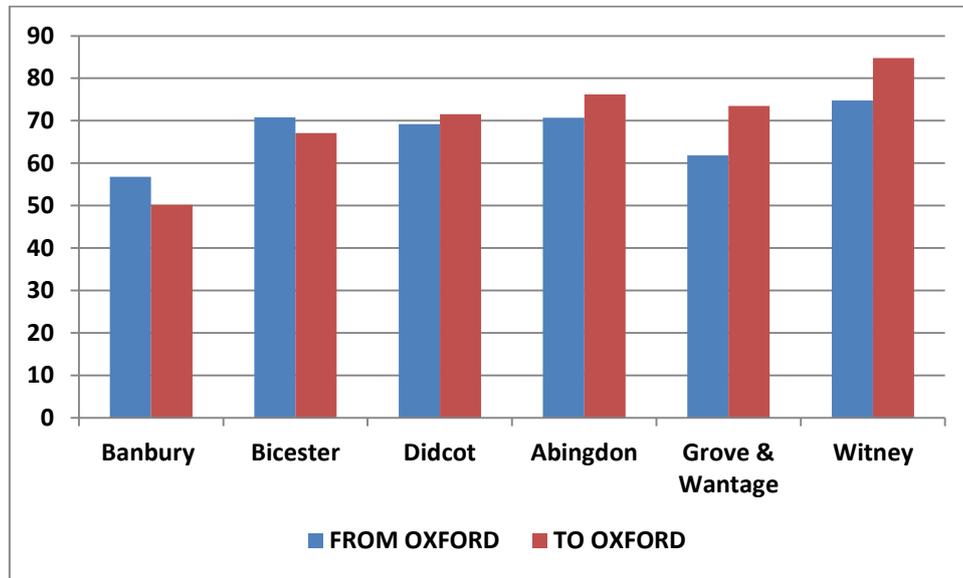
Figure 9: Car commuting between Oxford and large Oxfordshire towns as a percentage of overall commuter journeys [Source: Census 2011]

29. There is a good network of frequent bus or rail services linking the county's main towns with Oxford, yet the proportion of car journeys between these towns and Oxford remains stubbornly high. In part this is due to the success of Park & Ride on the edge of Oxford, which has been developed since the 1970s in conjunction with restrictions on access to the city centre. However, it means that the road corridors leading to Oxford used by buses all suffer from congestion. Our new approach to Park & Ride, based on an outer ring of sites, is our proposal to resolve this.

30. The A40, which is a major through route linking Gloucester and London, intersects with three key radial routes to the north of Oxford, where it forms part of Oxford's ring road, causing serious delays between Witney and Oxford. Much of the traffic using this route is accessing the large employment sites in the eastern arc of Oxford.
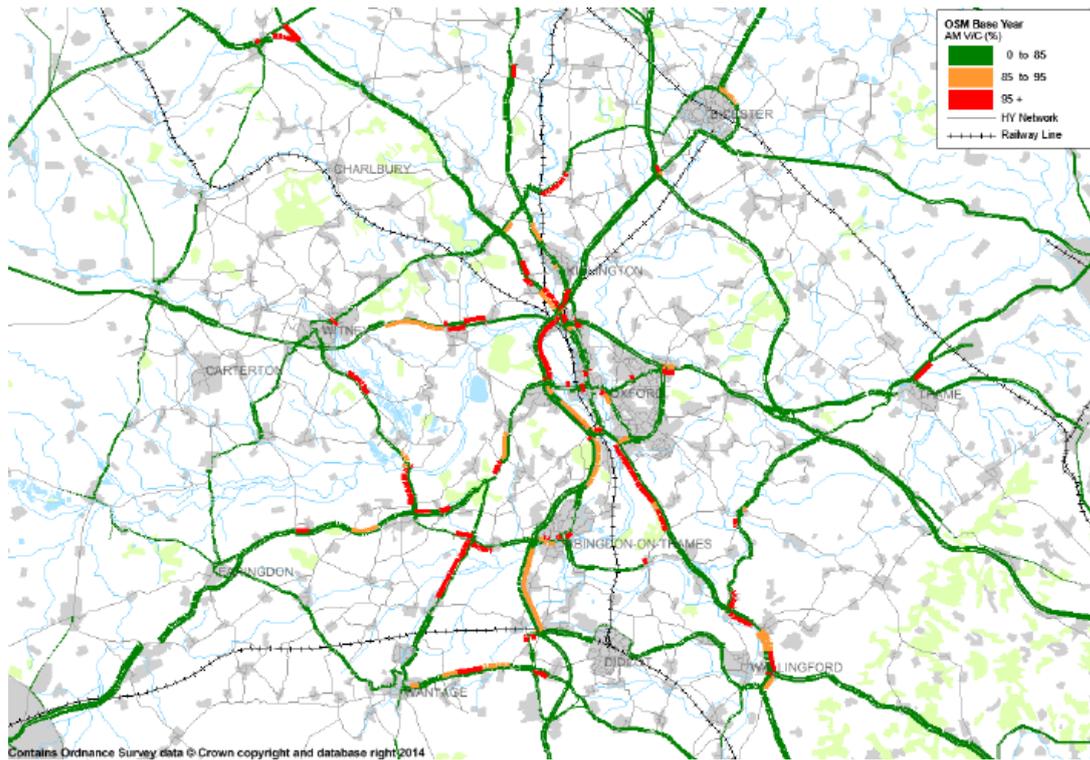
Figure 10: Highway Network in the morning peak – volume of traffic in relation to road capacity (85% to 95% = at capacity, 95% plus = over capacity)
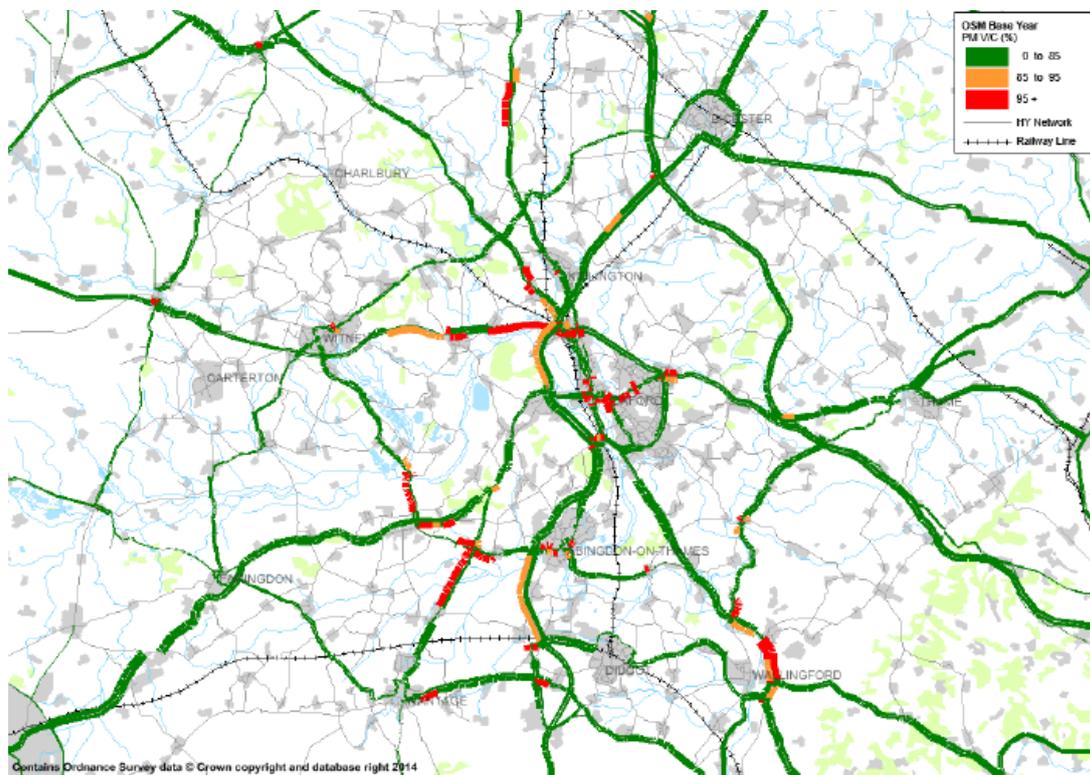
Figure 11: Highway Network in the evening peak – volume of traffic in relation to road capacity (85% to 95% = at capacity, 95% plus = over capacity)

31. Within Oxford, there is a mature and well-used network of commercial bus services, including regular services to the city centre from five park and ride sites on the edge of the city. Most radial routes have stretches of bus lane, but these are not continuous due to lack of available space. A Quality Bus Partnership between the city's two main bus operators and the County Council has led to a joint smartcard ticketing arrangement and consolidation of services on larger vehicles. Vehicles are among the most modern and low emission in the country.

32. Within Oxfordshire's towns, commercial bus networks are relatively less well developed. The quality of cycling and walking networks is variable, with some towns having had very little investment in pedestrian and cycling infrastructure. Although there is a charge for most town centre parking in district council car parks other than in West Oxfordshire, many of the trips within the towns are to workplaces with ample staff parking, edge of town retail, or schools. This means that even for internal trips, a very high proportion are still made by car.

33. In rural areas, away from the main transport corridors leading to Oxford, until recently the county council has funded a network of subsidised local bus services, linking to local town centres. However, severe reductions in local government funding mean that from July 2016 these services are no longer affordable; but we are working with bus operators and using developer funding where appropriate to sustain local bus services where there is the potential for these to become commercially viable in the future.

34. There are also a few small voluntary community minibus schemes, as well as some fairly large volunteer car schemes, mainly offering transport to hospital appointments for older and disabled people.

35. Many people without cars (especially disabled and elderly people and those living in areas without a regular bus service) rely heavily on taxis, which are regulated by the district councils. Over 8,000 people are registered on the Oxfordshire Liftshare database, of which 46% of people have contacted others with a view to arranging a liftshare and registrations are steadily increasing with an average of around 50 new members joining each month over the last year. We know that about 1,300 of these have sent a request to someone else on the system to share a journey, but actual share rates are likely to be higher than this: we estimate we are saving a little over 1.75m miles over a year. We will continue to promote this scheme in light of the removal of subsidised bus routes as an alternative way to travel.

36. In Oxford city, there are community car schemes in East Oxford, Cowley, Headington and Iffley. Many villages in the county run volunteer hospital transport schemes for those without cars, while school transport and transport to daycare services are offered by our Integrated Transport Unit.

37. In Oxford socio-economic conditions and high housing density provide suitable conditions for commercial car clubs to succeed, and the County Council will give

favourable consideration to requests for priority parking for these, having regard to the needs of local residents and businesses.

38. Over 25% of Oxford residents who work in Oxford cycle to work, with a further 25% walking and 20% using the bus. Many people commute to Oxford by bike from nearby settlements, particularly Kidlington, Yarnton, Botley and Abingdon. However, the quality of the cycle links is variable, and given the short distance from Oxford, there is scope to increase levels of cycling through targeted improvements to cycling infrastructure. Elsewhere, cycle routes along inter-urban routes are largely non-existent, the notable exception being the cycle track alongside the A40 linking Witney and Wheatley to Oxford. The speed of traffic using inter-urban routes without cycle facilities is a major deterrent to cycling. Cycling levels in other towns are generally much lower than in Oxford. The Active & Healthy Travel Strategy includes a commitment to improve facilities for Door to Door travel (e.g. combining cycling or walking with bus and/or rail in locations where there is most potential demand.

Maintenance

39. The County Council is responsible for the maintenance of over 4500 km of roads in Oxfordshire. Like in other parts of the UK, the condition of the road network has deteriorated over recent years. This is as a result of a severe shortage of funding for maintenance, of increasing numbers of heavy vehicles using roads which were not originally designed to carry them, and successive harsh winters and flooding. For cyclists and pedestrians in particular, poor maintenance is a safety hazard and can deter people from walking and cycling. Funding levels over the last 25 years have been such that roads are able to be rebuilt approximately every 255 years on average, as opposed to the optimal 40 years.

40. Although Oxfordshire is in a better position than the national average, with only 11% of roads in a poor condition compared with 18% nationally, it is estimated that to bring all roads within Oxfordshire alone up to a good state of repair would cost £165 million and then an on-going year on year investment of approximately £20m per year to maintain that condition level.

Emissions from transport

41. Heavy traffic and congestion contributes to high levels of emissions from transport in Oxfordshire. Greenhouse gas emissions from domestic transport in the UK grew by 8% between 1990 and 2007, with improved fuel economy from new cars slightly offset by growth in road traffic. This was followed by a fall of 8% between 2007 and 2009, mainly due to reductions in road traffic during the recession and, to a lesser extent, improvements in car fuel economy and the increased use of biofuels. Car travel contributed 58% of the total and heavy and light goods vehicles about 30% in 2009. Under the Climate Change Act 2008 the Government is required to reduce emissions in the UK by at least 34% by 2020 and 80% by 2050, from 1990 levels.

42. More immediate and localised effects are felt from emissions of oxides of nitrogen (NOx), which cause respiratory illness and shorten lives. Nitrogen deposition also has a

negative impact on wildlife, by fertilising the soil, encouraging fast-growing species which then out-compete other, rarer species. The biggest contributors of NOx are heavy diesel engines, and at some locations in the county, NOx levels affecting people near roads exceed maximum levels. Several Air Quality Management Areas have been declared, with a number of areas under investigation. In Oxford city centre, buses are subject to a Low Emission Zone, which means modern, cleaner buses are used for services within and into central Oxford. The Oxford Low Emission zone does not apply to other types of vehicle, and freight contributes a high proportion of NOx at most AQMAs. Rail electrification should improve air quality adjacent to rail lines and around stations.

Road safety

43. While every casualty is one too many, Oxfordshire has seen a long term downward trend in the number of casualties on our roads which has been broadly in line with the trend seen nationally, although this reduction has slackened in recent years. There were 18% fewer casualties overall in 2015 compared with the average totals seen in 2005-2009.
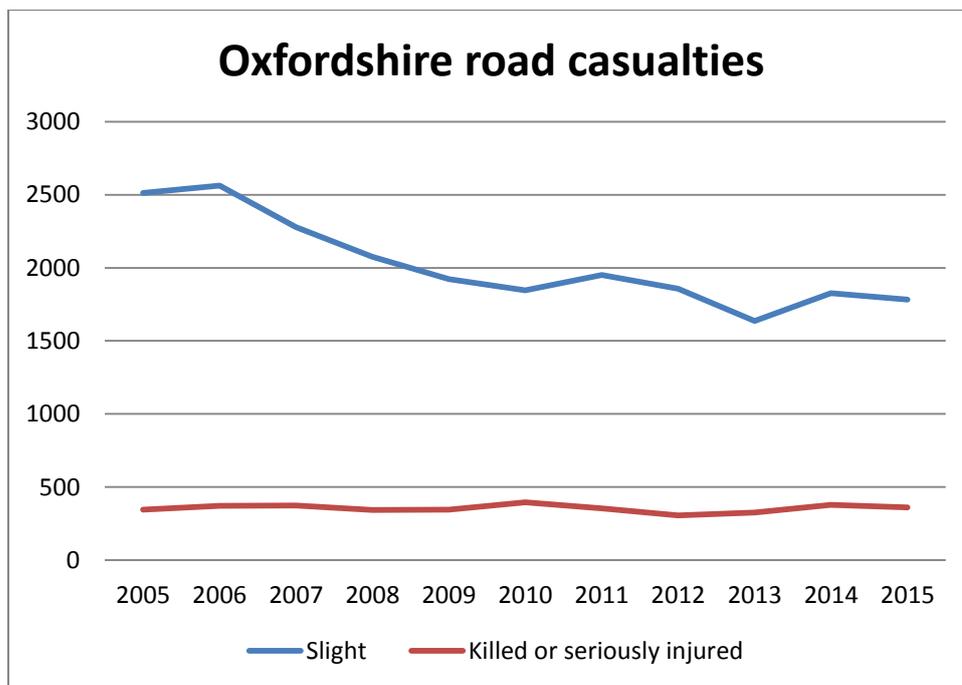
Figure 13: Oxfordshire road casualties 2005-2015

44. The notable exception to the general downward trend is for cycle casualties, where the number of injuries in 2015 was 25% higher than the average total for 2005-2009. While this needs to be seen in the context of increasing numbers of people cycling, pedal cyclists have a significantly higher risk of accident involvement per mile travelled as compared to car occupants. The Active & Healthy Travel Strategy contains our updated Cycling Strategy, which includes our plans to provide a safer environment for cyclists.

45. Motorcyclists also continue to suffer a very high casualty rate; around 25% of those killed or serious injured (KSI) on Oxfordshire's roads are motorcyclists, but they

account for only about 1% of traffic, and collectively they suffer around 56 times more KSI casualties per mile travelled than car occupants.

46. We record and analyse data from casualty reports received from Thames Valley Police. This includes information about weather and road conditions and other factors, as well as the circumstances surrounding the incident. Traffic collisions are most likely to occur when roads are slippery due to rain or ice and when visibility is reduced by poor light or fog. Other major contributing factors to accidents include excessive speed, tiredness, alcohol and drugs, and driver distractions caused by mobile phones or other devices. The severity of casualties is increased when seatbelts are not worn, and when motorcyclists do not wear protective clothing.

Oxfordshire in 2031

47. Over the life of this Plan, Oxfordshire faces a number of strategic challenges, which also present significant opportunity for purposefully-directed growth and local improvement. Looking ahead to the future, *Connecting Oxfordshire* needs to ensure that the high level of housing and economic growth expected in the county do not make the existing situation worse, but it also needs to take account of likely societal, behavioural and technological changes over the plan period, as well as changes to national strategic policies and transport infrastructure.

48. Oxfordshire's population will grow due to normal patterns of fertility, mortality and migration, but also as a result of the planned economic growth ambitions set out in the SEP, which will attract workers to live in the county. The assumptions of Oxfordshire Strategic Housing Market Assessment (SHMA) carried out in 2014 to assess the county's level of housing need, were based on an economic forecast reflecting the policy-led economic growth in the SEP.

49. The SHMA predicts around 100,000 new houses will be needed in Oxfordshire, between now and 2031, to support economic growth and meet affordable housing need. Oxfordshire's districts are now taking this into consideration through the development plan process. Figure 14 indicates the development envisaged in very broad terms and the additional commuter trips anticipated. *Connecting Oxfordshire* will be revised to take decisions on where growth and jobs will be specifically located.
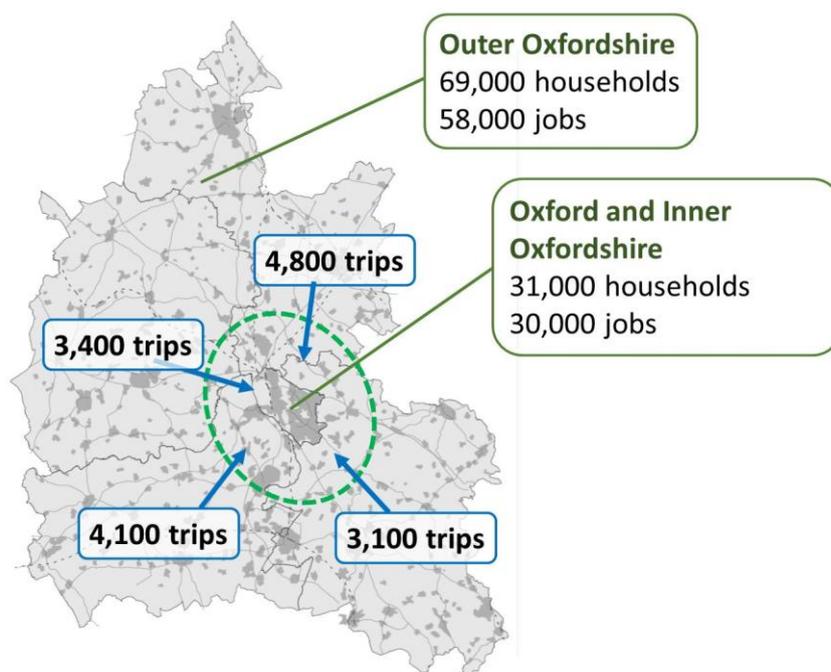
Figure 14: Strategic housing and employment allocations in Oxfordshire in 2031 (SHMA housing growth & Cambridge Econometrics jobs forecast), with our estimate of additional commuter trips into the area in and around Oxford

50. The potential impact of housing and jobs growth on the county's transport networks, taking into account committed transport infrastructure, has been forecast using a strategic transport model. The model shows many junctions over capacity in 2031, and severe delays on many routes, especially the A34, A40, A338 and A4074. These forecasts do not take into account the full level of housing need in the SHMA - when that is added to the model the situation will be worse. However, because the level of future growth has only been quantified at a countywide level, we have no detailed knowledge yet of where the development will be located, so this model uses various policy-level assumptions.

51. Unless drastic changes are made by 2031, congestion will have a severe impact on the economy and people's daily lives, with many journeys being effectively impossible. Forecasts show that additional transport capacity is required, though this does not necessarily mean more roads. New strategic road and rail infrastructure (see future rail links in Figure 17) will also change travel patterns and have wider impacts in Oxfordshire. Notable schemes include Highways England's capacity improvements on the A34, the Oxford to Cambridge Expressway, and East-West Rail, which will provide access to Milton Keynes and beyond, as well as rail access to Heathrow from the west.

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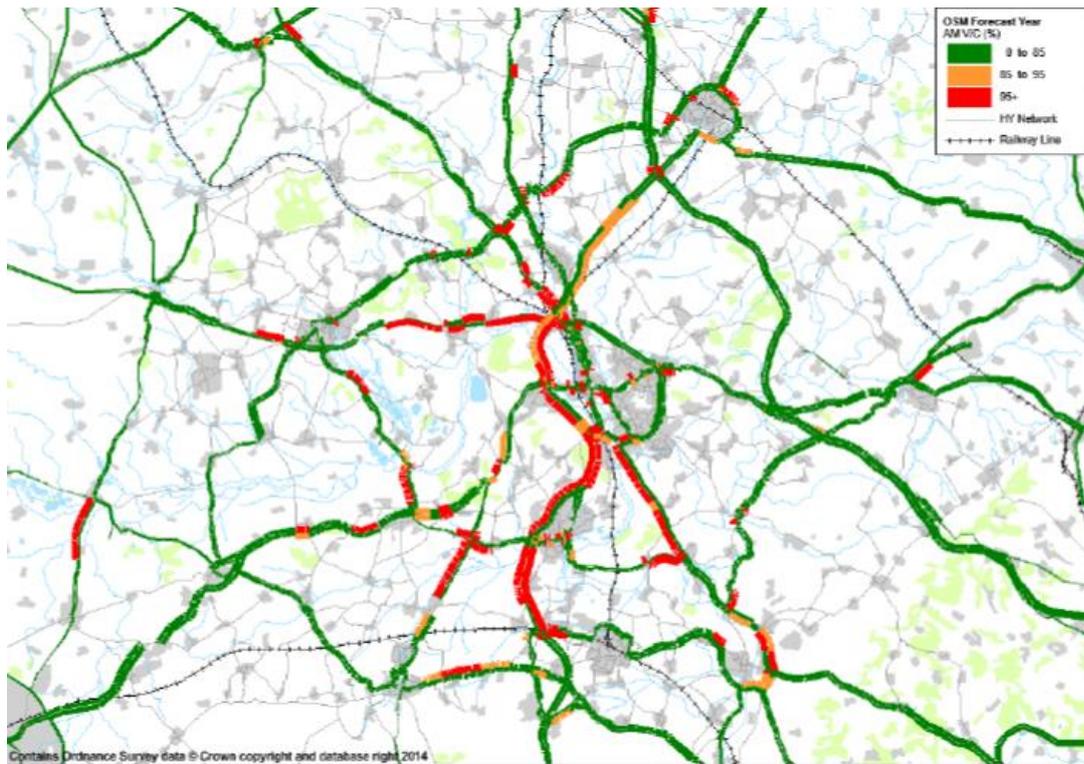
Figure 15: Highway Network in the morning peak in 2031 with no intervention – volume of traffic in relation to road capacity (85% to 95% = at capacity, 95% plus = over capacity)
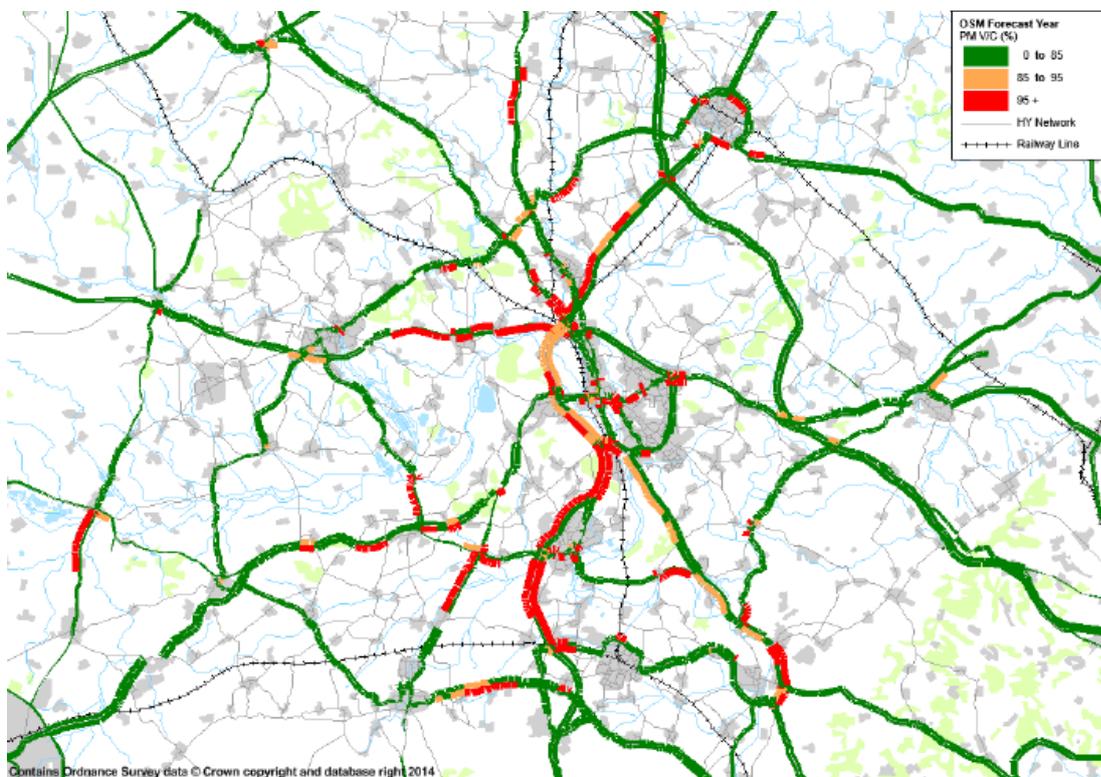
Figure 16: Highway Network in the evening peak in 2031 with no intervention – volume of traffic in relation to road capacity (85% to 95% = at capacity, 95% plus = over capacity)

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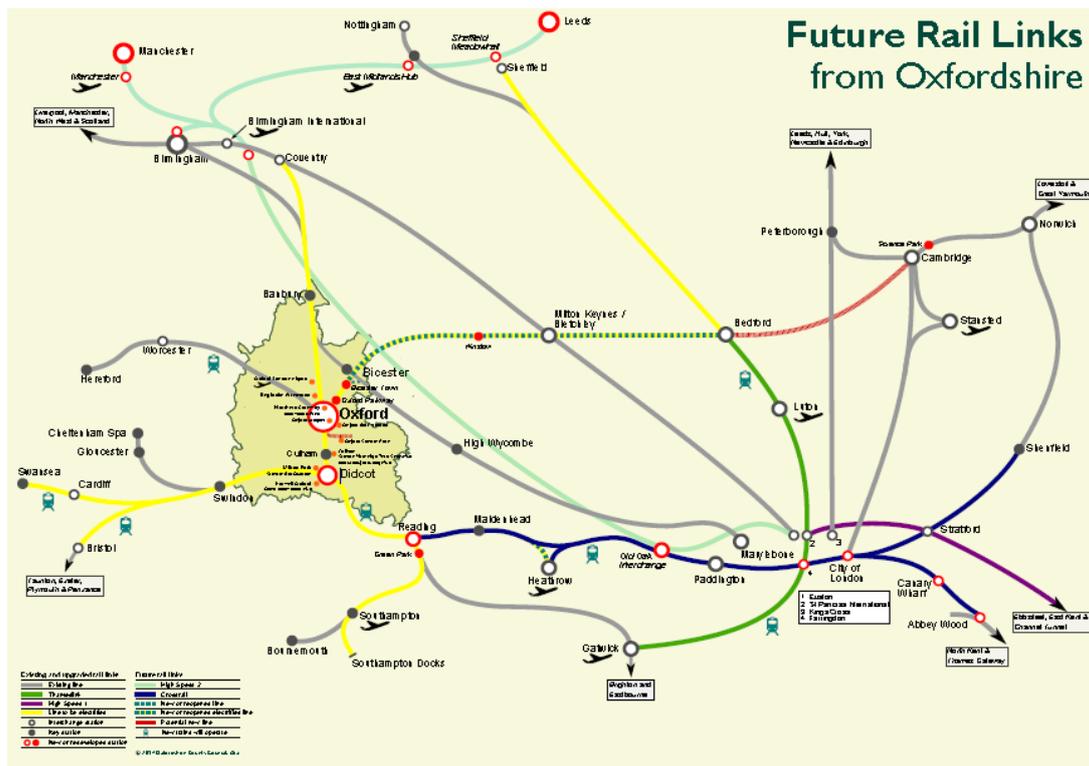
Figure 17: Future rail links from Oxfordshire

52. As the population and economy grow, more and more goods will need to be transported. The plan period is set to see significant rail freight growth, which may limit the growth in long-distance HGV traffic. However, rail freight alone will not provide for the diverse and growing demands for goods transport. In particular, there will be a substantial growth in light goods vehicle mileage, boosted by the growth of internet shopping (see Freight Strategy).
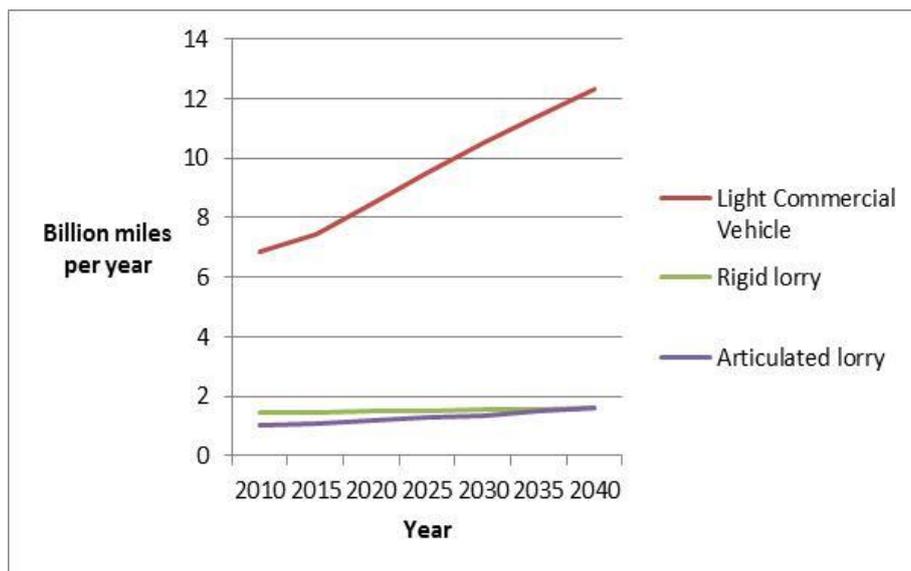
Figure 18: Forecast growth in freight on all types of roads in south-east England excluding London, billion miles per year
(source: DfT Road Traffic Forecast 2015 – extrapolated trend)

53. We recognise that encouraging and promoting greater levels of Active Travel will become increasingly important. For example, cycling - either as a sole mode of transport for shorter journeys or for longer journeys in combination with public transport - has a significant role to play in terms of reducing congestion in Oxfordshire. Research has concluded that cycle journey times are highly consistent per rider and largely independent of traffic conditions and time of day

54. Without doing this, vehicle emissions are likely to increase, albeit at a slower rate than traffic growth. Much depends on technological improvements and the incentives and regulations which encourage their adoption. It will be important to ensure that new vehicle emission standards reflect real world driving conditions and a consistent approach to managing air quality is adopted.

55. Growing road traffic levels risk a deterioration in quality of life for many residents, for example due to noise, a less safe walking and cycling environment, and associated impact on community life. It also threatens wildlife due to increasingly polluted run-off from roads and animals killed by traffic. Without very careful design and mitigation, new development and transport infrastructure could increase flood risk, destroy wildlife habitats, and blight the landscape.

56. The population will continue to age overall: by 2026 there are expected to be 46% more people aged 65 and over, and 69% more people aged 85 and over, than in 2013. Younger people will be attracted to areas with high jobs growth, provided the housing is affordable and the services and cultural and leisure offer of new neighbourhoods is sufficiently attractive. Planning policy will result in older peoples' housing alongside homes for workers in the new urban areas.

57. In rural areas, people without access to a car will find it harder to get about with non-commercial bus services no longer able be supported unless there is funding from development. This will particularly affect the older population at first, but in the future, increasing numbers of older and disabled people should be able to drive: fewer will never have driven and more will be capable of driving due to advances in vehicle technology, while automatic personal rapid transport may be available for point-to-point public transport journeys. The development of electric cycles (e-bikes) has the potential to enable many older and/or less active people to travel actively and sustainably with assistance. We will promote this form of travel that has the potential to increase levels of cycling in the county.

58. Lifestyle factors are hard to predict and could have a big impact on travel patterns. For example, we do not know to what extent social marketing and policy changes will succeed in encouraging people to be more active. We do not know how the trend for more homeworking, which increased by 35% between 2001 and 2011, will continue. It is difficult to predict how much people will need or want to travel in future for retail or services. There is growing evidence that the model of car ownership is changing, with more people using leased or shared vehicles and many no longer see the car as a status symbol.

59. It is also difficult to predict future working patterns: despite flexible working the standard working day has persisted for the majority of people. Will more people work

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part time, on late or early shifts, or have more than one job? How long will people continue to work into older age? Will working patterns respond as resources such as office buildings and factories become more intensively used and business becomes even more globalised?

Science Transit

60. The UK Government seeks the development of new solutions to the problems of transport congestion and pollution using science, industry and the engagement of the public sphere, through its Future Cities and Transport Catapult initiatives. Our county is in an ideal position to take advantage of this and to develop new, smarter methods of transport, with our strengths in science, in the motor industry and with our educated populace able to debate and determine what smarter improvements can benefit it. Our Science Transit programme supports this.

61. Given the rapid pace of technology, developments could dramatically affect mobility in ways we cannot currently predict. The uncertainties and challenges anticipated during the period of this plan offer the opportunity to develop innovative solutions and new ways of working and enjoying our lives. Greater involvement of intelligent transport systems in traffic management and the deployment of autonomous or semi-autonomous vehicle technology are two key fields for development. In terms of the limited infrastructure we have, we shall seek to maximise network efficiency and capacity with the use of big data; collected via sensors, mobile devices and external sources, utilising apps and IOT data aggregation platforms' to predict network conditions.

62. Meanwhile, other technologies will increasingly allow day-to-day working from home in many industries, reducing the need to commute at all. The demand for new smart technology to address these issues (both in Oxfordshire and globally) is high. Entering that market it is a major element of *Connecting Oxfordshire* and *Science Transit*. We want Oxfordshire to become a smart county that makes transport a simple, positive experience that helps attract an agglomeration of knowledge industries. Our county should also be a great place to live; smart technology should simplify and make our lives more enjoyable.

63. Above all, progress of the economy out of recession may not be smooth and this uncertainty favours transport solutions that are incremental, efficient, reliable and scalable in response to changing demand.

Policy 01: Oxfordshire County Council will work to ensure that the transport network supports sustainable economic and housing growth in the county, whilst protecting and where possible enhancing its environmental and its creative, cultural, heritage and tourism assets, and supporting the health and wellbeing of its residents.

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5. Supporting growth and economic vitality

Objectives:

- **Maintain and improve transport connections to support economic growth and vitality across the county through traditional and innovative solutions;**
- **Make most effective use of all available transport capacity through innovative management of the network;**
- **Increase journey time reliability and minimise end-to-end public transport journey times on main routes; and,**
- **Develop a high quality, resilient integrated transport system that is attractive to customers and generates inward investment.**

64. *Connecting Oxfordshire* supports the Strategic Economic Plan (SEP) - the economic growth strategy for the county - and the proposed England's Economic Heartland alliance. The refreshed SEP will focus on growing the high tech industries for which Oxfordshire is already renowned. The main focus of this growth is in the Knowledge Spine, linking Bicester, Oxford and Science Vale. Peak time travel to work is a priority, because it presents the greatest challenge to transport networks and is vital for the economy. Businesses need to attract high quality staff, and a trouble-free journey to work is an important factor for people in deciding where to live and work.

65. However, other types of journey are important for Oxfordshire's economy. In particular, the county is an attractive location because of its journey time from international gateways like Heathrow Airport. This gives business travellers and tourists easy access, and enables airfreight to reach its destination quickly.

66. Oxfordshire's economy is not just about high tech industry in the Knowledge Spine. There are thriving business parks elsewhere in the county and Banbury in particular has a strong manufacturing base, including motorsport. The north of the county has close connections with the South East Midlands LEP (SEMLEP) area economy. The economic vitality of the county also depends on the success of large and small town centre retail and leisure facilities, and many businesses catering for tourists, which are dispersed across rural areas. Oxfordshire's creative, cultural, heritage and tourist economy is estimated to be worth £3.1 billion per year. Whilst the highest demand for transport along the Knowledge Spine needs to be catered for, Oxfordshire needs good links to all its settlements.

67. We also need to accommodate through-travel: this does little to benefit the local economy, but most of the through traffic on Primary Routes has no suitable alternative to passing through Oxfordshire. Easing journeys through the county helps to avoid delays to local traffic.

Enhancements to road capacity

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68. In some cases new roads, or widening roads and junctions may be necessary, to ensure a reliable and effective transport network. Some examples of this include where access is needed to new developments; where the existing road is unsafe; where the existing road brings congestion and pollution to built-up areas; or where the existing road threatens areas of environmental or archaeological interest. However, these schemes often generate new demand and quickly reach capacity again. We will always require careful modelling for major schemes to ensure that effects on the wider network are fully understood, and will consider whether the demand can be met more sustainably. Where feasible, we will consider adding safe and segregated routes for cyclists and facilities for pedestrians as an element of this process.

69. We are working with our partners to develop route strategies for the improvement of strategic roads in the county. The strategies currently under development are described below. We shall be producing route strategies for other roads over the coming years, while maintaining our awareness of the issues and priorities of local road networks.

Policy 02: Oxfordshire County Council will manage and, where appropriate, develop the county's road network to reduce congestion and minimise disruption and delays, prioritising strategic routes.

A34 and the Oxford – Cambridge Expressway

70. The A34 is the critical north-south route for Oxfordshire and is the main highway linking current and future growth areas in the 'Knowledge Spine'. It is also the main north-south route for HGVs and other traffic travelling from the south coast to the Midlands and north of England. The combined demand from local traffic and long-distance traffic creates substantial congestion along the route for much of the day. Figure 19 illustrates key opportunities and challenges along the A34 in Oxfordshire.

71. Oxfordshire County Council has been working with Highways England, which manages the route, to develop a number of schemes which are deliverable in the short-term for the A34. These include new slip roads at Chilton Interchange to turn this into an all movements junction and a "hamburger" style improvement to the Milton Interchange Roundabout to improve access onto the A34 from Didcot, both scheduled for completion in 2016. We also propose a bus priority lane on the northbound approaches to the A34 exit slip road at Hinksey Hill Interchange.

72. Highways England published its Solent to Midlands Route Strategy in April 2015. This includes the construction of funded schemes for improvements at Peartree and Botley interchanges around Oxford by the end of 2019/20. Highways England will also introduce new driver information systems between the M4 and M40 at key locations.

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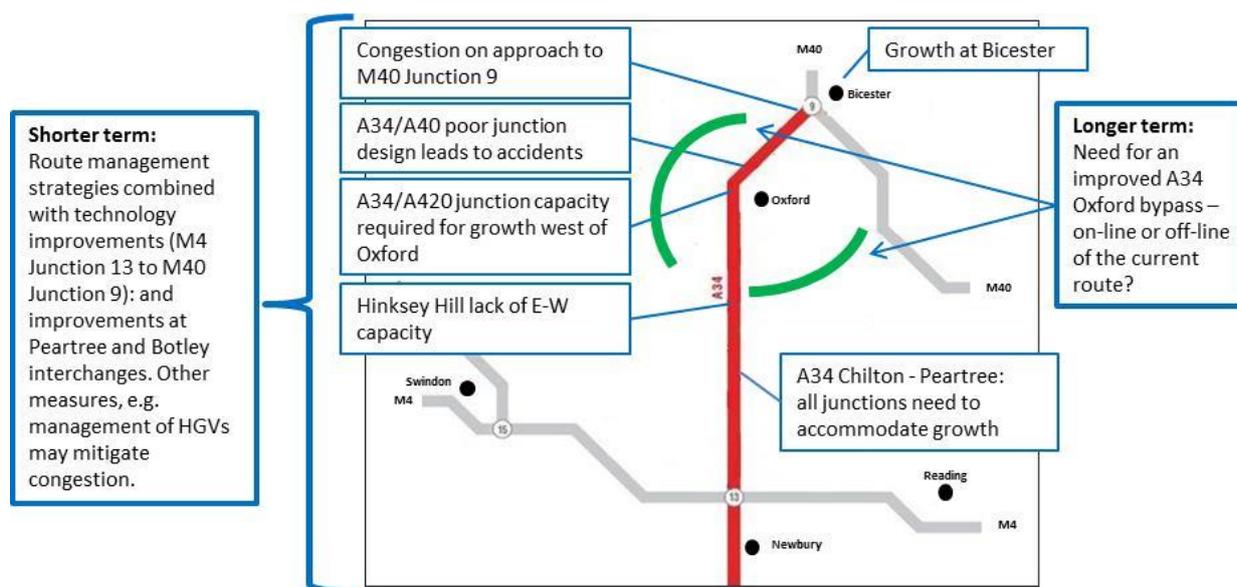
Figure 19: The A34 in Oxfordshire

73. Long-term options for providing more reliable operation of the route, especially around Oxford, will be investigated by Highways England and Oxfordshire County Council. Highways England's policy is that infrastructure improvements on the Strategic Route Network (SRN) should only be considered as a last resort in planning for development. We will develop measures for north-south travel along the Knowledge Spine that reduce or eliminate the 'without intervention' growth in traffic on the A34 shown on Figure 15 and Figure 16. If, given the forecast background growth in traffic on the SRN, infrastructure improvements are needed on the A34, these could include the development of a new road away from the existing route past Oxford, as an alternative to further enhancements to the existing A34 western ring-road.

74. Some of the fastest-growing towns in England are located in a belt to the north of London. England's Economic Heartland – the strategic alliance formed by local authorities and LEPs across Oxfordshire, Bedfordshire, Buckinghamshire, Cambridgeshire and Northamptonshire – is a £46.6bn economy and net contributor to the UK Exchequer. Transport connections between much of Oxfordshire and cities elsewhere in the alliance area – for example Milton Keynes - as well as to key regional partners such as Cambridge are notably poor. The lack of transport for people and freight between these areas creates an artificial barrier between hubs of knowledge-based growth.

75. Highways England is undertaking a study into how the strategic gap in road transport between the M1 at Milton Keynes and the M40 near Oxford can be filled. Growth around Science Vale, Oxford, Bicester and Milton Keynes creates strong arguments for upgraded transport infrastructure in the area. We – along with our partners in our strategic alliance as well as from further afield – will work with Highways England on their study into creating an Expressway to connect the towns and cities along this corridor together. This route, which must incorporate real improvements to the whole A34 corridor in Oxfordshire, will help to deliver a strong outer London orbital network

which fits a key strategic ambition for Oxfordshire and the South East. This work will take into account work already planned to improve the rail network in the area.

A40

76. The A40 is an important through route linking Gloucestershire and South Wales with London via M40. It is also critical in linking West Oxfordshire - particularly Witney and Carterton - to the Knowledge Spine through connections to the A44 and A34. It carries a daily flow of between up to 30,000 vehicles per day - well above the road's link capacity. During school term times the average journey speed on the A40 between Cassington and Wolvercote in the morning peak is 17 mph, while on the worst days it can be as low as 10 mph. Our proposals for the route are detailed in the accompanying A40 Route Strategy.

77. A number of schemes are proposed which may bring some relief to the A40. The County Council has secured City Deal funding for proposals to improve Wolvercote roundabout and Cutteslowe roundabout while the Oxford Transport Strategy is developing proposals which could include improvements to Peartree Interchange, a new access route and a Strategic Link Road between A40 and A44. Additionally, £35 million from the Government's Local Growth Fund will fund public transport improvements along the A40 corridor by 2021. The proposals comprising the A40 Science Transit scheme include bus lanes, a new Park & Ride and improved provision for cyclists and pedestrians.

78. However these improvements are unlikely to wholly resolve the current capacity issues on A40 let alone deal with the impact of future developments in West Oxfordshire. To this end a long term strategy for improving the A40 is currently being developed. The A40 Strategy published as part of this document has more details on this. In addition to these highway schemes for the A40 corridor, we will seek the completion of the Cotswold Line redoubling and the development of Hanborough station into a local interchange and Park & Rail facility, with additional platforms parking and enhanced bus and cycle access.

The Oxford Ring Road

79. The implementation of access restrictions in Oxford city centre and the city's Eastern Arc and reallocation of road space to other modes will support the goals and objectives of the LTP4 and the OTS by providing networks of sustainable travel options. This fundamental principle relies on the general presumption against travel by car within the urban area.

80. However, access by car is still a necessity in a dynamic city, and the outer ring road will be promoted as the primary route for all short-distance car trips. It will be increasingly important for cross-city movements because the OTS proposes to reallocate road space and introduce traffic restrictions on some of the roads within the city to enable mass transit, walking and cycling improvements.

81. The existing policy of improving the key ring road interchanges is therefore consistent with the proposal to remove trips from the 'inner ring road' (the B4495) and other inner city routes. This will be continued in the short-term with the schemes at Cutteslowe and Wolvercote Roundabouts; whilst longer term plans at the A34 Botley and Peartree interchanges are being considered by Highways England, along with Intelligent Transport Systems (ITS) such as Variable Message Signs and variable speed limits to be applied along the A34 corridor. The proposed ring road improvements are shown on the plan below:
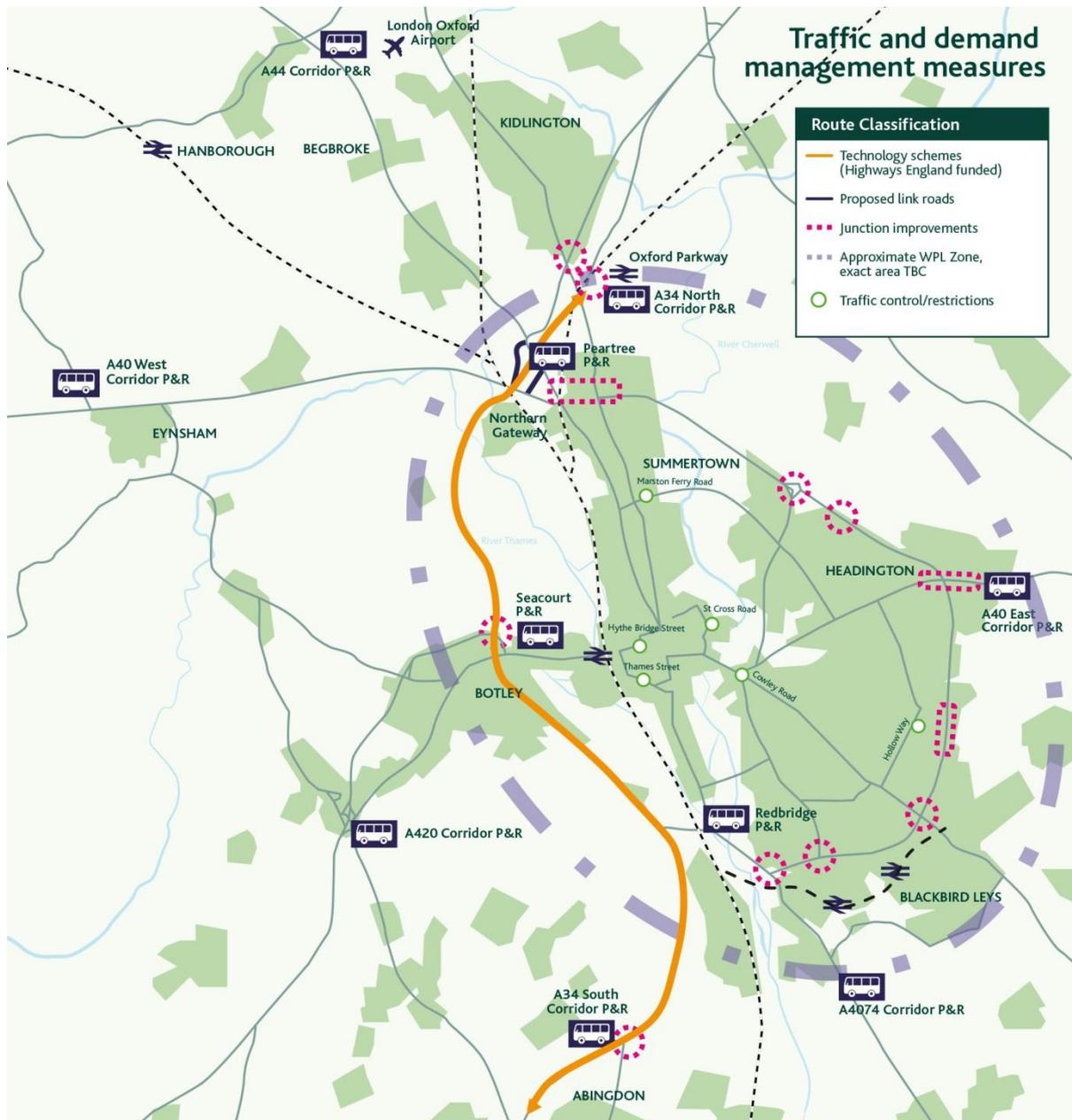

Figure 20 – Proposed Oxford Ring Road improvements

A420 Corridor

82. The A420 is an important principal route between Swindon and Oxford serving many settlements along the corridor including: Shrivenham, Watchfield, Faringdon, Kingston

Bagpuize and Cumnor. At peak times the route is congested in some areas, particularly at the northern end near Botley. Although advised to use the M4 and A34, there is some HGV usage of the route. Consultation revealed a number of concerns about junctions on the route, with roundabouts and other improvements suggested at several locations. Our proposals for the route are detailed in the accompanying A420 strategy. Funding to deliver Strategy schemes will need to be secured from development via Community Infrastructure Levy (CIL), Section 106 and/or Section 278 agreements, working closely with local councils and other stakeholders.

Local routes in Science Vale

83. A number of new road links and capacity improvements are necessary to accommodate the large scale of employment and residential development in Wantage, Grove, Harwell and Didcot. These are detailed in the Science Vale Area Strategy.

Local routes in Bicester

84. The Bicester Area Strategy outlines options for a south east perimeter road linking the eastern perimeter route with the A41. The preferred option will be identified and the Area Strategy reviewed in time for the Part Two of the Cherwell Local Plan. Large residential development in north-west Bicester offers the opportunity to relocate the north western perimeter route to enable the creation of a boulevard through the new development that will improve capacity while enabling the development to integrate with the existing town. We are also working with Network Rail to deliver a new highway bridge to allow the Eastern Perimeter Road to cross the new East West Rail line, replacing the current Charbridge Lane level crossing.

Local routes in Banbury

85. The Banbury Area Strategy includes a new link road east of M40 junction 11 to help mitigate severe traffic problems in the area from trips to / from Banbury and the surrounding area, including the M40. A spine road to be built as part of development at Salt Way south of the town will link the A4260 Oxford Road and A361 Bloxham Road.

Local routes in Witney and Carterton

86. The Witney Area Strategy outlines a new junction with the A40 already secured from the development at West Witney, and west-facing slip roads at Shores Green junction on the A40, which would enable the A40 to be used by people travelling from one side of Witney to the other. The Carterton Area Strategy outlines improvements to the B4477 between RAF Brize Norton and the A40.

87. There are other parts of the county's inter-urban road network where congestion is forecast to be severe in 2031. We will develop a programme of further route strategy work to address these, recognising the importance of enabling development across the county, and key cross boundary links.

Cross-boundary links

88. We will continue to work with Berkshire councils on the potential for additional river crossing capacity at Reading, taking into account the potential for impacts on the local road network from the increased traffic flow across the river and how or if that can be mitigated. We also need to understand expectations for population growth in Berkshire and the impact this would have on future demand across any potential bridge.

89. Similarly, we are working with Swindon Borough Council to secure appropriate mitigation for the potential traffic impacts on the A420, as a result of the Swindon Eastern Villages development and with Aylesbury Vale as a result of development proposed in Aylesbury and Princes Risborough.

Reducing pressure on the road network

90. If the same proportion of car journeys continues from future developments, our network will not be able to accommodate all trips. Through our involvement in strategic planning in the county, we will therefore need to ensure that additional road infrastructure is minimised. By locating housing close to jobs where people can more easily walk or cycle to work, in places where people will be able to use high quality public transport to get to work and where the car is not perceived as the default means of transport, the number of miles travelled by car per individual can be reduced over time, thereby slowing the growth in pressure on the road network. We will also use our influence in the planning process to ensure that new developments are well laid out so that they encourage and enable walking, cycling and the use of public transport rather than car use.

91. Bus and cycle travel uses less road space per person than car use. Walking and in some cases cycling can be accommodated away from roads. All three of these modes can help reduce congestion and help make the county a more attractive place to live and work. Our Active and Healthy Travel Strategy outlines our plans for improving Door to Door Travel (e.g. enabling journeys to be made by a combination of cycling or walking with bus and/or rail). Wherever there is the potential to accommodate more walking, cycling or public transport trips, we will consider scheme options that give priority to these modes, through traffic signals, allocation of road space, and improving conditions for cyclists and pedestrians. We will improve access to the rail network and work in partnership to improve rail capacity, for passengers and freight.

92. Before developing schemes for additional road space, we will look at ways to make existing road space accommodate more vehicle trips. There is great potential across the county to make junctions work more efficiently through investment in updating the management of traffic signals, and coordinating them so that they work together to smooth traffic flows and improve cyclist safety. Almost two thirds of cyclists killed or seriously injured in the UK were involved in collisions at, or near, a road junction, with T-junctions being the most commonly involved. (Source: Reported Road Casualties GB (DfT 2014)   .

93. We will also use travel information to encourage and influence people to choose public transport, walking and cycling or Door to Door integrated travel, via the Oxfordshire Journey Planner, an on-line journey planning tool that can be used on mobile devices, accessed at www.oxfordshire.gov.uk/journeyplanner. We will embrace new technologies and use data and information to predict and influence travel on our transport networks, alongside more traditional network management techniques such as the use of Traffic Regulation Orders. This is outlined in the Science Transit Strategy.

Policy 03 Oxfordshire County Council will support measures and innovation that make more efficient use of transport network capacity by reducing the proportion of

single occupancy car journeys and encouraging a greater proportion of journeys to be made on foot, by bicycle, and/or by public transport.

Prioritising different types of journey

94. The road network has different user priorities in different environments. In order to keep through traffic on the core network moving, it is often necessary to prioritise vehicle journeys over others, restricting interruptions to traffic flow on the more important routes. These can mean a lower priority to vehicles joining or crossing the main route, pedestrians crossing the route, or due to obstructions like parking or loading. Where roads pass through urban centres as a high street, they are part of a place as well as being a link. In the latter situation pedestrians would be given a much higher priority, with plenty of opportunity to cross the road even if this means interrupting traffic flow. In the former situation, pedestrian crossings, if provided, would probably give the minimum green time to pedestrians. Each situation must be treated on its own merits, but we have classified the road network, indicating the function of each link. This classification, as set out in Table 2, will be used as a guide in decisions over which type of road user to prioritise.

95. Along main roads in Oxford and our growth towns, we will also prioritise the use of public transport and/or cycling, depending on the potential for more journeys to be accommodated via these methods. This may be through allocating road space to bus or cycle lanes, and through the use of bus priority traffic signals, or signals that give priority to cyclists if and when these are approved for use.

Policy 04 Oxfordshire County Council will prioritise the needs of different types of users in developing transport schemes or considering development proposals, taking into account road classification and function/purpose, the characteristics and function of the place and the need to make efficient use of transport network capacity.

Status	Definition	Characteristics/treatment	Oxfordshire Routes
Class 1: Motorway	A road suitable for high speed long distance national traffic *Responsibility of Highways England (HE)*	Dual carriageway with limited access and type-restricted use No weight restrictions	M40
Class 2a: Strategic Primary Routes	A strategic road suitable for longer-distance and inter-regional traffic. Main connections between defined primary destinations. Part of the national lorry route network *Responsibility of either HE or the County Council*	Able to cater for high volumes of traffic. Predominantly dual carriageway No restrictions on access or permanent weight restrictions Presumption against at-grade pedestrian crossings Presumption against speeds below 50 mph	A34, A43 (HE) A40 (M40 J8 to Witney) A41 (A34 to Bicester) A44 (A40 to A4095)* A423, A4142 (Oxford S / E bypass)
Class 2b: Other Primary Routes	A road suitable for longer distance and inter-regional traffic. Main connections between defined primary destinations. May be part of the national lorry network *Responsibility of the County Council*	Able to cater for high volumes of traffic Either dual carriageway or single carriageway No restrictions on access or permanent weight restrictions, may be some height restrictions	A40 (west of Witney) A41 (Bicester to Aylesbury) A44 (north of A4095) A420 (west of A34)# A422 (east of A423) A423 (north of A422)

Class 3a: County Principal (A) Classified Roads (major)	A road suitable for important cross- and inter-county traffic where there are relatively large volumes of traffic but not longer-distance travel. Should be able to cater for all types of vehicles *Responsibility of the County Council*	Usually good standard single carriageway Weight restrictions may be considered where there is a suitable alternative route of the same or better standard available	A338 (Wantage to A415); A415; A417; A418**; A421; A4074+; A4130; A4260 (north of A40)
Class 3b: County Principal (A) Classified Roads (minor)	A road suitable for important cross- and inter-county traffic where there are relatively lower volumes of mostly local traffic. Minor A-roads would serve to link larger settlements with major A-roads and provide missing links *Responsibility of the County Council*	Predominantly single carriageway; some sections might be of a lower standard Weight restrictions can be considered where there is a suitable alternative route available	A40 (east of A418); A329; A338; A361; A420 (through Oxford); A422 (west of Banbury); A424*; A436; A3400; A4095; A4129; A4144; A4155; A4158; A4165; A4183; A4185; A4260 (south of A40); A4421
Class 4: Non-principal roads (B/C Classified)	A road suitable for other shorter cross and inter-county movements where volumes are relatively low and no principal road is available *Responsibility of the County Council*	Weight restrictions can be considered providing diversions are not excessive and do not prevent access to properties	All B and C roads

these roads are on the Primary Route Network signed as "unsuitable for HGVs" because of height restrictions at railway crossings

* routes which could be reclassified in whole or part, in accordance with Council strategy on HGV routing

** A418 is signed as alternative Primary Route between Oxford and Aylesbury to A41 for HGVs

+ A4074 is signed as alternative Primary Route between Oxford and Reading to A34/M4 but signed as "unsuitable for HGVs"

Table 2: Road priority hierarchy

Freight journeys

96. Residents across the county complain about the environmental impact and danger caused by heavy lorries (HGVs) travelling through villages and small towns. It is a challenge to address these problems with the limited resources we have available, the lack of bypasses on some main roads and the need for local freight access. However, there are a number of approaches we can take.

97. Where HGVs cause environmental damage, we will retain and, where resources allow, consider new environmental weight limits. These prohibit HGV through traffic, but allow local access. Structural weight limits will be applied to protect the county's bridges where necessary.

98. We will also seek to minimise environmental damage from HGVs through the use of Routing Agreements, Construction Logistics Plans and Delivery and Servicing Plans, as part of the development control process.

99. HGVs are disproportionately represented in cyclist fatalities. For example, of the 14 cyclist deaths in London in 2013, 9 involved HGVs. Although the number of serious collisions involving cyclists and HGVs in 2014 decreased, it remains one of Transport for London's key commitments to reduce the number of people killed or seriously injured in London by 40 per cent over the next five years. We have set up a Cyclists and HGVs working group and will seek to reduce collisions involving HGVs and cyclists in Oxfordshire, learning from London and other good practice examples.

100. We will seek to work with district colleagues and Highways England to improve both freight distribution networks and support services, for example freight services on the motorway and trunk road network in the county.

101. We will work with Network Rail, rail freight operating companies and businesses in Oxfordshire to increase the already significant volumes of rail freight that pass to, from and through Oxfordshire, particularly between the port of Southampton and the Midlands and North of England. An increased railway loading gauge, enabling larger containers, has already removed thousands of HGVs from the A34. It is heavy and bulky items like these for which rail is most competitive, and we will support the provision of appropriately sited rail freight facilities, subject to funding being available and having regard to the impacts on local communities and on the road and passenger rail networks.

Policy 05 Oxfordshire County Council will classify and number the roads in its control to direct traffic, particularly lorry traffic, onto the most suitable roads as far as is practicable.

Policy 06 Oxfordshire County Council will support measures to reduce the number of Heavy Goods Vehicles travelling through the county, by promoting freight by rail and working to improve strategic roads.

Better-integrated, high-quality public transport

102. A large proportion of journeys to Oxford city centre are by bus and rail. However, increasing public transport use on journeys to other parts of the city, within other towns, and along inter-urban routes will be a challenge. Public transport, walking and cycling will be promoted as, given the disbenefits of congestion, poor health and air pollution. To achieve this they will need to be very high quality, easy to use, and offer seamless integration on journeys involving different types of transport. There will need to be a significant improvement in public transport provision, rather than small improvements to frequency and journey time. Cycling is already more attractive to many people than driving a car, because of congestion, low cost, health benefits and a virtual guarantee of punctuality. As congestion and inactive lifestyles increase, cycling may be seen as a viable alternative for many more people who currently drive.

103. The Science Transit Strategy defines both our high-level vision, and outline roadmap, for the development of better-integrated, high quality mobility systems that both serve the Oxfordshire Knowledge Spine and connect it with the rest of the county. It is made up of four main elements:

- Projects which promote innovation in mobility and integrated transport delivery;
- Projects which encourage intelligent mobility and opening Oxfordshire's data to promote research and enterprise;
- Key infrastructure improvements which will improve connections between key areas along the knowledge spine, for example, upgrading key junctions and constructing new mass rapid transit systems, for example rapid transit bus lanes, as well as increasing cycling facilities and opportunities for integrating walking and cycling with public transport (see Active & Healthy Travel Strategy). These infrastructure projects will sometimes be led by opportunities in funding streams; and,
- Key route enhancements which will improve connections between key locations along the knowledge spine, including new public transport routes and improved frequency of services on existing routes.

Policy 07 Oxfordshire County Council will work with operators and other partners to enhance the network of high quality, integrated public transport services, interchanges, and supporting infrastructure, and will support the development of quality Bus Partnerships and Rail Partnerships, where appropriate.

Policy 08 Oxfordshire County Council will work with partners towards the introduction and use of smart, integrated payment solutions for a range of transport modes.

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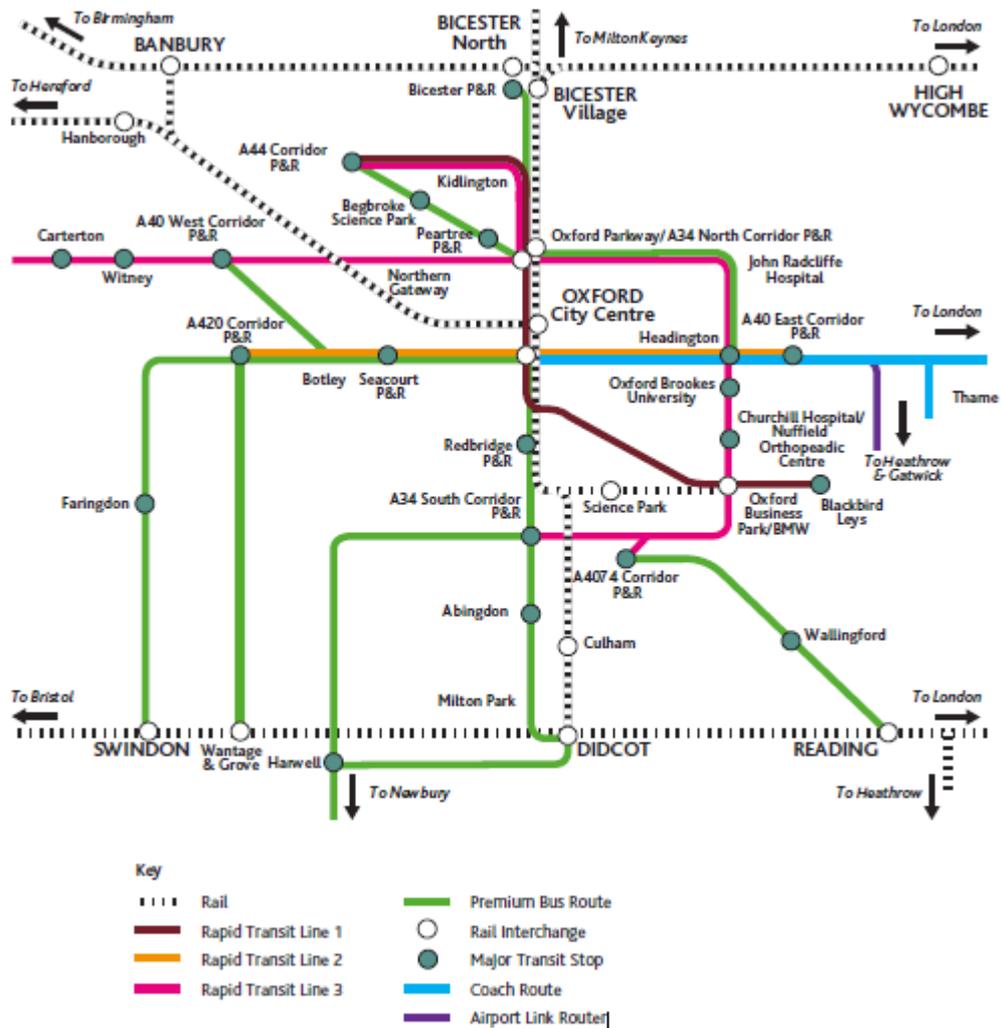
Figure 22: Potential Science Transit network

Buses and coaches

104. We have been successful in working with bus operators to increase the number of journeys made by bus in the county in recent years, a trend running contrary to most non-city regions in the UK. We do not control commercial rail and bus operators and cannot exercise the same degree of influence over public transport provision as in London. However, we have strong partnership arrangements with the main bus operators, who have introduced initiatives such as smart ticketing and payment in Oxford. Further, county-wide improvements to bus services, promoting bus travel and delivering our Science Transit ambition depend on this relationship.

105. Our bus and rapid transit strategy sets out how we will continue to work with operators to refine and expand the network. We plan new rapid transit services along the busiest routes in Oxford, upgrading Premium bus services in the county, linking proposed new Park & Ride sites and developing the bus network. Bus services also provide important links across our county boundary, with a growing market on several cross-boundary Premium routes. We will work to grow bus services on these routes.

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106. Oxford is an important destination for scheduled coach services, as shown in Figure 23. Oxford has a 24 hour a day scheduled coach connection with London, with 9 coaches an hour each way on the route at the peak, half-hourly links to Heathrow Airport and an hourly service to Gatwick Airport. These services all start and end at Oxford's Gloucester Green Coach Station, which also is also served by national scheduled coach services, including National Express, which brings 200,000 passengers through the coach station annually.

107. Oxford, Blenheim, the Cotswolds and Bicester Village are also major destinations for charter coach trips, which benefit the visitor economy but require coach parking and driver break facilities to be available near stopping points. We will need to work with coach operators to ensure that we have the space and facilities to accommodate growth from scheduled and charter coach services.
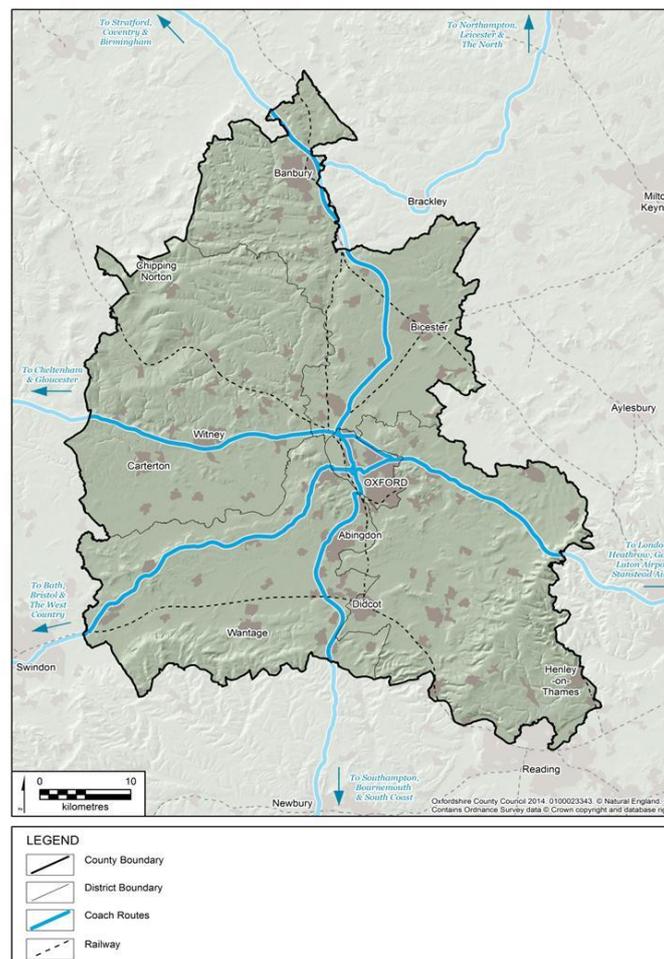
Figure 23: Oxfordshire's strategic scheduled coach network

Rail strategy

108. Our rail strategy sets out our ambition and priorities for rail investment in Oxfordshire, and how we will continue to work in partnership with Network Rail and train operators to ensure the capacity and connections necessary to support growth are provided, including new local and inter-regional links. It covers both the delivery of short term schemes to be delivered within the current control period for rail investment (up to 2019) and sets

out the development priorities and evidence base to support investment in the industry's subsequent five year planning periods, with an strong emphasis on the period 2019-2024.

109. It has been informed by a rail demand forecasting exercise completed in 2013, which showed that passenger demand is predicted to increase by 68% to 2026, with most of this growth being generated by new rail investment. The biggest increases are predicted on the Oxford-London corridor and on the rail network through Oxfordshire linking Didcot, Oxford, Bicester on to Milton Keynes and beyond when East West Rail (EWR) Phase 2 opens. Our strategy for rail also includes other route and service upgrades, for example to support growth and investment in Science Vale and further upgrades to the Cotswold Line.

110. We are also working with Network Rail on their long term planning process and development of their route strategies to 2043. We recognise that there are significant constraints on the rail network – between Didcot and Oxford in particular – which restrict our ability to develop new rail services and the potential of rail to play a much bigger part in meeting the Oxfordshire growth agenda, particularly as an alternative to the A34. This includes a greater role for rail freight in Oxfordshire, taking HGVs off the road.

111. Our strategic rail priorities include:
- Supporting the East West Rail Consortium and Network Rail in the design and delivery of East West Rail Phase 2;
- A major upgrade to Oxford station, including new platforms and through lines, new station building, transport interchange and widening of Botley Road bridge
- Supporting the completion of the Cotswold Line redoubling project, including the development and expansion of Hanborough station;
- Development of the next stage of upgrades to Didcot Parkway, including new multi-storey car park, northern entrance and new station building;
- Additional tracks between Oxford and Didcot to provide increased freight and passenger capacity, including the expansion of Culham Station;
- Opening of the Cowley rail line to passenger services, with new stations serving the Oxford Science Park and Oxford Business Park;
- Supporting provision of enhanced and direct rail services from Oxfordshire to Heathrow Airport and Crossrail;
- Developing a business case for a new service linking Bristol/Swindon to Oxford and beyond, including a proposed new station in the Grove area;
- Better integration of rail and strategic bus networks including payment and ticketing, as part of Science Transit;
- Improved access to rail stations via routes for cyclists/walkers, appropriate expansion in car parking and secure/accessible covered cycle parking.

112. Further investment in the Oxfordshire rail network will also be needed, picking up the outcomes from the rail industry's long term planning work, to remove future constraints on the rail network in the Didcot and Oxford areas.

Policy 9 Oxfordshire County Council will work in partnership with the rail industry to seek enhancements to the rail network in Oxfordshire and connections to it, where this supports the county's objectives for economic growth.

Air travel

113. Oxfordshire benefits greatly from its international business links and despite improvements in video-conferencing and technologies such as Skype, the demand for face-to-face meetings continues to rise in most global business sectors. The ease and speed with which international clients and investors can access our county has a major influence on their decisions about whether to invest and do business in Oxfordshire. Our Strategic Economic Plan's aim to increase the level of high-value jobs in Oxfordshire, together with our forecast rise in dwellings, will mean that maintaining and improving easy international connectivity for Oxfordshire becomes increasingly important.

114. Improving connections to Heathrow - the UK's hub airport and main centre for intercontinental flights and air freight - is therefore essential in maintaining Oxfordshire's international competitiveness, as well as supporting it as a popular destination for tourists. We are therefore pressing for the early implementation of the Western Rail Access to Heathrow project, which will make links between Oxfordshire and Heathrow significantly faster and easier than at present.

115. Reliable and easy links between the county and Gatwick Airport, Birmingham Airport and Luton Airport are also very important for the county's economy and residents. These airports are bases for low-cost European flights, flights to hub airports in Europe and the Middle East, and charter flights to holiday destinations. Links to both Birmingham Airport and Gatwick Airport will be improved with the electrification of the railway between Oxford and Reading (for connections with trains to Gatwick) and then from Oxford to Birmingham.

116. London Oxford Airport, located to the north of Kidlington, has the capacity for many more short-haul flights to cities and hub airports in north-western Europe, without the need for extending the runway. We will support this growth by working with the LEP to identify and respond to new central Government funding announcements. We will seek to avoid increasing pressure on the road network in the vicinity of the site, by working in partnership with the airport to improve public transport access, including links to Oxford Parkway station, secure cycle parking and key linkage to our emerging Rapid Transit Routes 1 and 3.

Policy 10 Oxfordshire County Council will support the development of air travel services and facilities that it considers necessary to support economic growth objectives for Oxfordshire.

Managing demand

117. While this Plan seeks significant improvements to the non-car transport offer, it recognises that the private car will still be an important mode of travel throughout the county. In some cases, making alternative modes more attractive will not be enough to convince or enable users to choose not to use the car. However, making shorter journeys

by cycle or on foot is something that all drivers should consider, given the benefits of active and healthy travel.

118. The Oxford Transport Strategy sets out proposals for a Workplace Parking Levy for Oxford, and we want to develop and consult on proposals as a matter of urgency; this would form part of a package including public transport, walking and cycling improvements, as well as restrictions on more through routes in the city. This would need to be combined with a pricing strategy for park and ride charges that incentivise their use over parking within the city, as well as further expansion of controlled parking zones to prevent commuters from parking in residential streets. This will provide choice for the traveller and help secure sustainable funding for investment in the transport network.

119. Elsewhere, we will work with district councils to ensure that parking provision and charging regimes support area transport strategies. The Council appreciates the value that a decriminalised parking scheme across the county would provide to ensure that the impact of parking on town centres and large events can be mitigated and will continue to work closely with the district councils to identify opportunities to introduce such a scheme in a way that does not add additional burden to the public purse.

Policy 11 Oxfordshire County Council will manage the parking under its control and work with district councils to ensure that overall parking provision and controls, including the potential for further decriminalised parking in Oxfordshire, are financially viable and support the objectives of local communities and this Plan.

Ensuring that everyone can participate in economic growth

120. There are places that lack bus connections. With the pressure on Council budgets, more places will fall into this category. Following an extensive review of current supported transport provision, the intention is to realise these savings through the implementation of a Transport Hub, and through changes to non-statutory subsidised bus services.

121. The Hub will be a single team which deals with all requests for supported transport services in a coordinated and fair way. It will ensure people are allocated transport according to their needs; supporting those who are judged capable of using existing public transport or equivalent, while protecting the most vulnerable with specialist, bespoke services. Not only does this improve how we allocate our available resources, it also ensures that the whole process for accessing supported transport is now more simple and straightforward.

122. It is vital that all of Oxfordshire's residents have an opportunity to contribute to, and benefit from, the economic success that is forecast for the county over the period of this Plan, whether or not they have access to a private car. Above all this requires access to education and jobs, but also to retail, leisure, culture, and health services. For short trips, access can be significantly improved through better walking and cycling links. When developing walking and cycling networks

for towns, we will ensure that they include connections to areas that are less well served by public transport, and in particular, areas with higher levels of deprivation.

123. For longer trips and where walking or cycling is not an option, other solutions may be necessary. Where feasible, combining public transport with walking or cycling can be a solution, as detailed in the Door to Door section of the Active & Healthy Travel Strategy. We also recognise the importance of taxis, particularly for providing links to rail stations, and will work with partners to ensure that they are given full consideration in the design of transport interchanges. They also provide a much needed service to people with disabilities, as well as people carrying large items, so we will work with the district councils who regulate taxis, to ensure there are adequate waiting and drop off facilities in town centres.

124. However, use of taxis on a regular basis is unaffordable for many people. We will work with local research and development partners to scope, design, test, and implement a family of vehicle hire and ride sharing technologies focused on bike hire, car share, car clubs and other on-demand vehicle services. We will also partner with local universities and automotive companies to create and test intelligent, driverless, demand-responsive mobility services.

125. We will also support local communities to help themselves, offering a range of support to community transport organisations that provide minibus and car schemes using volunteer drivers. A package of support could include the use of Council vehicles when they are not required for Council services, insurance or training. We will provide assistance to vulnerable people seeking transport, putting them in touch with community run schemes where appropriate.

Policy 12 Oxfordshire County Council will work with partners to identify how access to employment, education, training and services can be provided, particularly for those with disabilities or special needs, or who otherwise have difficulties in walking, cycling and/or using public transport, or for people without access to a car.

Policy 13 Oxfordshire County Council will support the development and use of locally-organised community transport to meet local accessibility needs.

Policy 14 Oxfordshire County Council will support the research, development and use of new technologies and initiatives that improve access to jobs and services, taking into account their environmental impact and fit with the other objectives of LTP4.

Resilience and maintenance

126. Oxfordshire is responsible for maintaining over 4500km of roads and keeping the network in good condition is important for the county's economy. Roads in poor condition can deter inward investment and tourism. Lack of maintenance can also cause damage to cars, make bus journeys extremely uncomfortable and act as a hazard to road users on two wheels.

127. Poorly maintained footways can also discourage people from walking, or even cause injuries and can be problematic for wheelchair, mobility scooter and pushchair users. Keeping roads and footways in good condition is therefore a key part of our strategy to get more people using public transport, walking and cycling. We will prioritise strategically important walking routes for maintenance.

128. Maintenance has been a challenge for many years because of insufficient Government funding, a succession of cold winters and flooding, and the rise in the number of vehicles, including heavy vehicles, using roads that were not originally designed to cope with them. As new transport infrastructure is built, the problem will become greater. The Council has developed an Asset Management approach to deliver a more efficient and effective approach to the infrastructure assets through longer term planning. We will consider new approaches for prioritising maintenance on routes to the benefit of sustainable transport users. Our policy on Asset Management will meet the following aims and objectives:

- *Keep Oxfordshire moving by providing a well-managed, well maintained and more resilient highway network*

129. We will make every effort to understand current and future requirements for the highway infrastructure and its contribution to creating a world class economy. In order to deliver this, we will continue to understand our stakeholders' needs, promote levels of service and maintenance priorities for our highways. Our adoption of an Asset Management approach will take a long term view in making informed maintenance and investment decisions).

- *Improve the safety and condition of local roads, footways and cycleways, including resilience to climate change.*

130. We will improve and maintain the condition of roads and highway related assets with systematic prioritisation where there are safety related issues, Premium bus routes and high pedestrian and cycle usage whilst still maintaining the network as a whole. We will maintain the drainage and associated structures to prevent flooding on and from the highway network.

- *Provide a sustainable approach*

131. We will invest in energy reducing technology for street lighting and associated electrical apparatus.
132. Our aim is to move towards a preventative approach to the maintenance of highway assets by prioritising roads for early treatment that have not yet fallen into the failure threshold. Whilst this may appear to be undertaking maintenance on roads that don't look to be in need of repair, and may seem unnecessary when there are roads in visually worse condition, this will often be the right choice and ultimately deliver the best value for the county in the long-term.

133. The system for prioritising maintenance schemes will take into account the assessed condition, the level of use by different types of road user, the type of road and its position in a hierarchy and the strategic importance of the road or footway as a walking or cycling route. Details are set out in the Highways Asset Management Plan and its annexes.

Policy 15 Oxfordshire County Council will target new investment and maintain transport infrastructure to minimise long-term costs.

Policy 16 Oxfordshire County Council will publish and keep updated its policy on prioritisation of maintenance activity in the Highways Asset Management Plan.

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6. Reducing emissions

Objectives

- **Minimise the need to travel;**
- **Reduce the proportion of journeys made by private car by making the use of public transport, walking and cycling more attractive;**
- **Influence the location and layout of development to maximise the use and value of existing and planned sustainable transport investment; and,**
- **Reduce per capita emissions from transport in Oxfordshire in line with UK Government targets.**

134. Reducing emissions from transport is one of the highest local transport policy priorities for Government. The 2011 White Paper states that there is a need for a 'coherent plan to reduce the carbon emitted by transport, not least in order to meet our binding national commitments'.

135. In addition to continuing to pledge to make car travel greener through technological advances and more stringent emissions standards for manufacturers, the White Paper placed greater emphasis on non-car, behavioural change transport solutions to reduce carbon emissions, particularly for short journeys.

136. Our strategy to support the achievement of national carbon reduction targets fits neatly with our other objectives. Minimising the need to travel, and getting more people to walk, cycle or use public transport instead of driving not only reduces emissions, but also supports growth by helping to meet the overall demand for travel, and reducing congestion, as explained in the previous chapter. In this chapter we say more about how this will be achieved - including how we will support the uptake of zero and low emission vehicles – for both private and public transport.

Minimising the need to travel

137. To reduce the pressure on transport networks as the population grows, and minimise emissions and other environmental damage from transport, it makes sense to cut the amount of vehicular travel per head by making some of people's travel unnecessary. If

people work close to where they live, their commuting journeys will be shorter, perhaps short enough to make by bike or on foot.

138. Through our role in supporting strategic planning across the county, we will influence the location of development to minimise the need for car travel in particular, and ensure that where new infrastructure is required, it can be justified and is affordable. We want to move towards place-based guidance for transport and the urban realm for both existing settlements as well as new and expanding developments, which will minimise the need to travel and give the promotion of walking and cycling the highest priority.

139. We will work closely with our district and city councils and neighbouring local authorities to coordinate land-use and transport planning, with the aim of ensuring housing is located close to employment and good public transport where possible, new developments have good transport links, and are laid out in a way that enables people to get around easily on foot or by bike, or by public transport. This is in line with the National Planning Policy Framework (NPPF):

- Encouragement should be given to solutions which support reductions in greenhouse gas emissions and reduce congestion. In preparing Local Plans, local planning authorities should therefore support a pattern of development which, where reasonable to do so, facilitates the use of sustainable modes of transport (Paragraph 30);

- Plans and decisions should ensure developments that generate significant movement are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised (Paragraph 34).

- Developments should give priority to walking and cycling, and have access to high quality public transport facilities. More details of active and sustainable travel can be found in our Active & Healthy Travel Strategy).

140. We are required by law to be consulted on the transport implications of all new planning applications. We will look carefully at plans for new developments to ensure that they support the use of sustainable travel, through the way they are laid out, the transport infrastructure and facilities they include, and the way in which the development will be managed when occupied.

141. In line with NPPF we will require all planning applications for developments over a certain size to be accompanied by a Transport Assessment, setting out the likely impact of the development on transport networks, and any proposed mitigation by the developer. Also in line with NPPF, depending on the size of the development, we will require developers to submit a Travel Plan, setting out how targets for the number of trips associated with the development will be achieved. Details of our requirements are set out in our *Transport Assessment and Travel Plan Policy Document.* We will strongly encourage travel planning from the start of the process to ensure it is embedded in the design and content of the proposed development, rather than as so often happens as an afterthought.

142. We will also support development in locations that make use of existing or planned sustainable transport infrastructure, for example development that would help create the demand necessary to make a new rail station feasible. We will ensure that housing and employment developments and investment in the transport network are progressed together. Land may not always be available in the right places, and people may not always be able to find a job or may not choose to work close to where they live or somewhere they can access by public transport, but if more people have these options, it will help to reduce demands on transport networks.

Policy 17 Oxfordshire County Council will seek to ensure through cooperation with the districts and city councils, that the location of development makes the best use of existing and planned infrastructure, provides new or improved infrastructure and reduces the need to travel and supports walking, cycling and public transport.

143.   Approximately 12% of people in Oxfordshire work mainly from home, and there is clearly potential for this proportion to increase as technology develops and the nature of work changes over time. Increasing the number of homes with a fast internet connection will enable more people to work or run businesses from home. In partnership with Department for Culture, Media, & Sport, and BT, we have delivered fibre broadband infrastructure across the county, enabling over 64,000 premises to now have access to superfast broadband. This represents an estimated 90% of residences and businesses in Oxfordshire. We are now delivering phase two of the programme which will enable an estimated 95% of premises in the county to have access to superfast broadband by December 2017.

Policy 18 Oxfordshire County Council will help reduce the need to travel by improving internet and mobile connectivity and other initiatives that enable people to work at or close to home.

Active & Healthy travel

144. Our Active & Healthy Travel Strategy (A&HTS) sets out in detail how we intend to encourage and enable more people to travel actively and healthily. The Strategy has been put together in collaboration with Public Health and brings together three active travel options - cycling, walking and Door to Door sustainable integrated travel. A new Active Travel Steering Group will oversee its development and implementation, prioritise and agree proposals for investment; monitor and review completed schemes and seek funding for improvements. The Group will include representatives from the Oxfordshire Cycling Network, to ensure that users are involved in key decisions relating to active and healthy travel. The three active travel options are briefly outlined below.

Encouraging & Enabling Walking

145. The Encouraging & Enabling Walking component of the A&HTS has been developed to reflect four key aims:
• To provide a clear statement on the County Council's overall aspiration to enable

and encourage walking over the lifetime of the Active & Healthy Travel Strategy
- To provide a framework for the development of local walking strategies
- To provide a means to prioritise funding available to the County Council for best value for money investments in walking
- To raise awareness of the physical and mental health benefits of walking

Updated Cycling Strategy

146. The Strategy outlines our ambitions for cycling, setting out the detail about how we will go about increasing cycling and provides the framework for developing cycling within Oxfordshire's towns and as part of new developments. Cycling is a reliable, inexpensive way of getting around that emits zero carbon in use. Where trips by bike replace private car or public transport trips, this contributes in a small way to reducing carbon emissions overall. Cycling also has huge health benefits, so increasing the proportion of people who cycle regularly will help to address public health problems of obesity and ill health related to inactivity.

Door to Door multi modal travel for longer trips Door to Door multi modal travel for longer trips

147. The Strategy also outlines our plans for Door to Door sustainable integrated travel. This outlines our plans for making it easier for people to cycle or walk to rail stations of bus hubs so that they can travel sustainable for longer trips.

Countryside

148. 'Promoting and enabling access to the countryside' emerged as a key theme in the recently published Oxfordshire Strategic Environmental Economic Investment Plan, as did 'engaging people in the environment and enabling more sustainable lifestyles'. Many organisations came forward with specific proposals under these themes, including targeted improvements to walking and cycle routes and green spaces in and around urban areas. In addition to investment in physical infrastructure, the proposals included creating green health routes and working with GPs to offer patients green prescriptions for physical activity.

Design

149. We will ensure that new development adheres to the principles and philosophy set out in the DfT's *Manual for Streets* and supplementary *Manual for Streets 2*, which apply a user hierarchy to the design process, with pedestrians at the top. In residential areas this will include restrictions on parking, lower speed limits where appropriate, and more through routes for pedestrians and cyclists than motor vehicles. These principles may also be applied to improvements in existing residential areas and town centres where there is potential to increase walking and cycling. OCC is developing its own supplementary Design Guide and standing advice to help provide consistency and transparency for street design in the county.

150. We will ensure that travel plans for new developments include measures to increase walking and cycling, and that these travel plans are implemented.

Policy 19 Oxfordshire County Council will encourage the use of modes of travel associated with healthy and active lifestyles.

Policy 20 Oxfordshire County Council will carry out targeted safety improvements on walking and cycling routes to school, to encourage active travel and reduce pressure on school bus transport.

Influencing choice

151. Providing people with excellent public transport, cycling and walking facilities, as well as information about travel options, will not be enough to bring about the shift that we need from car use to other forms of transport. In line with the Government's approach we will enable choice following provision of better information and education adopt the principle of the 'ladder of interventions',


Figure 1.2: Ladder of interventions

Eliminate choice: regulate to eliminate choice entirely

Restrict choice: regulate to restrict the options available to people

Guide choice through disincentive: use financial or other disincentives to influence people to not pursue certain activities

Guide choice through incentives: use financial and other incentives to guide people to pursue certain activities

Guide choice through changing the default: make 'healthier' choices the default option for people

Enable choice: enable people to change their behaviours

Provide information: inform and educate people

Do nothing or simply monitor the current situation

Source: Nuffield Council on Bioethics, 2007

Figure 24: The Ladder of Interventions (Source: DfT, 2011)

152. With the widespread use of mobile internet devices, the Oxfordshire Journey Planner will be a primary source of information on all aspects of travel, providing people with the ability to plan their journeys in real time and make the best choices to enable them to reach their destination on time. It aims to help people make informed decisions about their journeys, allowing more seamless travel and therefore increasing the desirability of Oxfordshire for businesses, reducing congestion and environmental impacts from travel in the county.

153. The Planner makes use of a wide range of data to give people an accurate forecast of journey time via all modes of transport and combinations of modes, using real time information to provide a picture of the current situation on the network. The journey planner highlights the carbon emissions and calories burned for each mode. In addition, the tool and associated application will pull together journey planning information into one location, thus improving our service offer to the general public and tourists. To

maximise reach and take-up, local tourist websites and businesses will be encouraged to integrate the application onto their home pages.

154. This tool has been developed so that it 'nudges' people towards taking the option that is both quickest for them and best for optimising the capacity of transport networks. For example, on the approach to Oxford by car it will inform people of the time it will take them to drive to their destination, compared with the time they could save by parking and taking the bus or train. It is intended that it could be used to offer incentives for travelling in a way that relieves pressure on transport networks. Further details are set out in the *Science Transit Strategy*.

155. Over the longer term, we are also working with the private sector to develop the next generation of journey planner, which can begin to interact with the user, make better predictions of future travel conditions, and learn the patterns and needs of a user to help inform them of potential travel issues without the need for the user to query the tool. The Council is supporting organisations working on two different methods of providing this next generation of tool, to allow for the market to 'choose' the better solution.

156. Our aim is to make the Journey Planner as accessible as possible to users of all ages and ability, and to make it so easy to use that people will choose it over any other method of planning their journey. However we recognise that access to the internet is not universal, so will continue to ensure that basic information on public transport services is available by other channels.

Policy 21 Oxfordshire County Council will support the use of a wide range of data and information technology to assist in managing the network and influencing travel behaviour, and work with partners to ensure that travel information is timely, accurate and easily accessible in appropriate formats for different user groups.

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157. The Council will seek opportunities to promote sustainable travel where they can be resourced from external funding streams. .

158. Generally people are most willing to consider changing their behaviour when their circumstances change, particularly when changing jobs or moving house. New housing and employment developments need to be designed and provide information to encourage people to travel sustainably. Employers can have some direct influence over their staff and can put in place policies and incentives to encourage people to travel to work by public transport, by bike or on foot. We will therefore place an emphasis on ensuring that good travel plans are in place for new developments, and seek opportunities to develop travel plans with existing organisations, including schools, who wish to promote sustainable travel, where funding allows.

Low emission vehicles

159. We will support the introduction of low emission and renewable energy vehicles to replace existing ones, and will expect any new public transport vehicles to conform to high environmental standards.

Public transport

160. Central Oxford has a Low Emission Zone (LEZ), applying to buses only. This was introduced primarily to reduce oxides of nitrogen (NOx). It requires local buses operating in affected streets to comply with the Euro V emission standard for NOx. The main bus operators have responded to this and to customer preference, by introducing a number of hybrid electric buses into the fleet. Hybrid electric buses use a combination of an electric battery pack and a diesel engine to provide power, and produce around 40% less carbon dioxide (CO_2) emissions than traditional diesel-engine buses.

161. We are supporting trials of wireless induction charged electric buses, which run fully on electricity. As technology develops we expect electric buses and other types of low emission public transport vehicles and propulsion technologies to become more widespread. We will support pilots where appropriate, working with businesses and research institutions. If successful, we will support the provision of the required infrastructure, taking into consideration safety and environmental factors. We will ensure that new infrastructure considers the flexibility to enable the take-up of future low emission vehicle technologies, for example through incorporating sensor or wireless technology in new roads or bus lanes.

162. Network Rail is carrying out a programme of electrification which means that the proportion of diesel trains through Oxfordshire will reduce over the period of this plan. By 2031 we expect that the vast majority of passenger carrying rail lines through Oxfordshire will be electrified. This will reduce carbon emissions as well as NOx pollution. We will seek to encourage and enable passengers to consider cycling or walking to rail stations rather than short car journeys. Further details can be found in the Active & Healthy Travel Strategy.

Private cars

163. Electric hybrid cars are becoming more popular as they become more affordable, and battery technology develops allowing a longer range. The 'whole life' carbon benefits of electric over conventional vehicles has been debatable, but as electric power generation moves towards greater use of renewable energy sources, the benefits will become more convincing, particularly as mileage increases. In urban areas, there are clear air quality as well as lower emission benefits. However, electric cars take up just as much road space as conventional cars, so from a transport strategy perspective, it would not be desirable if people used them for journeys they could make by public transport, walking or cycling.

164. To encourage the uptake of electric cars, we will focus on support for charging infrastructure and other incentives which do not run the risk of increasing congestion. We will not support policies which undermine bus or public transport priority, such as the use of bus lanes by private electric cars. We will consider the provision of free or reduced price parking for low or zero emission vehicles at Park and Ride sites.

165. We will seek funding opportunities and work with partners to provide a network of rapid charging infrastructure, which benefits users wishing to make longer distance journeys. We will also seek funding opportunities to provide charging points on street and on Council property, to assist those residents without off street parking where they can charge a vehicle overnight. To allow the use of charging points to be optimised we

will implement parking time limits, and we will ensure that any charging infrastructure can be used by all forms of electric vehicles, subject to site-specific vehicle height restrictions. We will also look for opportunities to support the development of a network of hydrogen fuelling infrastructure as this technology develops.

Policy 22 Oxfordshire County Council will promote the use of low or zero emission transport, including electric vehicles and associated infrastructure where appropriate.

Reducing the footprint of our own operations

166.   We and our partners operate a large fleet of vehicles. We will look for opportunities to introduce low emission vehicles into the fleet where this is cost effective.

167.   We will seek to reduce energy consumption in our operation of the transport network, by introducing more energy efficient electrical equipment such as street lighting and traffic signals.

168.   We will ensure that highway construction is carried out in an energy efficient manner, maximising the use of recycled materials where appropriate, taking into account the emissions of transporting them. Our policy is set out in more detail in the Highways Asset Management Plan.

Policy 23 Oxfordshire County Council will work to reduce the emissions footprint of transport assets and operation where economically viable, taking into account energy consumption and the use of recycled materials.

7. Improving quality of life

Objectives:

- Mitigate and wherever possible enhance the impacts of transport on the local built, historic and natural environment; and,
- Improve public health and wellbeing by increasing levels of walking and cycling as standalone modes or in combination with public transport, reducing transport emissions, reducing casualties, and enabling inclusive access to jobs, education, training and services.

169.   Alongside supporting growth, transport has the potential to improve quality of life for everyone, but can also have side effects which reduce it. Figure 25 represents the ways transport can impact on seven quality of life factors[2] . Our aim is to increase the net positive impact on quality of life; however, there is a risk of environmental impacts, such as climate change and biodiversity, being understated when compared with some of the positive benefits, because they are not felt so immediately.

Figure 25: Transport impacts on quality of life

Protecting and enhancing the environment

170. To ensure that the environmental impacts of this Plan are considered fully, a Strategic Environmental Assessment has been carried, the findings of which are contained in the Environmental Report which forms part of *Connecting Oxfordshire*. It assesses this plan on its impact with respect to:

- Air quality;
- Climatic factors – greenhouse gas emissions, and adaptation to effects of climate change;
- Noise;
- Biodiversity – flora and fauna;
- Population and community;
- Human health, including safety;
- Soil;
- Water, including quality, quantity and flood risk;
- Material assets, including resource efficiency and waste;
- Cultural heritage and the historic environment, including architectural and archaeological heritage; and,
- Landscape and townscape.

A Habitats Regulations Assessment and a Health Impact Assessment have also been carried out.

171. Damage to the environment, including heritage assets, can occur as a result of development of physical infrastructure, or as a result of increasing use of environmentally damaging forms of transport. The policies of this Plan generally support a reduction in car mileage, which will have a positive impact. However, the plan also proposes the development of transport infrastructure to support growth. This needs to be carried out in a way which avoids damage to the environment where possible and seeks opportunities to enhance it.

172. Environmental factors, including relevant legislation and guidance regarding the impact on the natural environment and heritage, will be considered at the outset of every transport infrastructure scheme, while a number of scheme options are still being considered. This will allow proper consideration of less environmentally damaging options and for the design to be guided by environmental considerations so that the best mitigation and enhancement measures can be incorporated into the scheme. Early consideration of environmental factors will deliver better outcomes than considering the environment later in the process, when making changes becomes more costly.

173. We will ensure that the impact on biodiversity informs transport decisions. We will seek to provide biodiversity enhancements from infrastructure schemes where possible, including seeking to reduce the impact on biodiversity from vehicle emissions. Where negative impacts on biodiversity are unavoidable, we will ensure that mitigation and compensation are provided. In managing our transport assets, we will consider how we

can make positive biodiversity gains, including protecting and enhancing habitats for bees and other pollinators in line with the Council's resolution in July 2014. This includes the way in which we manage highway verges and trees, what materials and the type of equipment we use, and drainage. Details of our plans can be found in the *Highways Asset Management Plan* and the *Tree Management Policy*. Our approach to biodiversity is set out in the *Oxfordshire Biodiversity Action Plan*.

174.   We will work with partners to develop Oxfordshire's 'green infrastructure', which includes our public rights of way network. Details of our plans will be set out in the Rights of Way Management Plan.

175.   We will help to conserve designated Areas of Outstanding Natural Beauty (AONB), though working with the AONB management teams to implement relevant policies or actions from their management plans.

176.   We will manage flood risk through our statutory role to coordinate flood risk management for surface water, groundwater and smaller watercourses in the county. The Environment Agency remains responsible for main-river flooding. Details of our plans can be found in the *Oxfordshire Local Flood Risk Management Strategy*.

Policy 24 Oxfordshire County Council will seek to avoid negative environmental impacts of transport and where possible provide environmental improvements, particularly in Areas of Outstanding Natural Beauty, Conservation Areas and other areas of high environmental importance.

177.   We will ensure that transport decisions are informed by an understanding of landscape and townscape character and sensitivity to development, recognising that materials, signing and lining can have a negative impact on character and tranquillity. We will use tools such as the Oxfordshire Wildlife and Landscape Study (OWLS) and Historic England's Streets for All streetscape manual, as well as local landscape and townscape character assessments.

178.   When responding to development proposals, we will seek appropriate mitigation for environmental impacts, and highlight opportunities for environmental enhancement. Where it is part of a wider highway improvement scheme, we will seek to improve urban public open spaces that are part of highway land, to make them more visually attractive and inviting, taking the needs of all road users into account, and prioritising pedestrians where it is appropriate. This includes removing unnecessary street clutter such as signs that are not legally required and are of little use.

Policy 25 Oxfordshire County Council will work with partners to improve public spaces and de-clutter the street environment.

Improving health and wellbeing

Transport can play an important part in contributing to improvements in public health, particularly in four key areas:

- Encouraging physical activity by enabling active and healthy travel;

- Promoting independence for all – young people, older people, those on low incomes, disabled people, etc
- Contributing to an improvement in air quality; and
- Improving road safety.

Physical activity

179. Low levels of physical activity and increasing obesity are a huge concern nationally. Oxfordshire has a relatively high percentage of people who take part in regular activity per week (26%) but there is room for improvement. Preventing chronic disease through tackling obesity is a key priority of Oxfordshire's *Joint Health and Wellbeing Strategy.* Our policies to increase the amount of walking, cycling and public transport use support the priority of tackling obesity. Physical activity – particularly outdoors - has also been shown to improve mental health. Research has found that those who walked or cycled to work benefitted from improved health and well-being in comparison to those who travelled by car.

180. For many people, the easiest way to build-in regular physical activity to their daily routine is through walking or cycling for local journeys. Using public transport is also good, because it can include walking or cycling to/from a station or bus stop - our plans can be found in the *Door to Door* section of the A&HTS.

181. The Council is also responsible for management and maintenance of an extensive network of public rights of way (PRoW), providing opportunities for outdoor exercise as a leisure activity and valuable pedestrian, equestrian and cycle links for getting around. Leisure cycling can build confidence and encourage people to take up cycling as part of their daily routine. The Rights of Way Management Plan sets out our plans for developing the PRoW network.   We will seek enhancements to the network from new developments, with additional sections of path where necessary to link these to the existing network.

Policy 26 Oxfordshire County Council will aim to record, protect, maintain and improve the public rights of way network so that users are able to understand and enjoy their rights in a safe and responsible way.

182. River and Canal Towpaths provide opportunities for walking and, where permitted, cycling. Particularly in urban areas, these form part of important local networks of walking and cycling routes. We will work with the Canal and River Trust to promote the use of these paths and seek funding towards their improvement, mindful of the fact that removing the natural features of river banks can damage valuable habitats.

Policy 27 Oxfordshire County Council will support appropriate opportunities for improving towpaths along the waterways network, where it would not harm the ecological value of the area or waterway network.

Promoting independence

183. Nationally, the ageing population means that there will be increased pressure on social and health services. Transport, particularly active travel, has a role in helping more people to stay independent and healthy, which will reduce this pressure. People need to be able to

do basic things such as shopping, banking and going to the doctor, as well as activities that keep them healthy and reduce isolation, such as visiting friends and generally being part of the community. Older people also make a vital contribution to the economy: they are more inclined to support local shopping centres, and many of them provide important services as volunteers.

184.   In Chapter 4 we discussed the importance of ensuring that older and/or disabled people can get around and how this can be supported. We will work to remove the barriers to access that these groups of people encounter. We will consider the impacts on disabled people at an early stage in developing new transport schemes, so that improvements can be built into the design. This will involve consulting disabled people or their representatives. It is our policy to carry out a Vulnerable Road User Audit on the design of all new schemes to fully understand the impacts. However, it is important to recognise that many older people are very fit, active and do walk and cycle.

185.   We will also work closely with public transport operators to ensure that vehicles and infrastructure are fully inclusive and that people with disabilities receive excellent service and feel safe and secure at all times when travelling.

186.   We have statutory duties to promote equality, celebrate diversity, improve social inclusion and ensure fairness for everyone in Oxfordshire. Our ambitions for equality in the delivery of County Council services are set out in our *Equality Policy 2012-17*. The County Council also has a *Social Inclusion Strategy*, which highlights the importance of improving transport links.

187.   Under the Equality Act 2010, the Council has a Public Sector Duty, which includes a duty 'to advance equality of opportunity between people who share a protected characteristic and those who do not.' The protected characteristics are: age, disability, gender reassignment, marriage and civil partnership (but only in respect of eliminating unlawful discrimination), pregnancy and maternity, race – this includes ethnic or national origins, colour or nationality, religion or belief – this includes lack of belief, sex and sexual orientation.

188.   A formal assessment (SCIA) has been made of this Plan and is available along with the other consultation documents. Similar assessments are required under the Council's Equalities Policy for all new schemes, policies and plans.

> Policy 28 Oxfordshire County Council will consult from an early stage in the development of schemes and initiatives so that the needs of individuals, communities and all groups sharing a protected characteristic under the Equalities Act 2010 are considered and, where appropriate, acted upon.

189.   When assessing the health impacts of transport schemes and initiatives, we will be mindful of the need to address health inequalities, which are often linked with the differences in levels of deprivation between different areas. We are working closely with Public Health colleagues on health issues relating to transport and how they can be mitigated.

Improving air quality

190. In 2015 the county council resolved that LTP4 should be strengthened in its aims to reduce air pollution by more positively:

1. Encouraging walking and cycling
2. Restricting diesel vehicles in town centres
3. Working more proactively with the city and District Councils to develop and enact Air Quality Action Plans
4. Introducing low or zero emission mass transit vehicles

191. Chapter 3 sets out the problem of air pollution from oxides of nitrogen affecting Oxfordshire. This is a serious public health issue, affecting respiratory health. District Councils are responsible for air quality monitoring in Oxfordshire.

192. When an area is declared an Air Quality Management Area (AQMA) because of exceeding levels of particular pollutants, the district or city council is required to develop an Air Quality Action Plan (AQAP). As transport contributes most of the problem pollution (in Oxfordshire this is currently NOx in all cases), many of the potential actions are only possible with the support of the County Council. We recognise our responsibility and will work with District councils to develop appropriate actions, taking into account our overall transport strategy.

193. The following Air Quality Action Plans are in force in Oxfordshire:

- **Oxford City**: The Oxford AQAP covers the entire city within the ring road
- **Cherwell:** Kidlington, Bicester and Banbury
- **West Oxfordshire**: Witney town centre and Chipping Norton
- **South Oxfordshire:** Henley, Wallingford and Watlington
- **Vale of White Horse**: Abingdon town centre, and Botley, adjacent to the A34

194. Measures to support the Oxford AQMA are set out in the Oxford Transport Strategy.

195. South Oxfordshire District Council has drafted an action plan that contains some suggestions on how the air quality issues in these three areas, and South Oxfordshire as a whole, can be tackled.

196. In the Vale, the District Council has drafted an action plan covering the two AQMAs in the district: Abingdon has had an AQAP since 2009, and the Abingdon Integrated Transport Strategy, which smoothed traffic flows in the town centre, has helped to reduce levels of NOx. Botley AQMA has not previously had an AQAP: specific actions to reduce NOx in Botley are very difficult because the pollution is created by the busy A34 managed by Highways England. A 50 mile per hour speed limit on the A34 has been introduced to reduce air pollution; however levels remain above the air quality standard. Work with Highways England to develop a strategy for the A34 will take into account the need to reduce NOx pollution in Botley and support the AQAP.

197.   In Chipping Norton, the AQAP proposed the introduction of a weight limit for HGVs and re-routing of HGV traffic between south-east England and the Vale of Evesham via the A40. This included 'de-priming' the A44 and associated modification to signage but this would require significant local and/or developer funding. Further to this, measures to improve air quality and road safety, will be sought from new development sites, including those allocated in the West Oxfordshire Local Plan, to mitigate the impact of growth on the Chipping Norton air quality management area. The East Chipping Norton Strategic Development Area (SDA) will need to assess the impact of the strategic development site on the town wide transport network and provide appropriate transport infrastructure to mitigate the impact. The County Council will seek infrastructure which is proportionate to the number of houses agreed for the East Chipping Norton SDA which could include a new spine or distributor road where necessary to mitigate the impacts on the town wide transport network

198.   We will continue to work with District Councils to develop transport measures as part of AQAPs for all AQMAs and any that may be declared during the period of this Plan. However, in the context of the very limited resources available, there is a need for a more co-ordinated approach across the county, which also reflects the new Government framework.

199.   Below we set out how this Plan has been strengthened in response to last year's Council resolution:

Encouraging walking and cycling

200.   The Active & Healthy Travel Strategy sets out our plans to enable more walking and cycling, including how they can be promoted in combination with bus and rail services for longer journeys. These have the potential to improve air quality by replacing car trips, particularly in congested urban areas where traffic is the main cause of poor air quality. They can also improve public health – for example the availability of pedestrian and cycle routes which avoid heavy traffic flows can help to reduce exposure to poor air quality.

Restricting diesel vehicles in town centres

201.   In December 2015 the Government published a policy paper 'Improving Air Quality in the UK Tackling Nitrogen Dioxide in our towns and cities UK overview'. This sets out a framework for local authorities to introduce Clean Air Zones, based on Euro 6 for diesel and Euro 4 for petrol, with four options for what vehicles they would cover:
   - Class A – buses, coaches and taxis
   - Class B – buses, coaches, taxis and heavy goods vehicles (HGVs)
   - Class C – buses, coaches, taxis, HGVs and light goods vehicles (LGVs)
   - Class D – buses, coaches, taxis, HGVs, LGVs and cars

202.   Five cities with the poorest air quality will be required to introduce Class B (Derby, Nottingham, Southampton) or Class C (Birmingham, Leeds) Clean Air Zones. London's proposed ultra-low emission zone is likely to include cars i.e. Class D. Other local authorities are encouraged to consider introducing Clean Air Zones, including the upgrade of existing Low Emission Zones (LEZs).

203.   In Oxfordshire, currently, only central Oxford has a LEZ, applying to buses only. This was introduced primarily to reduce oxides of nitrogen (NOx). It currently requires local buses operating in affected streets to comply with the Euro 5 emission standard.

204.   However, the ambition of the Oxford Transport Strategy is to start a city centre zero-emission zone for all vehicles by 2020, with the zone being gradually expanded over time as the required infrastructure and technology develops. This will support objectives to improve air quality and targets to reduce emissions from vehicles. Further private sector investment from operators on all routes will be required, not just the short to medium range services, and be achieved through the deployment of electric buses, advanced electric-diesel hybrid vehicles with an electric drive mode for emission-free operation in built up areas, and routeing changes as outlined above.

205.   As technology improves, vehicles will be able to cross the whole city whilst on full electric power, enabling the creation of a city-wide zero-emission zone by 2035. Vehicles which cannot comply with specific emission standards will be required to terminate at Park & Ride sites outside of the city. However, it is important to stress that each stage in the development of the Oxford zero-emission zone would be subject to consultation and would depend on the widespread availability and affordability of zero-emission vehicles before their use becomes mandatory.

206.   In parallel with the development of the Oxford city centre zero-emission zone, the whole city (plus other towns where Air Quality management Areas (AQMAs) have been declared) will be considered for Class B Clean Air Zones. The aim is to start by 2020; however, this will be subject to other factors which will need to be taken into account:

   • It will be important to take account of the costs and benefits, learning from experience elsewhere, particularly the larger UK cities – which suggests reviewing progress and issues on the five cities referred to above, before committing Oxfordshire to a solution on a more quantifiable basis.

   • Enforcement costs could be significant as the Government envisages camera enforcement for all but Class A restrictions. Only Oxford has camera enforcement, covering certain streets.

   • With the theoretical benefits of Euro 5/6 not being matched by real on-the-road emission levels, it be sensible to wait until the real world outcomes of the latest Euro 6 standards are clearer before committing to this approach in Oxfordshire.

Working more proactively with the City and District Councils to develop and enact Air Quality Action Plans

207.   There is a commitment to work with District Councils in a more co-ordinated way on Air Quality Action Plans. However, further resources will need to be identified if the Council is to develop partnership working with District and local councils to help deal with the most sensitive air quality areas.

208.   The division of responsibility between air quality (districts) and transport (OCC) is not ideal when transport is seen as the both as the main cause of poor air quality and the most effective solution to addressing it. The combined responsibility for these closely related areas is one of the benefits of unitary status; the County Council's recently commissioned study of options for local government in Oxfordshire will need to take this into account.

Introducing low or zero emission mass transit vehicles

209.   The main bus operators have responded to the Oxford LEZ by introducing the latest low emission buses – either hybrid electric or Euro 6 standard.

210.   Looking to the future, we are supporting trials of wireless induction charged electric buses, which run fully on electricity. As technology develops we expect electric buses and other types of low emission public transport vehicles to become more widespread. We will support pilots where appropriate, working with businesses and research institutions. If successful and if funding is available, we will support the provision of the required infrastructure, taking into consideration safety and environmental factors. We will ensure that new infrastructure considers the flexibility to enable the take-up of future low emission vehicle technologies, for example through incorporating sensor or wireless technology in new roads or bus lanes.

211.   Network Rail's programme of electrification means that the proportion of diesel trains through Oxfordshire will reduce significantly over the period of this plan. By 2031 we expect that most of Oxfordshire's passenger rail services will be electric.

Policy 29 Oxfordshire County Council will work with district and city councils to develop and implement affordable transport interventions to support Air Quality Action Plans, giving priority to measures which also contribute to other transport objectives.

Improving road safety

212.   When evaluating the costs and benefits of new road schemes, the Department for Transport uses an estimate of just under £80,000 for the average value of preventing each road accident, however serious. This reflects not only medical costs, but also the suffering of those involved as well as any lost economic output. It excludes the wider costs such as the severe congestion that is often caused even by comparatively minor collisions on the strategic roads in the county.

213.   Our strategy for improving road safety by preventing casualties is set out in the *Oxfordshire Community Risk Management Plan*. Our approach consists of:

- Gaining an understanding of the problem through analysing casualty reports and monitoring the casualty history of all roads in the county, and targeting our work accordingly;
- Changing road users' attitudes and behaviour so they take more responsibility for their own and other people's safety;
- Maintaining transport infrastructure in a safe condition;

- Highway engineering improvements where appropriate, and designing in safety to all new highway schemes including those being constructed as part of new development; and,

- Changing speed limits where appropriate and reinforcing these with specific measures like variable message signing, where this can be justified.

214. During the period of this Plan, technologies to improve safety will very likely be further developed or become more widely available. The Council will respond positively, so that road users in Oxfordshire have the opportunity to take advantage of new technologies, for example through:

- The use of new, safer materials and infrastructure in highway schemes;

- Considering road safety adaptations that may become permissible under new legislation – many of these are likely to relate to in-vehicle technology that will alert drivers to risks and potentially manage, for example, the headways between vehicles; and

- Providing information to support the development of road safety technologies.

215. We process and analyse all reports of injuries on the road received from Thames Valley Police. This allows us to identify collision problem sites and routes, and trends in numbers overall and for specific road user groups, as well as to explore behavioural and other factors. Prompt processing of data allows us to respond quickly to maintenance issues such as gully clearing to reduce localised flooding or worn road markings.

216. Monitoring casualty history allows us to target our behaviour-change programmes, and identify sites that would benefit from maintenance or improvement schemes. Because casualties are dispersed, and therefore the number of casualties at any site is often low, we monitor them over a five year period to detect patterns. However, we acknowledge that many casualties, particularly minor ones that don't involve motor vehicles, are not reported to the police. For this reason, we also receive summary information from the NHS on road accident casualties to complement the police data.

217. We deliver Road Safety Education programmes, sometimes in collaboration with other agencies such as the police or local community safety officer. We use casualty data to identify road user groups most at risk and target our programmes to achieve casualty reduction within those specific groups, either county-wide or to address specific local problems.

218. Each year a proportion of our maintenance budget is spent on planned road safety maintenance schemes, such as rectifying substandard skid resistance. Schemes are identified from analysis of casualty records and surveys. This is in addition to routine maintenance such as cutting vegetation to maintain visibility, and reactive maintenance to repair serious safety defects such as large potholes and damaged safety barriers. As an element of the new Active & Healthy Travel Strategy, we will be submitting walking and cycling priorities for maintenance, while being mindful of limited resources.

219. We investigate road engineering solutions for parts of the road transport network where collisions occur most frequently. It is important to understand the

causes of collisions and that engineering solutions may not always be possible or cost-effective and in many cases may have little impact. An assessment of the priority of a safety scheme will take account of its cost and anticipated accident savings.

220.   We have a legal duty to regulate traffic in the interests of safety, through our powers as a highway authority. It has the power to set speed limits, following strict Government guidance and subject to consultation. Lower speed limits have been found to be effective in reducing casualty rates, in particular on rural single carriageway routes. A general review of the county's A and B roads was completed in 2011, and this may be repeated within this Plan period. However, we will investigate additional changes in response to new development, and our ongoing casualty monitoring.

221.   The minor rural road network outside towns and villages (which are mainly unnumbered roads, but include some comparatively lightly trafficked B roads) are currently subject to the national speed limit of 60mph, but their character and usage (for example by pedestrians, cyclists and equestrians) in many cases makes such speeds hazardous. Although the frequency of accidents is typically low, concerns over safety and the loss of amenity for vulnerable users are often raised. Recent changes to the national traffic signing regulations now permit without specific government authorisation the introduction of 40mph zones, and we will work in partnership with local councils and Thames Valley Police to investigate and promote such zones where they can be justified and funded.

222.   In Oxford, most residential roads were reduced to 20mph in 2009, which has been successful in reducing accidents and encouraging more walking and cycling. Government guidance urges traffic authorities to consider introducing more 20 mph limits, over time, in primarily residential urban areas and built-up village streets, to increase safety for pedestrians and cyclists. We are aware that a number of communities across Oxfordshire have expressed an interest in 20mph limits, and, subject to funding, we will work in partnership with local councils and Thames Valley Police to investigate and promote lower speed limits where they can be justified and funded. This includes areas where lower speed limits could help meet wider objectives, such as encouraging more cycling and walking.

223.   While we use casualty records to target sites for potential engineering or speed reduction improvements, we are also mindful of the importance of perceived safety on people's behaviour: that is where people view a situation as unsafe, even though this may not be borne out by casualty records. This is particularly relevant to our objective to develop and increase cycling and walking. In some locations safety improvements may not appear to be justified by casualty records, but they could remove barriers to walking and cycling, and in particular support parents in allowing children to walk or cycle to school.

224.   People with reduced mobility feel particularly vulnerable, and the fear of a collision or of falling can discourage them from going out. Targeted safety improvements, such as improved crossings, can support the key priority of the Oxfordshire Health and Wellbeing Strategy to support older people to live independently with dignity whilst reducing the need for care and support.

Policy 30 Oxfordshire County Council will identify those parts of the highway network where significant numbers of accidents occur, and propose solutions to prevent accidents.

Policy 31 Oxfordshire County Council will work with partners to support road safety campaigns and educational programmes aimed at encouraging responsible road use and reducing road accident casualties, and will keep speed limits under review, including giving consideration to the introduction of lower speed limits and zones in accordance with the current Department for Transport guidance.

8. Funding and implementation

225. The strategic approach and policies outlined in the preceding chapters will be applied across the whole county in the following ways:

- Through our key role in collaborative strategic land use and transport planning for the county;
- Through our involvement in the development of Local Plans and Neighbourhood Plans;
- In our response to strategic infrastructure and development proposals;
- In our response to planning applications;
- Through the development of area strategies for areas planned for growth;
- Through the development of supporting strategies;
- Through our work with partners to develop transport solutions; and,
- In our decision making process for all aspects of transport for which we have control.

### Development of area, route and supporting strategies

226. For those parts of the county due to experience significant housing and/or employment growth, we have developed Area Strategies reflecting emerging Local Plans for formal adoption as part of this Plan. These include: Oxford; Science Vale (the area encompassing Wantage and Grove, Abingdon, Didcot, Culham, and Harwell Campus), Bicester, Banbury, Witney and Carterton.

227. These set out a clear strategy for transport to guide decision making and support future funding arrangements to mitigate the impact of the growth proposed. We have also set out route strategies for the A40 and A420 and we are considering the need for further route strategies. These will consider the transport impact on smaller settlements and key junctions along the routes.

Influencing and supporting Neighbourhood Plans

228. For smaller towns, villages and rural areas where there is less growth to impact on transport demand and less of an impact on strategic transport networks, in the spirit of

localism we are not planning to develop detailed transport strategies for local communities. Many of these communities are developing Neighbourhood Plans, and we will expect these to set out priorities for transport in keeping with our LTP policies and our freight, cycling, rail and bus strategies and advice in our published Neighbourhood Planning Toolkit.
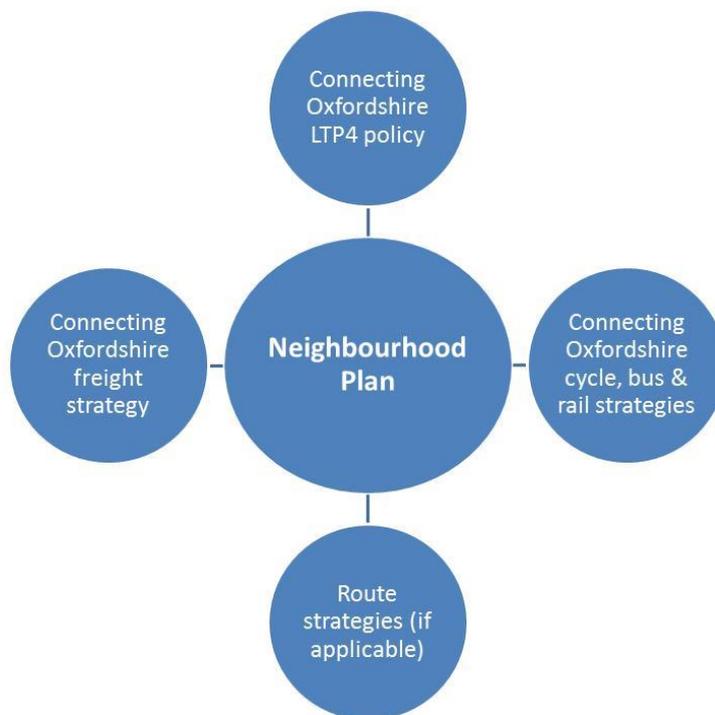
Figure 26: Connecting Oxfordshire's input into Neighbourhood Plans where there is no area transport strategy

Policy 32 Oxfordshire County Council will support the development of Neighbourhood Plans. Where a Neighbourhood Plan has been adopted and providing it is consistent with LTP4, the Council will seek funding to secure the Plan's transport improvements from local developments and the Community Infrastructure Levy as appropriate.

Funding transport improvements

229.   Councils no longer receive funding directly to spend on transport improvements. Capital funding for local projects from the Departments for Transport, Business Innovation & Skills, and Communities & Local Government has been pooled into a single Local Growth Fund (LGF). The Government has given responsibility for deciding on priorities for investment and putting in bids for the LGF to the Local Enterprise Partnerships (LEP).

230.   This means that for each transport scheme for which the Council wants to seek Government funding, it has to prepare a bid and is then dependent on the LEP selecting it for submission. It then is considered in competition with non-transport schemes and schemes from other LEPs across the country. This more challenging route to funding

requires us to prepare strong business cases that show how schemes contribute towards economic growth.

231. From time to time, specific grant funding opportunities arise, but these are moving towards becoming funding streams within the LGF. With tightening local authority budgets, Government revenue grants are particularly valuable, allowing us, for example, to carry out promotional activities no longer affordable from Council budgets. We will seek to bid for every available opportunity that is relevant, which means we need to have schemes and projects ready to put forward.

232. The other main source of funding is from development, via planning obligations. Developers either contribute towards improvements to mitigate their transport impacts, or carry out works under S278 Agreements with the Council.

233. While developments can 'pump-prime' public transport service improvements, in the long term these must be provided commercially because there will be insufficient funds to subsidise further public transport services. Private sector funding is therefore a key part of the funding mix for our transport strategy.

234. We will work in partnership with district and city councils and the LEP through the Growth Board to develop a prioritised programme of capital transport schemes, taking into account the various funding sources. We will also seek to work strategically with other counties or authorities where applicable to secure and develop further funding opportunities. This will be updated annually.

235. In addition, reductions in funding for local government coupled with rising demand for services mean that we have to change the way we deliver public services, with a shift towards enabling people and communities to take ownership of local priorities, including for example maintenance, such as verge cutting. Our Oxfordshire Together programme sets out how we propose to change the way we deliver services by working with communities.

Policy 33: OCC will work in partnership through the Growth Board and developers to meet the objectives of LTP4 and seek external funding to support the delivery of transport infrastructure priorities as set out in the Strategic Economic Plan and forthcoming Oxfordshire Infrastructure Strategy.

Influencing development

236. Much of what we want to achieve depends on how we can guide development. Our approach is both proactive (strategic planning) and reactive (responding to development proposals).One of the ways in which we respond to development is by requiring mitigation under S106 of the Town and Country Planning Act. This is in the form of payments and requiring works to be carried out. The conditions under which this is done are dictated by the National Planning Policy Framework.

237. The County Council works closely with district councils, which are each responsible for preparing a Local Plan. Local Plans - together with any Neighbourhood Plans - form the development plan for an area. They set out the opportunities for development and contain

policies on what will be permitted, and where. The County Council provides transport input and advice into Local Plan development and works with district councils to set priorities for strategic transport infrastructure.

238. In most cases district and city councils decide whether a development can go ahead (the County Council only determines planning applications for minerals and waste developments and Regulation 3 developments, such as quarries and landfill sites). Planning applications should be determined in accordance with the development plan for the area unless material considerations indicate otherwise.

239. The County Council provides pre-application advice to developers on request to help ensure the development proposals meet transport objectives and do not create unacceptable safety or congestion problems.

240. In determining planning applications district councils are legally required to consult and take account of the advice of the County Council in its capacity as highways authority and in relation to its other statutory responsibilities. The County Council provides co-ordinated advice on development proposals through its consultation response on planning applications. This may specify requirements for measures to mitigate the transport and other impacts of the development, which can be secured through legal agreements.

241. The County Council can object to an application but district councils are not obliged to follow our recommendation and need to balance it with other factors.

242. We will work in partnership with the district councils to ensure that new development:
   - Is located in accordance with the relevant spatial planning policies and proposals;
   - Contributes to the timely delivery of improvements to the transport network and services, either for better management of existing infrastructure and services or for the provision of new facilities to support growth;
   - Delivers appropriate highway mitigation works to prevent adverse impacts arising from development
   - Is designed to encourage/support the increased use of sustainable transport;
   - Does not impose undue stress on ongoing highway maintenance costs; and,
   - In terms of the transport and highway elements, complies with current national and local policy guidance, is designed to modern contemporary design standards, and built to the Council's specifications.

243. In responding to consultations on planning applications the County Council will focus greater resources on the assessment of strategic and large major applications which contribute to economic and housing growth and which raise significant issues for the provision of supporting transport and highways infrastructure.

244. Applications need to be accompanied by the right supporting information, including testing through approved transport models, to enable a proper assessment of the proposals and identification of any necessary mitigation measures. The County Council encourages

developers to enter pre-application discussions so that key issues can be identified early and it can advise on the information that is required.

245. For developments which generate significant transport demand, we will normally expect a Transport Assessment to accompany a planning application, or, in the case of smaller developments, a shorter Transport Statement. This sets out the transport issues relating to a proposed development and identifies what measures will be taken to deal with the anticipated transport impacts and contribute towards our transport objectives. It will be used to determine whether the impact of the development is acceptable. We will continue to develop and maintain a robust transport model which should be used by developers to test their schemes for impact and solutions as part of developing their proposals.

246. In particularly sensitive locations, such as Air Quality Management Areas, the environmental impacts of the traffic generated by the development will need to be addressed in a separate Environmental Statement or included in the Transport Assessment.

247. Where the development will generate a significant increase in lorry movements during construction or in operation, the applicant should provide information of routeing arrangements to avoid, where possible, sensitive locations such as Oxford city centre, town centres, villages and residential areas. This may lead to a formal routeing agreement being signed.

248. For developments which generate significant transport demand, we will ensure that there is a comprehensive Travel Plan in place. This sets out how a development will be managed, post occupation, to meet targets to reduce car dependence from the site and promote sustainable travel.

249. The County Council will develop and publish guidance documents to assist developers in meeting our requirements. These are influenced by the guidance of both volumes of Manual for Streets.

Mitigation and developer contributions

250. If proposed new developments are considered to undermine the efficient, effective or safe operation of the transport network, the County Council will expect the developer to remedy any identified impact. This can be either through carrying out remedial works themselves, to our satisfaction, or by making an appropriate contribution to allow this work to be done by us. Where CIL is in place, additional obligations will be sought under S106 for direct mitigation specific to the development.

251. Developers can be required to mitigate transport impacts which occur away from the development site. For example, a pedestrian crossing might be needed to help people get from a new development to the centre of a village across a busy road. Developers are required to protect rights of way or enhance those running over or near their developments; applications for diverting or stopping-up rights of way are dealt with under a separate process.

252. Where the cumulative impact of a number of developments in an area over the plan period will require improvements to transport infrastructure and services, all developments will be expected to provide transport enhancements or make a contribution towards the wider improvements. This contribution will be additional to any works or contributions aimed at resolving any particular problems caused by the development alone.

253. The system for obtaining contributions is likely to change, as districts now have the power to impose a 'Community Infrastructure Levy' (CIL). The County Council will input into the CIL process by agreeing priorities for local transport which will then be used to set the level of the CIL in each district.

254. Our aim is that most new development in Oxfordshire will be located where it can be served by existing high quality public transport services, especially the designated Rapid Transit, Rail and Premium bus routes, and close to our main transport hubs and interchanges. Where the existing public transport is inadequate we expect developers either to secure services in agreement with us, or to provide funding for them. This will normally be required until services reach a point where they are commercially viable and can operate without subsidy. We will also ensure that developers provide high quality sustainable access to public transport services, particularly where the Rail Network, Rapid Transit and Premium Bus Routes can be accessed.

255. Our approach to the use of developer contributions for developing the public transport network and increasing patronage is shown in policy 34 below, and is set out in more detail in our bus strategy. It includes reference to providing more detailed standing advice, which when approved will set out guidance on Section 106 contributions towards public transport from development.

Policy 34 Oxfordshire County Council will require the layout and design of new developments to proactively encourage walking and cycling, especially for local trips, and allow developments to be served by frequent, reliable and efficient public transport. To do this, we will:

- secure transport improvements to mitigate the cumulative adverse transport impacts from new developments in the locality and/or wider area, through effective Travel Plans, financial contributions from developers or direct works carried out by developers;

- identify the requirement for passenger transport services to serve the development and negotiate the provision of these passenger transport services with the developer;

- ensure that developers promote and enable cycling and walking for journeys associated with the new development, including through the provision of effective travel plans;

- require that all infrastructure associated with the developments is provided to appropriate design standards and to appropriate timescales;

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- agree local routeing agreements where appropriate to protect environmentally sensitive locations from traffic generated by new developments;
- seek support towards the long term operation and maintenance of facilities, services and selected highway infrastructure from appropriate developments, normally through the payment of commuted sums;
- secure works to achieve suitable access to and mitigate against the impact of new developments in the immediate area, generally through direct works carried out by the developer