# Connecting Oxfordshire: Local Transport Plan 2015-2031

## Volume 1: Policy Document

DRAFT

## CONTENTS

## Other documents forming part of *Connecting Oxfordshire*

| Document | Status |
|---|---|
| Area Transport strategies | Published for consultation alongside this document |
| Science Transit Strategy | Published for consultation alongside this document |
| Bus Strategy | Published for consultation alongside this document. |
| Rail Strategy | In development – publication for consultation expected 2015 |
| Cycling Strategy | Published for consultation alongside this document. |
| Freight Strategy | Published for consultation alongside this document. |
| Network Capacity Management Strategy | In development – publication for consultation expected 2015 |
| A40 Strategy | In development – publication for consultation expected 2015 |
| A420 Strategy | Published for consultation alongside this document |
| Highways Asset Management Plan | Agreed by Cabinet September 2014 |
| Green Infrastructure Strategy | In development – publication for consultation expected 2015 |
| Oxfordshire Rights of Way Management Plan | In development – publication for consultation expected 2015 |

# 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 southeast England, and yet is a world leader in areas including scientific and energy research, international publishing, bio-technology, car manufacture and motor sport industries.

Current forecasts are for over 85,000 new jobs and 100,000 new homes in the county by 2031. Major development areas identified across the county include Science Vale, Oxford and Bicester, which has recently been awarded 'garden city' status. This 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 (LTP) 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 a public consultation in summer 2014, as well as detailed discussions with a wide range of stakeholders.

You will notice that during this LTP 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, or using public transport. 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* 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 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 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 a set of over-arching transport goals:

- To support jobs and housing growth and economic vitality
- To support the transition to a low carbon future
- To protect, and where possible enhance Oxfordshire's environment and improve quality of life
- To improve public health, safety and individual wellbeing

To achieve these, we have developed ten objectives for transport, set out in Table 1. These are set within three themes, 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, cycle 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 £28,767 in Oxfordshire in 2013, compared to the UK average of £23,755. Meanwhile, its population is rising: it is home to around 635,000 people, a figure that has grown by over 10% in the past decade. Economic and population growth is due to continue: the SEP programmes a growth in Oxfordshire of 100,000 homes and over 85,000 jobs.

| Goal | Theme and section in *Connecting Oxfordshire* | Objective |
|---|---|---|
| To support jobs and housing growth and economic vitality | 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 |
| | | Develop a high-quality, resilient integrated transport system that is attractive to customers and generates inward investment |
| To support the transition to a low carbon future | Cutting carbon | 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 |
| To support social inclusion and equality of opportunity<br><br>To protect and where possible enhance Oxfordshire's environment and improve quality of health<br><br>To improve public health, safety and individual wellbeing | Improving quality of life | 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*

Although Oxfordshire's transport system has undergone and is undergoing a number of improvements, it will face a major challenge to cope with the number of new homes and jobs expected in the county over the coming years by the SEP. Public transport is currently crowded in many areas and roads are congested, especially in areas around the Knowledge Spine and 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 uncertain central government funding and therefore a need to identify new, innovative ways of solving transport problems and of resourcing projects, working with businesses, researchers and the public in Oxfordshire through our Science Transit Strategy.

**Supporting growth and economic vitality**

*Connecting Oxfordshire* supports 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 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.

We will work with partners in the Highways Agency and district councils to introduce enhancements to road capacity on strategic roads suffering from congestion and delays. A longer term solution is needed to alleviate congestion on the A34, to accommodate planned development and trip growth. We are developing a series of improvements to the A40, for Local Growth Fund and City Deal funding, and are developing a strategy options report that will identify further investment in longer-term solutions. The A420 is another important principal route running through our county, linking Oxford with Swindon, which operates over capacity at peak time, and we have developed a strategy to address this. 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 in *Connecting Oxfordshire* volume 2 outline local transport improvements that may be required to accommodate the development identified for those areas.

Through our involvement in strategic planning, we will seek to ensure that the need for additional road infrastructure is minimised. By locating housing close to jobs where people can walk or cycle to work, by providing high quality public transport links to development sites and using 'nudge' measures such as providing residential parking away from houses in new developments, the car will not be perceived as the default means of transport. If we continue to see the same proportion of journeys made by sole-occupancy private car in the future, we will simply not be able to accommodate the trips that people want to make. We will support measures that

make more efficient use of transport network capacity and encouraging a greater proportion of journeys to be made on foot, by bicycle, 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 with measures to improve the transport of freight within and through Oxfordshire, while reducing the impact of Heavy Goods Vehicles on communities. All roads function as a link, but some also function as a place. 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.

Our transport strategy relies on public transport being sufficient and attractive enough to replace 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 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, while promoting projects promoting innovation in mobility and integrated transport delivery, including the Oxfordshire Journey Planner.
- Our Bus Strategy sets out how we will work to improve the county-wide bus network, developing bus rapid transit services along the busiest routes, upgrading Premium services in the county and developing the wider bus network.
- We are also developing a rail strategy setting out our ambition and priorities for rail investment, in partnership with Network Rail and train operators. This was informed by a rail demand forecasting exercise by the Council in 2013, which forecast an increase in passenger demand by 68% to 2026, most of the growth being generated by new rail investment. Better integration of rail and strategic bus networks and enhancing access to local rail stations by the provision of cycle parking are also improvements we will seek.
- We will also support the development of air travel services and facilities to support economic growth across the county, including supporting growth at London Oxford Airport.

In some cases, making public transport more attractive will not be enough to deter car use and the introduction of a Workplace Parking Levy or other constraint may be necessary. The Oxford Transport Strategy sets out proposals for this, as well as for restrictions on more routes in the city. We will manage the parking under our control

and work with district councils to ensure that overall parking provision and controls support the objectives of local communities and this plan.

Public transport may not be available to all those without a private car but who need access to job opportunities, education, retail, leisure and culture, and health services, and taxis may not always be affordable. When developing walking and cycling networks for towns, they must include connections to areas less well served by public transport. For when walking and cycling is not an option, 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.

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 often 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.

**Cutting carbon**

We will seek to ensure that the location, layout and design of new developments minimise the need for travel. Approximately 12% of people in Oxfordshire work mainly from home and there is clearly potential for this to increase. We are working in partnership with the government and BT to bring high-speed broadband to 90% of homes and businesses by the end of 2015 and we will continue to make this a priority for new developments.

Walking is a healthy, free, low carbon and on-demand form of transport. It can be built into every journey, whether from origin to destination or to travel to bus stops and rail stations. In area strategies we will review walking networks and focus capital improvements on routes with the greatest potential for increasing the numbers of people walking, particularly where improving the pedestrian environment would improve accessibility, support economic growth and reduce car use. We will focus on improvements that make routes safe for all users, such as pedestrian crossings and improved surfaces, but will also improve the pedestrian environment and make other design improvements to improve people's enjoyment of the public space.

Cycling as a means of transport emits zero carbon in use. Where trips by bike replace private car or public transport trips, this helps to reduce carbon 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. We aim to triple the percentage share of people who cycle to

work in the county. This is outlined in our cycling strategy and the individual area cycling strategies developed or under development.

We will ensure that new development adheres to the principles and philosophy set out in the DfT's *Manual for Streets*. In residential areas this will include restrictions on parking, 20 mph speed limits where appropriate 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 carbon forms of transport, including electric vehicles and associated infrastructure where appropriate. We will work through our Science Transit Strategy to develop and introduce low carbon 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.

**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 work to reduce negative environmental impacts of the development of new infrastructure and the impact on biodiversity of environmentally damaging forms of transport. We will manage our highway assets to reduce their impact on the environment; details of how we will do this 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 also 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 develop Oxfordshire's 'green infrastructure', which includes our public rights of way network. Details of our plans will be set out in the forthcoming Oxfordshire Green Infrastructure Strategy and Rights of Way Improvement Plan.

The county's population 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 and using public transport for other 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.

Improving accessibility to deprived areas is an important outcome of this plan. Improving accessibility to those less able to use our existing infrastructure is also important. The population has aged, with the number of people aged 65 and over increasing by 18% from 2001 to 2011, although Oxford itself has a smaller population of older people and a much larger population in the 20-30 age group. Public transport needs to be available to disabled people and, as the population ages, our public transport must be accessible to elderly people and the mobility impaired. We 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.

Road safety is an important objective for any transport authority, because of the harm done to individuals by road traffic accidents and also because of the impact on the economy from congestion caused by such accidents. We 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, and 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. 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 20 mph 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.

We will use this plan to influence the development of Neighbourhood Plans and seek to influence them with a view to consistency with *Connecting Oxfordshire*. We will work in partnership with the Local Enterprise Partnership, district councils, the Highways Agency and developers to meet the objectives of the plan and seek external funding to support the delivery of transport infrastructure priorities as set out in the SEP, City Deal and Local Investment Plan.

# 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'.

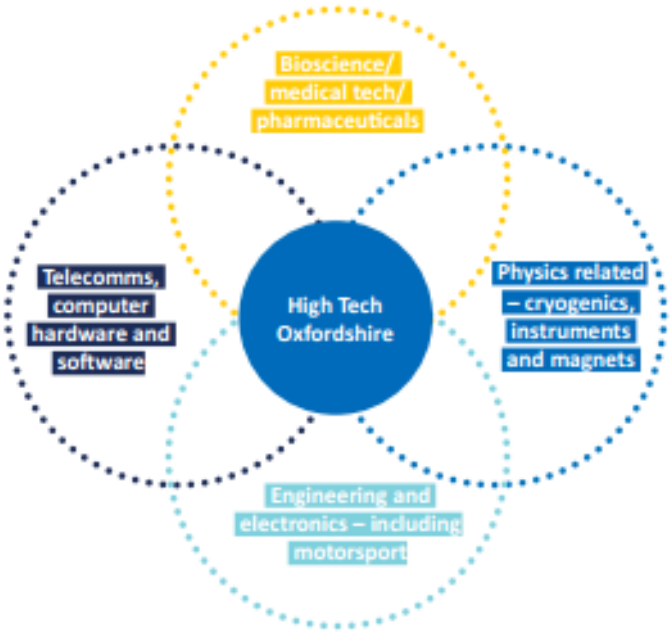



*Figure 1: High Tech Oxfordshire (Source: Oxfordshire Strategic Economic Plan, 2013)*

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 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 Vale2, the Enterprise Zone, and beyond.

[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.

[3] 2011 Census data

3. The 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 funding which is available locally via the LGF, 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 link Oxford to Milton Keynes and Cambridge by rail for the first time since 1967, and direct rail access from the west into Heathrow. Additionally, the Highways Agency is developing a route based strategy linking Southampton and the East Midlands, which will include improvements to the A34.


*Figure 2: Oxfordshire's Knowledge Spine [Note – this diagram is under review!!]*

6. Not all of the workers employed in the Knowledge Spine will live there – Witney and Banbury in particular are already home to a large number of commuters. Transport links between these towns and the Knowledge Spine will become even more important for bringing workers in to the expanding high tech industries. Elsewhere, where a business case cannot be linked to the SEP, it will be more challenging to obtain central government funding for transport schemes, and there will be more reliance on developer funding.

7. *Connecting Oxfordshire* 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, thereby providing a basis for securing transport improvements to support development countywide.

## Goals for transport

8. While this Local Transport Plan 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. It guides the Council's policy making across all services, and is the long-term plan on which the Council's annually updated Corporate Plan is based. 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.
- 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 and 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 for *Connecting Oxfordshire*:

**Through transport improvement and innovation across Oxfordshire, our goals are:**

- **To support jobs and housing growth and economic vitality;**
- **To support the transition to a low carbon future;**
- **To support social inclusion and equality of opportunity;**
- **To protect, and where possible enhance Oxfordshire's environment and improve quality of life; and**
- **To improve public health, safety and individual wellbeing.**

11. To achieve these goals we have developed ten objectives for transport. In this document they are grouped under three themes:

**Theme 1: Supporting growth and economic vitality (Goal 1)**

- **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, resilient integrated transport system that is attractive to customers and generates inward investment.**

**Theme 2: Cutting carbon (Goal 2)**

- **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.**

**Theme 3: Improving quality of life (Goals 3, 4 and 5)**

- **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.**

## The scope of *Connecting Oxfordshire*

12. *Connecting Oxfordshire* builds on an existing programme of highway and transport schemes focused on unlocking economic growth up to 2021. *Connecting Oxfordshire* 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 most of the Local Plans being put in place by Oxfordshire's district councils. *Connecting Oxfordshire* considers the needs of residents and the county's employers, as well as people travelling to and through Oxfordshire, including tourists.

13. It has been developed with Oxfordshire's district 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.

14. However, the situation with regard to local plans is still evolving, largely as a result of the 2014 Oxfordshire Strategic Housing Market Assessment. *Connecting Oxfordshire* is based on the pattern of development currently envisaged through emerging local plans, but these are likely to change. In particular, there will be a requirement to allocate additional housing that cannot be accommodated within Oxford's boundaries in order to meet the city's housing needs. A comprehensive approach is needed to ensure the planning of new housing and employment growth across the County is integrated with the planned investment in strategic transport infrastructure. This work is likely to require a further update of *Connecting Oxfordshire* when options are fully considered and decisions made.

15. *Connecting Oxfordshire* closely links land-use and transport planning, and aligns with the National Planning Policy Framework (NPPF). The NPPF states (paragraph 30):

> '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.'

It takes into account national and local transport and enterprise policies. This input is outlined in Figure 2:

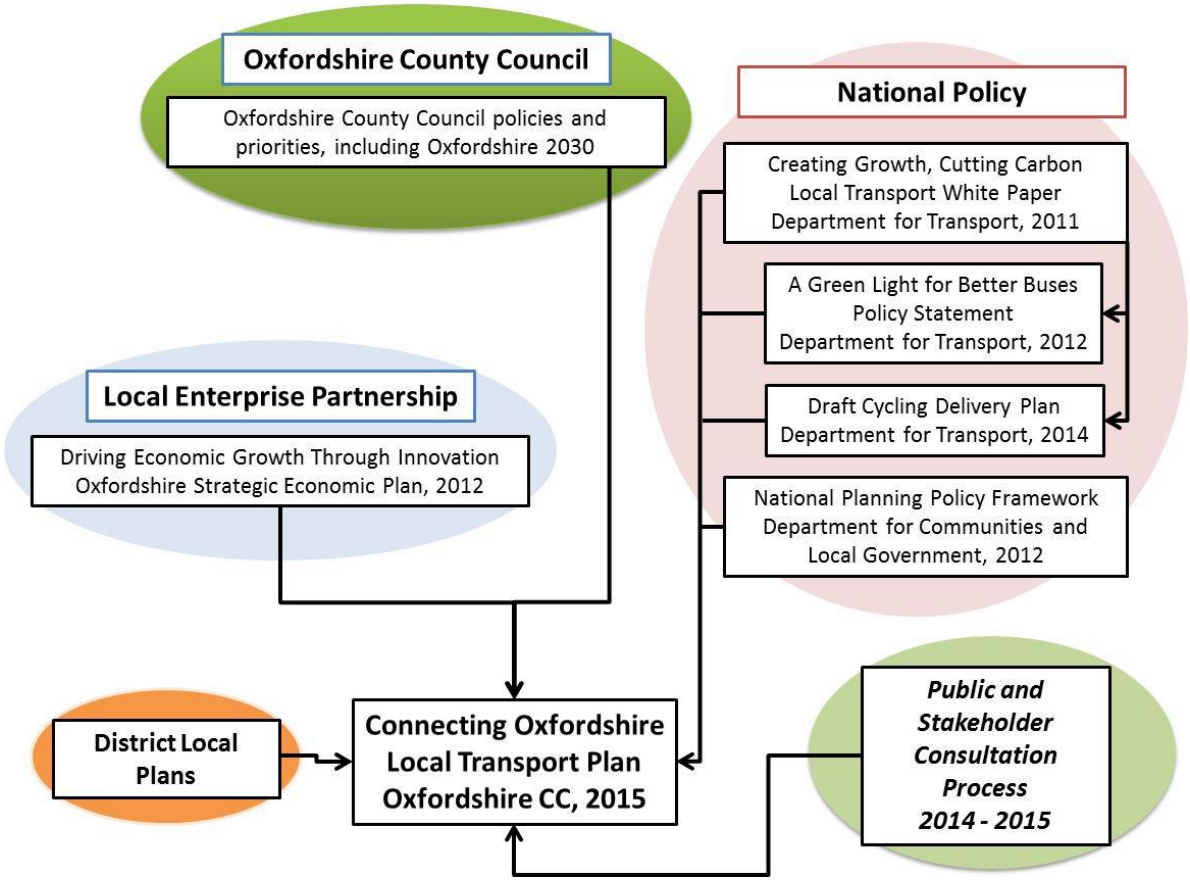



*Figure 3:* Connecting Oxfordshire*'s relationship with national and local transport and planning policies and with the Oxfordshire Strategic Economic Plan*

## Strategic approach

16. Our strategy for the period 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 perspective. It is vital that a smaller proportion of journeys, or of the length of journeys, are made by sole-occupancy private vehicle, and that more journeys are made by methods 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, mindful that any additional capacity has the potential to generate additional car traffic.

17. Fully loaded buses travelling along an urban road can accommodate roughly eight times the number of people than could be travelling along the same road in fully loaded cars and the bus network in Oxford city centre is subject to a low emission zone. A bicycle takes up only one fifth of the road space of a car. Using rail or walking uses no road space at all. Wherever feasible we will be seeking to make the best use of road space by giving priority to non-car transport.

18. Spreading travel demand onto non-car methods of transport will as far as possible be achieved through making them more attractive to car drivers than the car. In some cases, restrictions on car use will increase as congestion impacts on journey times and premium space for parking becomes ever more expensive. A number of employers, such as the University of Oxford, already charge for staff parking to reduce demand for car travel. There will be increasing pressure on bus and rail capacity, so an important part of our strategy is to reduce the need to travel at all, through the use of technology enabling people to work and access services from home or in their communities, and, most importantly, through a strategic approach to land-use planning, which involves reducing the number and/or distance of journeys that people need to make.

19. The level of HGVs on roads in our county can be managed or even reduced by increasing the proportion of freight journeys made by rail. Oxfordshire's rail network already carries significant volumes of freight, particularly between the port of Southampton and the Midlands and North of England. In summer 2015 there will be a substantial increase in capacity for freight trains on this major rail freight route, which acts as part of the European TEN-T North Sea – Mediterranean transport corridor. This increase in capacity will be due to the completion of Network Rail's upgrade project around Reading station, which will enable freight trains to link between the Basingstoke line and the slow lines to Didcot without crossing the main high-speed lines. The future electrification of this route and the re-opening of the rail route from Oxford to Milton Keynes will augment these improvements for both passenger and freight.

20. These rail upgrades provide a major opportunity to reduce congestion caused by HGVs travelling through the county on the A34. It will also offer more rail capacity for freight arriving and departing from Oxfordshire, which currently includes aggregates, waste, MOD supplies and finished Mini cars. Rail freight is most competitive in transporting heavy and bulky items like these and we will promote a shift of such goods from road to rail as part of *Connecting Oxfordshire.* However, road transport is necessary for many goods, while providing the bulk of the 'final mile' transport for goods arriving by rail. The growth of light manufacturing, service industries and changing shopping habits – with more click-and-collect and home delivery purchases – means that journeys by delivery vans are increasing in number.

# 3. Oxfordshire now and in 2031

## Oxfordshire now

### Population and health

21. Oxfordshire is home to around 635,500 people, a figure that has grown by 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.

22. 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.

23. 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.

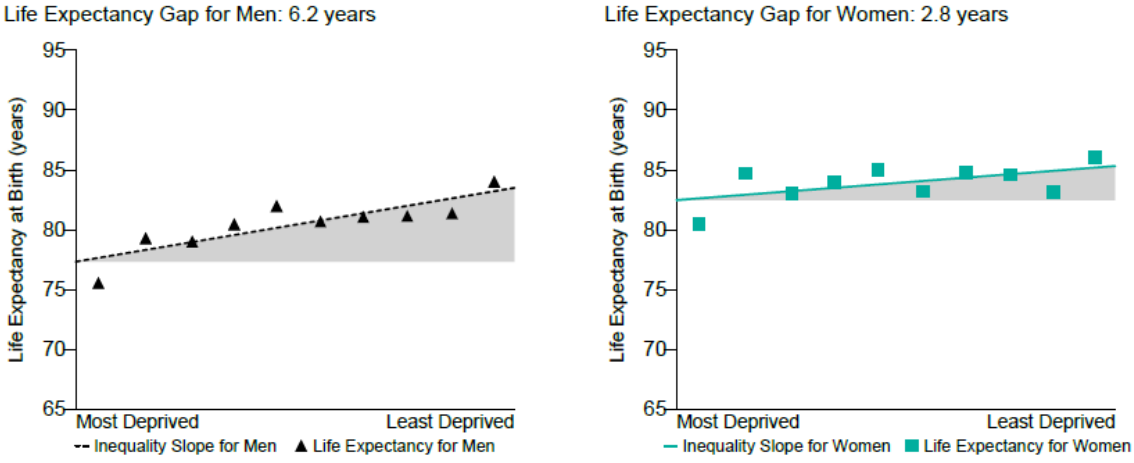



*Figure 4: Life expectancy gap between most and least deprived wards in Oxfordshire (Source: Public Health England Health Profile 2014)*

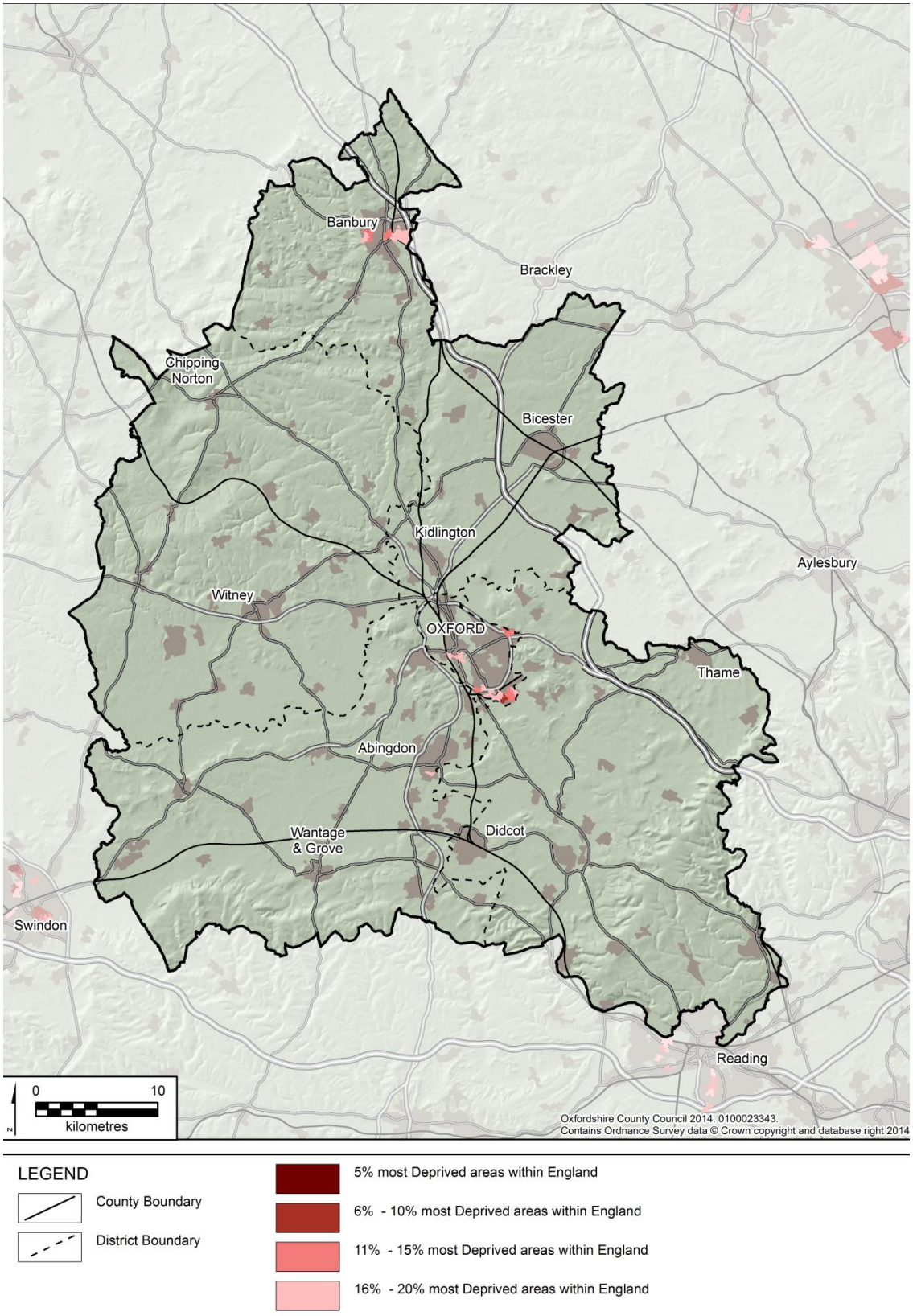



*Figure 5: Deprivation in Oxfordshire: wards containing areas among the 20% most deprived in England (Source: DCLG Index of Multiple Deprivation)*

### Natural and historic environment

24. 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. 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, but flood most winters with increasing severity and regularity, affecting the transport network and hundreds of homes.

25. 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. 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 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.

26. Oxfordshire 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, both for visitors in its own right and for day trips by visitors to London.

### Economy and travel characteristics

27. 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, as well as business and academic travel 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 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 as part of a 'Knowledge Spine' through central Oxfordshire.

28. 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.

29. 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 2013 Oxfordshire contributed £19.2 billion to the UK economy, giving it a 1.3% share. Workplace Gross Value Added per head in Oxfordshire averaged £28,767 in 2013, compared to the UK average of £23,755.

30. 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.

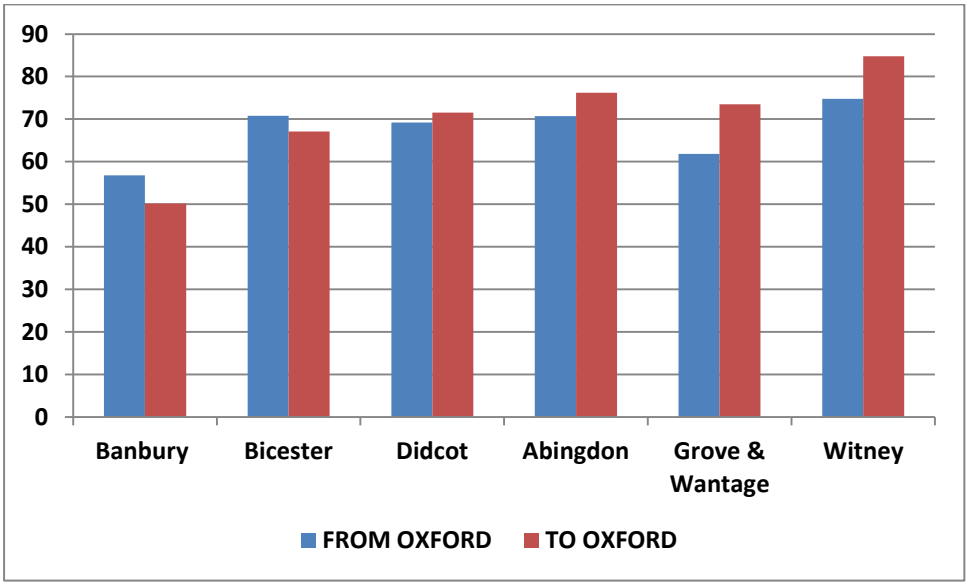
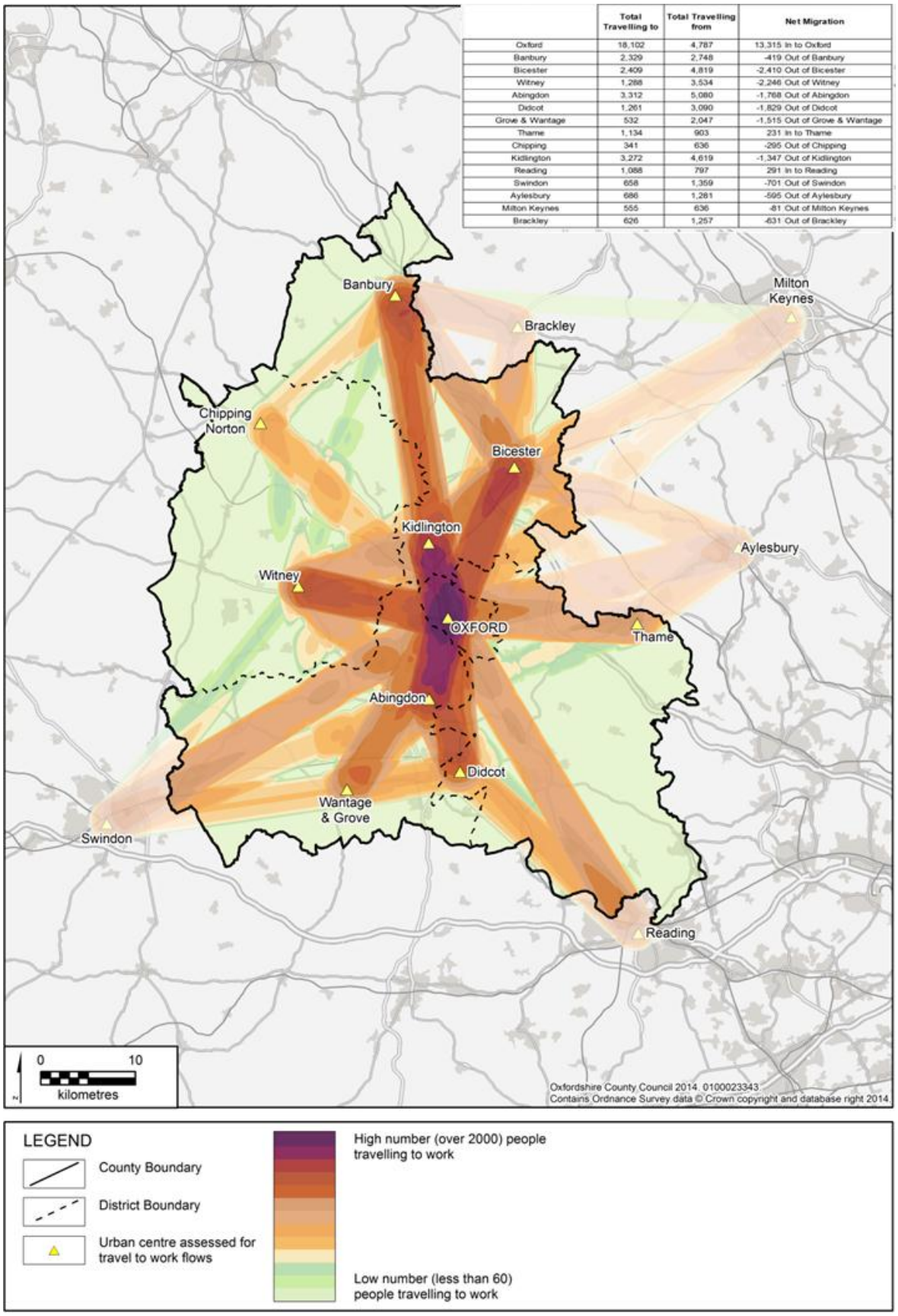



*Figure 6: Car commuting between Oxford and large Oxfordshire towns as a percentage of overall commuter journeys [Source: Census 2011]*




| | 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 |

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

31. Oxfordshire enjoys a location within easy reach of major cities including London, Birmingham and international gateways such as Heathrow Airport and Southampton. However this also means that there is a high volume of through traffic which can result in long delays to local 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. Because 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.

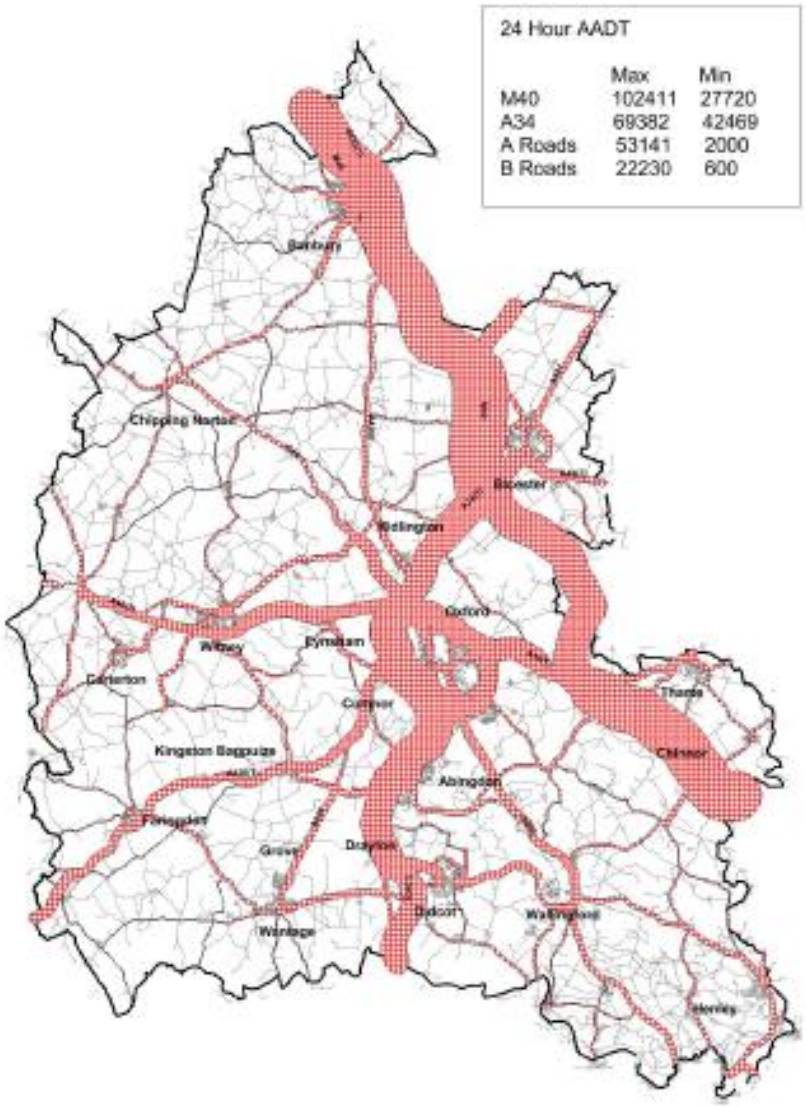



*Figure 8: Annual average daily traffic flow bandwidth map – based on automated traffic counts throughout Oxfordshire. (Source: Oxfordshire County Council Transport Monitoring)*

32. 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 availability and success of Park and 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. 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 on the eastern fringes of Oxford.

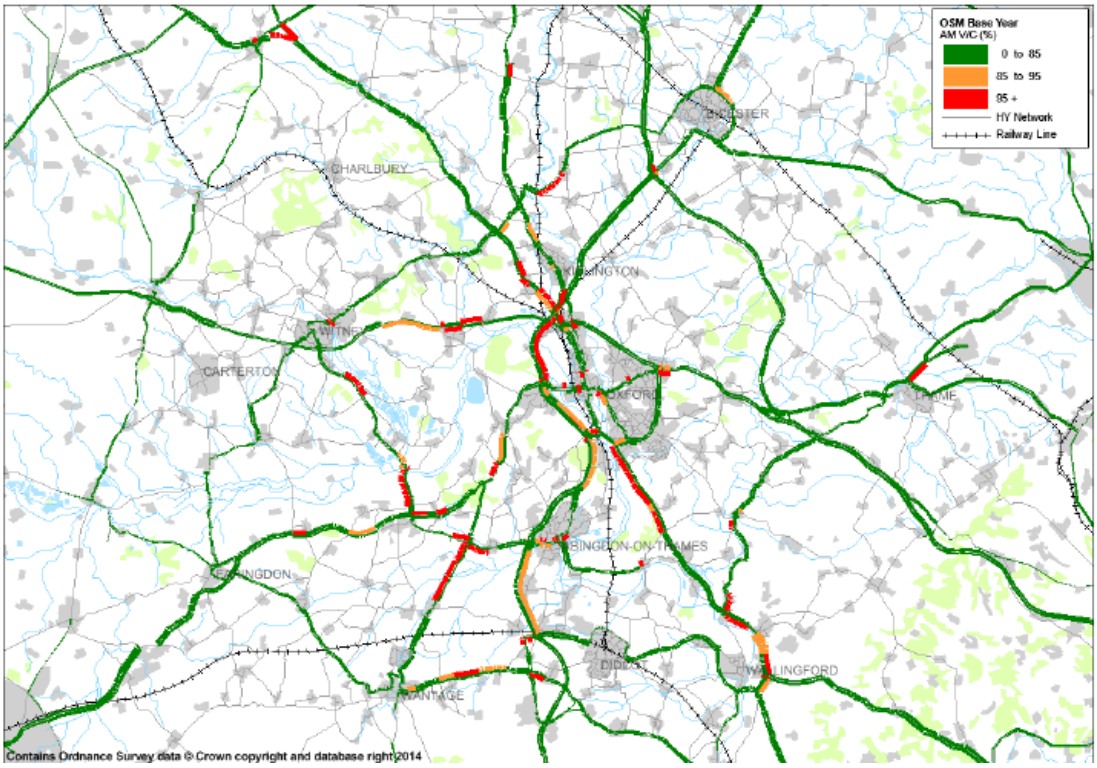



*Figure 9: **Highway Network in the morning peak – volume of traffic in relation to road capacity (85% to 95% = at capacity, 95% plus = over capacity)***

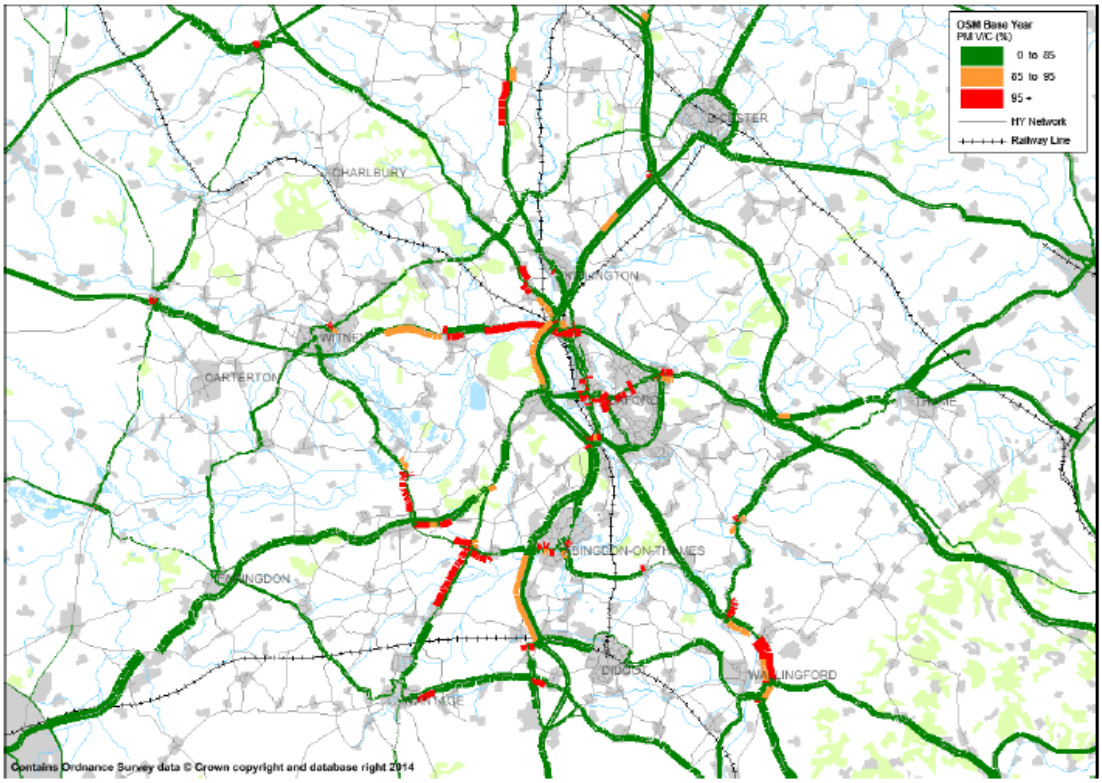



*Figure 10:* ***Highway Network in the evening peak – volume of traffic in relation to road capacity (85% to 95% = at capacity, 95% plus = over capacity)***

33. Within Oxford, there is a mature and well-used network of largely commercial bus services, including regular services to the city centre from five park and ride sites on the edge of the city. The five major 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 modern and around 50% of the fleet are electric hybrids.

34. Within Oxfordshire's towns, bus networks are relatively under-developed, offering slow, infrequent routes that are more suited to shoppers than commuters. 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.


*Figure 11: Oxfordshire's strategic bus network*

35. In rural areas, away from the main transport corridors leading to Oxford, the county has a network of subsidised local services providing a basic service linking to local town centres. There are 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.

36. Many people without cars, especially disabled people, the elderly and those living in areas that do not have a regular bus service, rely heavily on taxis, which are regulated by the district councils. Over 8250 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. In Oxford city, socio-economic conditions and high housing density provide suitable conditions for commercial car clubs to succeed, and 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 and offered by our integrated transport unit.

37. 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.

### Maintenance

38. 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. This has led to large numbers of claims for damage to private cars, and some for damage to cycles. 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.

39. 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

40. 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 continual improvements in the fuel economy of new cars slightly offset by continuing growth in road traffic volumes. This was followed by a fall of 8% between 2007 and 2009, mainly due to reductions in road traffic volumes 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 reduce emissions in the UK by at least 34% by 2020 and 80% by 2050, from 1990 levels.

41. More immediate and localised effects are felt from emissions of oxides of nitrogen (NOx), which cause respiratory illness and shorten lives. The biggest contributors are heavy diesel engines, and at some locations in the county, NOx levels affecting people near roads exceed maximum levels, and 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 in Oxford and on inter-urban services arriving in 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.

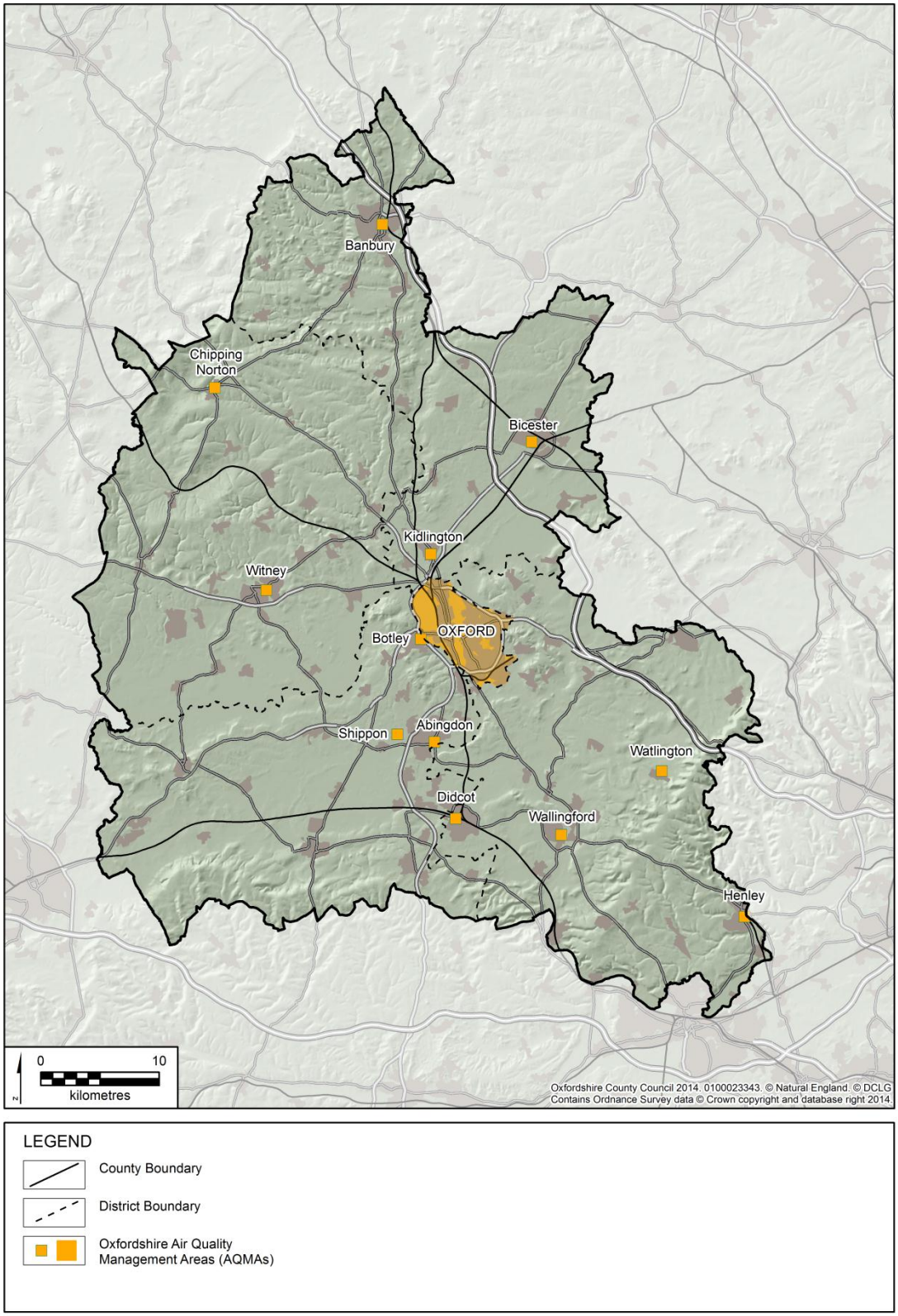



*Figure 12: Air Quality Management Areas in Oxfordshire*

## Road safety

42. While every casualty is one too many, since 2005 there has been a general downward trend in people killed and seriously injured (KSI) on our roads and footways. There were 25% fewer casualties overall in 2013 compared with the average of 2005-2009 figures. This is in line with the reduction nationally.

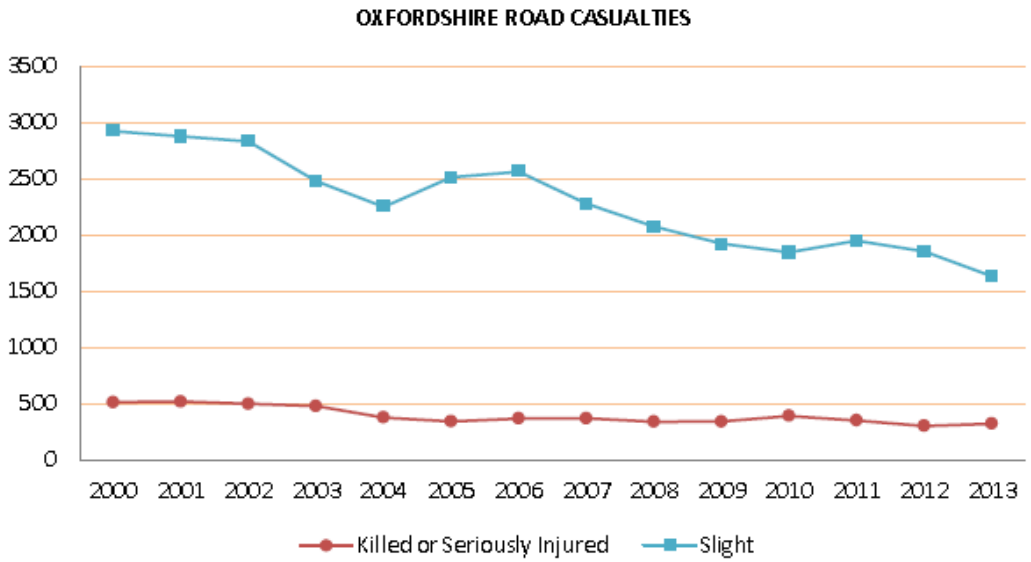



*Figure 13: Oxfordshire road casualties 2000-2013*

43. The notable exception to the downward trend is in pedal cycle casualties, which are 8.2% higher, though this is much less than the increase nationally, of 18%. This needs to be seen in the context of increasing numbers of people cycling, but nevertheless pedal cyclists nationally suffer around 15 times more casualties per billion miles than do car occupants.

44. Motorcyclists continue to suffer a disproportionately high casualty rate (around 22% 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 billion miles than car occupants.)

45. 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.

46. *Connecting Oxfordshire* seeks to address existing problems arising from the issues described above. It includes a number of schemes already 'in the pipeline', particularly aimed at reducing congestion where it is damaging the economy or hindering economic growth. Looking ahead to the future, *Connecting*

*Oxfordshire* needs to address the exacerbation of existing problems due to the high level of housing and economic growth expected in the county, 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 transport infrastructure.

## Oxfordshire in 2031

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

48. 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 (below) 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.

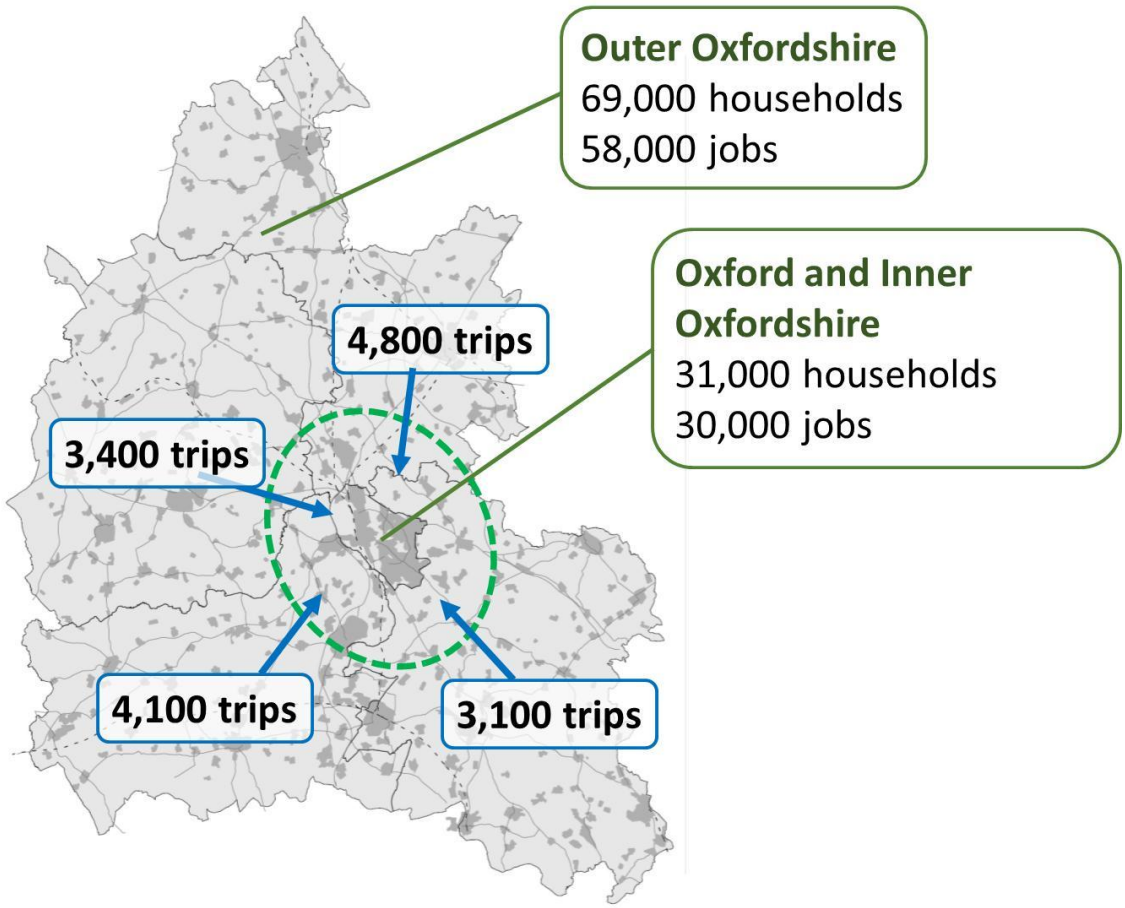



*Figure 14: Strategic housing and employment allocations in Oxfordshire in 2031 (SHMA housing growth & Cambridge Econometrics jobs forecast), with our estimate of additional commuter trips into Oxford*

49. Population projections have recently been carried out for Oxfordshire up to 2052, and they vary widely depending on various scenarios. The high-end projections indicate that the county's population could almost double (1.15 million by 2052), while the low-end projections suggest population growth by 10% to 723,000. This plan is only to 2031 but nevertheless, the trajectories towards each of these projections will vary significantly by that point.

50. The impact of housing and jobs growth on the county's transport networks, taking into account planned 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.

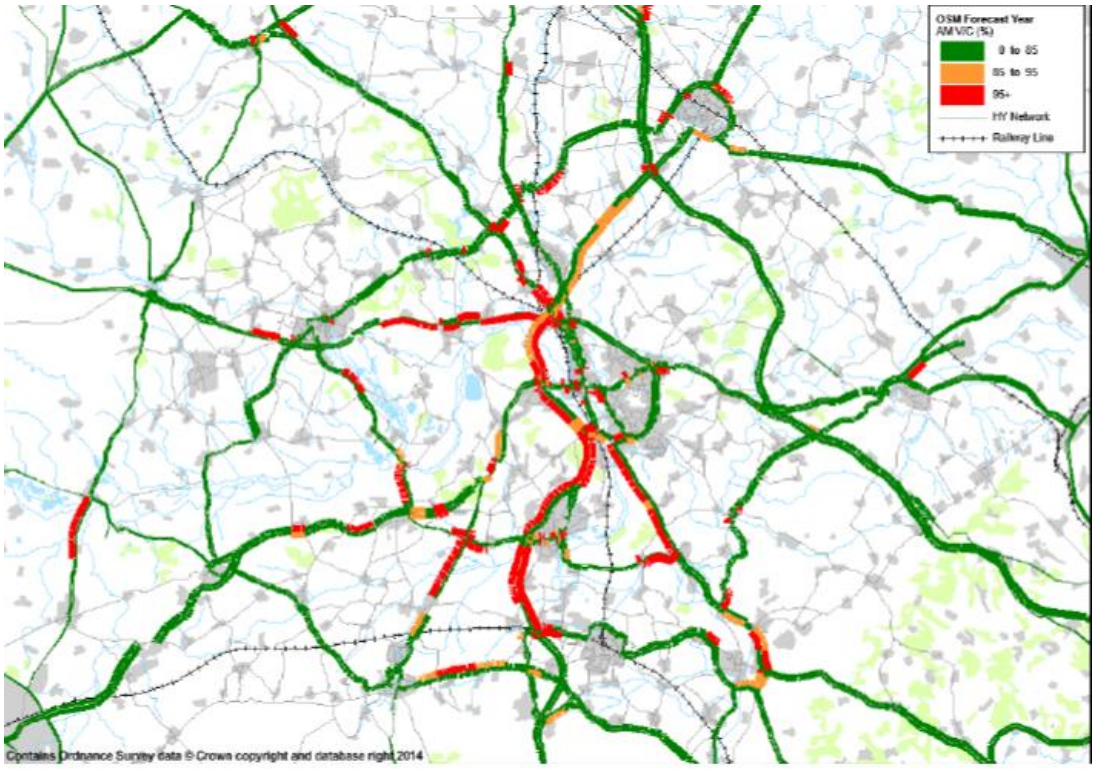



*Figure 15: Highway Network in the morning peak in 2031 – volume of traffic in relation to road capacity (85% to 95% = at capacity, 95% plus = over capacity)*

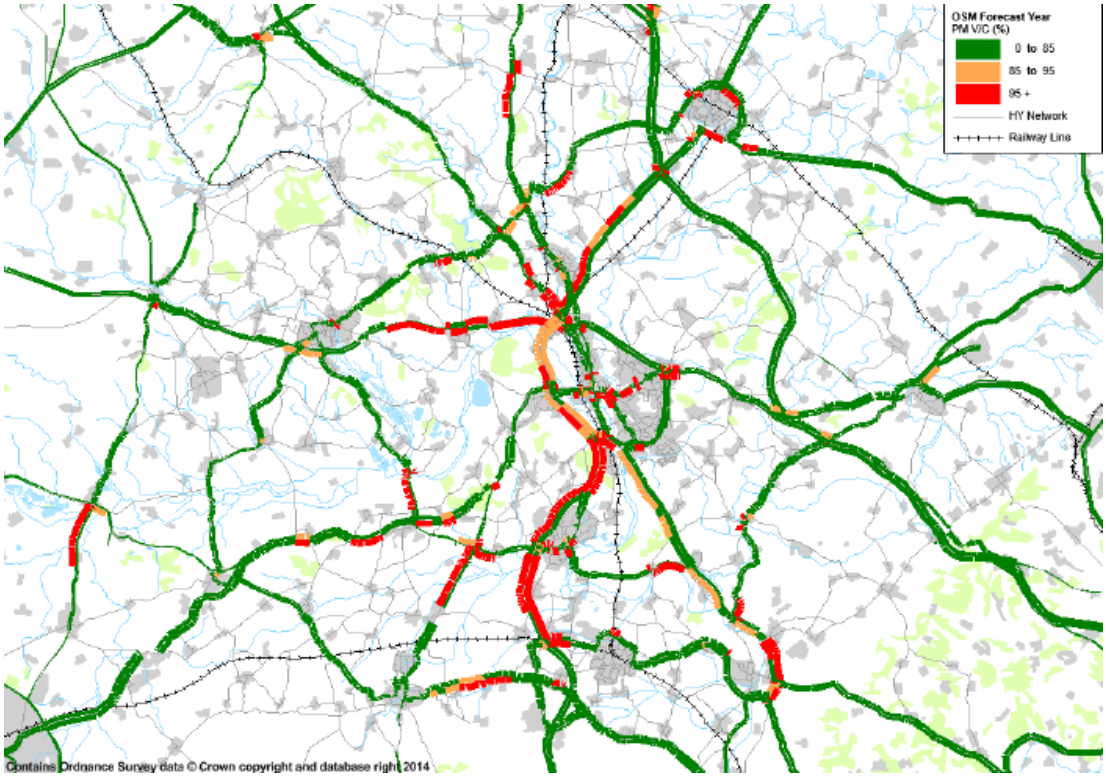



*Figure 16: Highway Network in the evening peak in 2031 – volume of traffic in relation to road capacity (85% to 95% = at capacity, 95% plus = over capacity)*

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 will also change travel patterns and have wider impacts in Oxfordshire. Notable new schemes include the Highways Agency's capacity improvements on the A34, and East-West Rail, which will provide access to Milton Keynes and beyond, as well as rail access to Heathrow from the west.

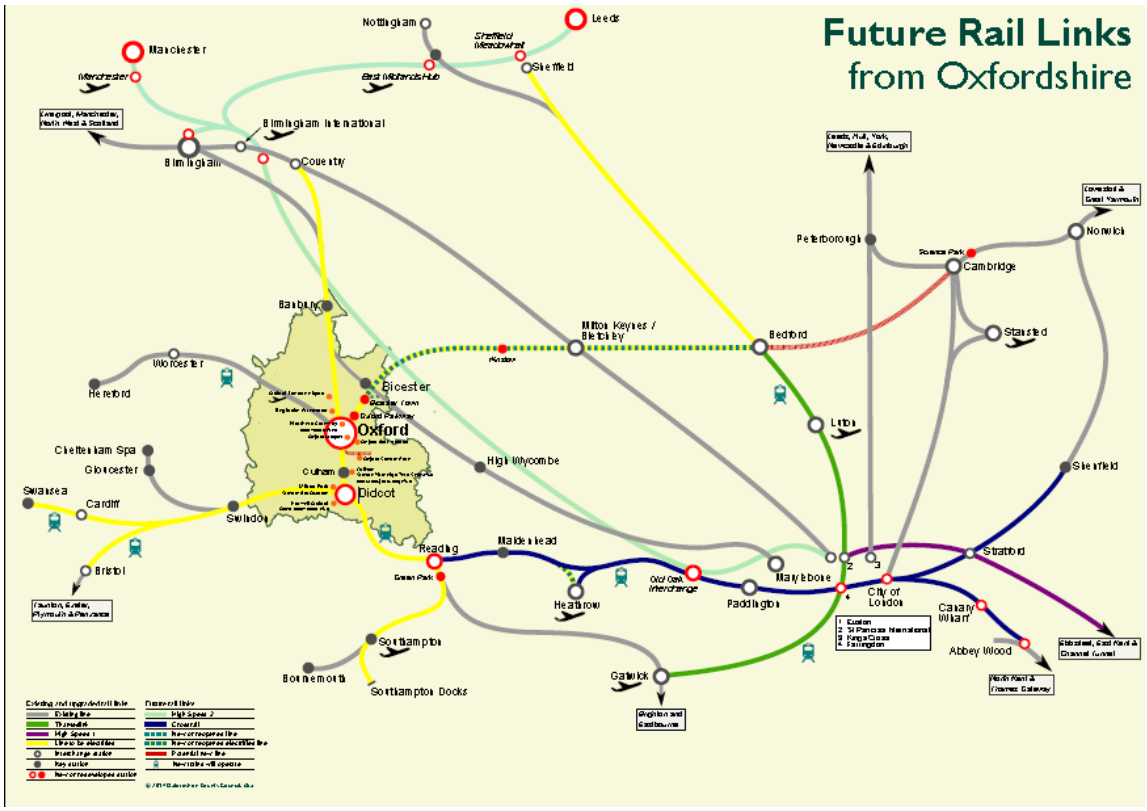



*Figure 17: Future rail links from Oxfordshire*

52. As the population and economy grows, more and more goods will need to be transported. The plan period is set to see significant rail freight growth, which may offset or reduce the growth in HGV traffic. However, rail freight will not be sufficient to provide for the increase in goods travel around Oxfordshire, which will predominantly be in the form of light commercial vehicles such as vans. Furthermore, rail freight will still need to travel by road to its end destination.

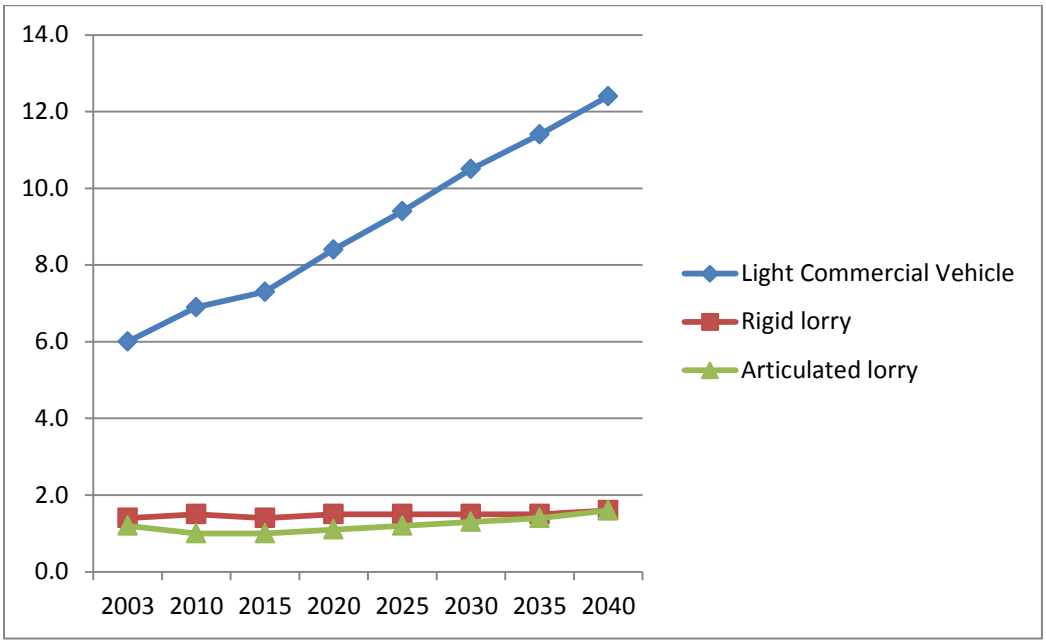



*Figure 18: Forecast growth in freight on all types of roads in south-east England excluding London, billion miles per year (source: Department for Transport Road Traffic Forecasts 2013 – central forecast)*

53. Emissions from transport will increase, but not proportionately to the growth in motor traffic, due to technological advances. Supported by government policy, uptake of low emission vehicles is set to increase. However, this depends on the success of the policies to support uptake, and market conditions. NOx emissions from HGVs are likely to increase, due to increasing mileage, and a slow replacement rate for vehicles. It is likely that air quality will become a problem at more locations in the county.

54. Even if UK greenhouse gas emissions targets are reached, climate change will continue to generate extreme weather conditions: the county's transport networks will be under attack from more frequent flooding, and harsh winters will continue to damage roads.

55. Growing levels of motor traffic 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. However, planning policy will result in older peoples' housing developments alongside homes for workers in the new urban areas. In rural areas, people without access to a car will find it harder

to get about if fewer non-commercial bus services are supported. This will particularly affect the older population at first, but in the future, more older and disabled people will be able to drive: fewer will never have driven, and more will be capable of driving due to advances in vehicle technology.

57. Advances in technology will offer huge potential to monitor and manage transport networks more efficiently. 'Big data' collected via sensors, mobile devices and the 'internet of things' can be used to predict network conditions. Intelligent transport systems can then deploy direct control such as altering traffic signals, and information strategies to influence travel behaviour. Autonomous vehicle technology has the potential to reduce safe headway between cars and thereby increase traffic flow. Given the rapid pace of technology, developments could dramatically affect mobility in ways we cannot currently predict.

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. Many younger city-dwellers no longer see the car as a status symbol, although how far this attitude will extend beyond big cities is uncertain.

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 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?

60. Above all, progress of the economy out of recession may not run smoothly, and this uncertainty favours transport solutions that are incremental and scaleable to respond to demand.

## 4. Supporting growth and economic vitality

Objectives:

- **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, resilient integrated transport system that is attractive to customers and generates inward investment.**

61. *Connecting Oxfordshire* supports the Strategic Economic Plan (SEP), the economic growth strategy for the county. The SEP focuses 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 prioritised for attention, 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.

62. 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, especially Heathrow Airport. This gives business travellers and tourists easy access, and enables airfreighted goods to reach their destination quickly. Avoiding delays to components and finished goods is also very important.

63. 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 economic vitality of the county 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 cultural, visitor and heritage 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.

64. 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.

65. To support economic growth and vitality, we will make transport improvements to tackle congestion and provide new connections between homes and jobs, suppliers and customers, with sufficient infrastructure and services to accommodate planned growth. However, we will not ignore the threat this poses to the environment, and will take care not to damage the natural and historic assets and quality of life that make Oxfordshire attractive.

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

66. In some cases new roads, or widening roads and junctions may be necessary. 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 carry out careful modelling to ensure that effects on the wider network are fully understood, and will consider whether the demand can be met more sustainably.

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

## Enhancements to road capacity

### A34

67. Oxfordshire County Council has developed a number of schemes for the A34 including new slip roads at Chilton Interchange to turn this into an all movements junction, a "hamburger" style improvement to the Milton Interchange Roundabout to improve access onto the A34 from Didcot, and a bus priority lane on the northbound approaches to the A34 exit slip road at Hinksey Hill Interchange.

68. The Highways Agency is currently preparing a route-based strategy for the South Coast to East Midlands Route for publication in 2015. This will test how road based issues on the route might be addressed and implemented in the future as well as forming the basis on which decisions on funding will be made in the next Government Spending review period.

69. As part of this review the County Council prepared a Baseline Statement which assessed the problem along the A34 section of this route within Oxfordshire which showed that heavy congestion resulting in poor journey time reliability was a main concern for A34 users together with issues of road safety and speed harmonisation. The Baseline Statement suggested a range of possible solutions which could be considered including traffic Control Measures (including ramp

metering, HGV overtaking bans, extending speed limits or introducing variable speed limits, and variable message signing), capacity increases (including closure of minor road entries, widening to 3 lanes, altering the line of the route or converting Lodge Hill into an all movements junction) and Priority Measures (including addition of bus lanes, high occupancy vehicle lanes or HGV or local traffic lanes).

70. Beyond the measures identified for Local Growth Funding, the A34 Route Based Strategy recognises that a longer term solution is needed to accommodate planned development and trip growth. This would mean a major capacity enhancement either on the line of the existing route (for example widening the A34 to three lanes for all or part of the section through Oxfordshire) or an off-line solution, for example a new link between the A34 and M40 somewhere south of Oxford.

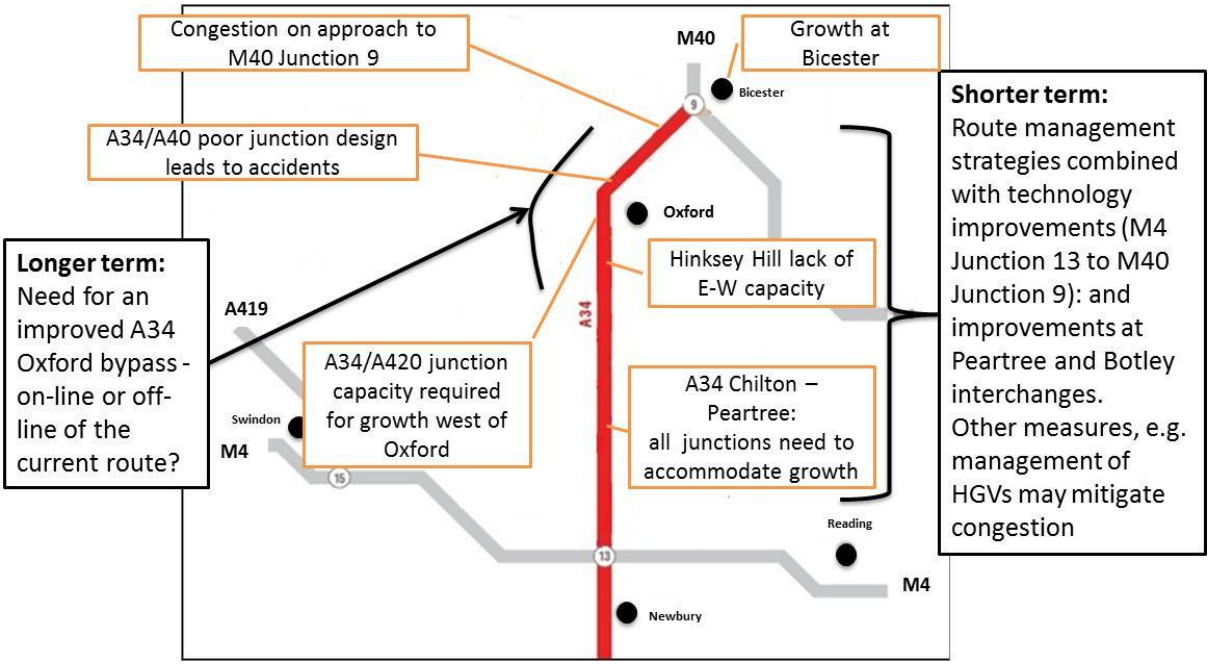



*Figure 19: The A34 in Oxfordshire*

### A40

This is an important through route linking Gloucestershire and London via the M40, but is also critical for linking West Oxfordshire with Oxford and the Knowledge Spine. It currently experiences severe congestion throughout the day. The problems on the A40 are caused by a combination of capacity issues at the junctions in the Oxford area, and to a lesser extent at Eynsham/Cassington, and road capacity issues along the length of the route. We have been developing a series of improvements to the route and these are shown on Figure 20.

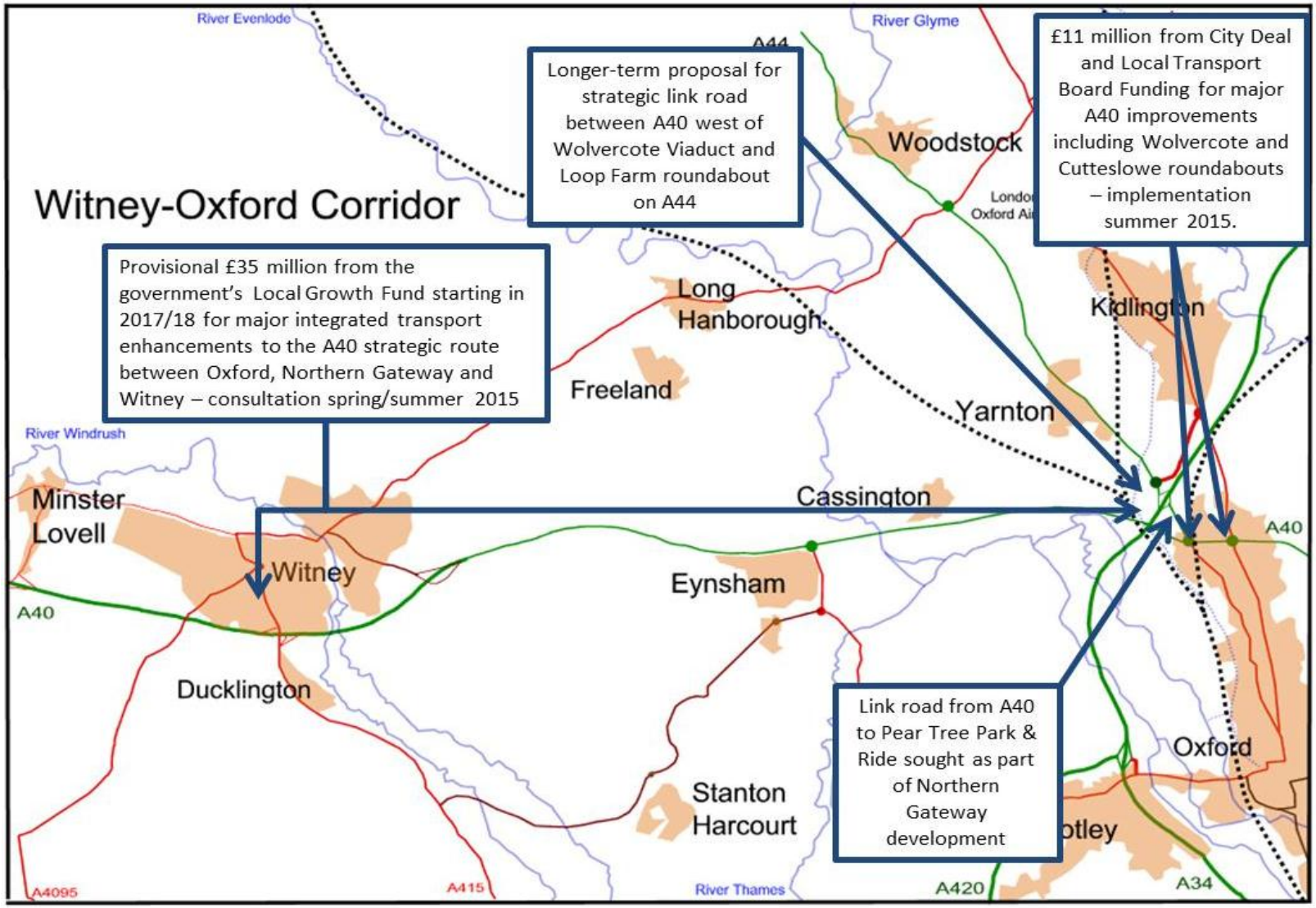



*Figure 20: The Witney – Oxford corridor*

71. Beyond the Local Growth Fund and City Deal funding for enhancements, we are developing a strategy options report that will identify further investment in innovative solutions and provide long term benefits to the A40. We are currently working on developing a strategic vision for improving the A40 corridor up to 2031 and beyond. This will consider highway improvements, including additional traffic lanes, tidal flow operation and full dualling, public transport improvements including bus, tram and rail improvements, and more innovative solutions.

### A420

72. The A420 is an important principal route between Swindon and Oxford which runs through Oxford's Green Belt as it approaches the city. In addition to providing a direct route to Oxford city centre from Swindon, it serves the many settlements along the corridor including: Shrivenham, Watchfield, Faringdon, Kingston Bagpuize and Cumnor. At peak times it operates over capacity resulting in congestion, particularly at the northern end near Botley. Although advised to use the M4 and A34, there is some HGV usage of the route. This is detailed in the A420 strategy in Chapter 14 of this document. Funding to deliver the A420 Strategy will need to be secured through development via Community Infrastructure Levy (CIL), Section 106 and/or Section 278 agreements, working closely with Swindon Borough Council.

### Local routes in Science Vale

73. 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

74. The Bicester Area Strategy outlines options for a new road linking the eastern perimeter route with the A41. Large residential development in north-west Bicester offers the opportunity to relocate the north western perimeter route around Bicester, creating a boulevard through the new development.

### Local routes in Banbury

75. The Banbury Area Strategy puts forward a new link road between the town and a large employment site to be developed east of M40 junction 11. 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 Chipping Norton Road.

### Witney and Carterton

76. 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.

77. 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 in parts of the county away from the Knowledge Spine, and key cross boundary links.

## Reducing pressure on the road network

78. Through our involvement in strategic planning in the county, we will seek to ensure that the need for additional road infrastructure is minimised. By locating housing close to jobs where people can 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 walking, cycling and the use of public transport rather than the use of private cars.

79. If we continue to see the same proportion of journeys made by sole-occupancy private car in the future, we will simply not be able to accommodate the trips that people want to make. It is vital that demand is met by other modes of transport, with a higher proportion of people choosing to walk, cycle or use public transport.

80. 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. Wherever there is the potential to accommodate more individual person trips through more walking, cycling or use of public transport, 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.

81. Before developing schemes for additional physical road capacity, we look at ways to make existing road space accommodate more individual person 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.

82. We will also use travel information to encourage and influence people to choose public transport, walking and cycling over car use, through further developments of the Oxfordshire Journey Planner, an on-line journey planning tool that can be used on mobile devices. 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 will be set out in more detail in our Network Capacity Management Strategy, and is outlined in the Science Transit Strategy.

Policy 03 Oxfordshire County Council will support measures 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, or by public transport.

## Prioritising different types of journey

83. In order to keep the network moving, it is often necessary to prioritise some routes over others, restricting interruptions to traffic flow on the more important routes. These can be from other vehicles joining or crossing the main route, pedestrians crossing the route, or due to obstructions like parking or loading.

84. All roads function as a link, but some also function as a place. For example, main roads away from settlements function mainly as links, but where the same 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 1, will be used as a guide in decisions over which type of road user to prioritise.

85. 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.

| Status | Definition | Characteristics/treatment | Routes in Oxfordshire |
|---|---|---|---|
| **Class 1:**<br><br>Motorway | A road suitable for high speed long distance national traffic<br><br>*Responsibility of the Highways Agency (HA)* | Dual carriageway with limited access and type-restricted use<br><br>No weight restrictions | M40 |
| **Class 2a:**<br><br>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<br><br>*Responsibility of either the HA or the County Council* | Able to cater for high volumes of traffic.<br><br>Predominantly dual carriageway<br><br>No restrictions on access or permanent weight restrictions<br><br>Presumption against at-grade pedestrian crossings<br><br>Presumption against speeds below 50 mph | A34, A43 (HA)<br><br>A40 (M40 J8 to Witney)<br><br>A41 (A34 to Bicester)<br><br>A44 (A40 to A4095)*<br><br>A423, A4142 (Oxford S / E bypass) |
| **Class 2b:**<br><br>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<br><br>*Responsibility of the County Council* | Able to cater for high volumes of traffic<br><br>Either dual carriageway or single carriageway<br><br>No restrictions on access or permanent weight restrictions, may be some height restrictions | A40 (west of Witney)<br><br>A41 (Bicester to Aylesbury<br><br>A44 (north of A4095)<br><br>A420 (west of A34)#<br><br>A422 (east of A423)<br><br>A423 (north of A422) |
| **Class 3a:**<br><br>County Principal (A) Classified Roads | 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<br><br>*Responsibility of the County Council* | Usually good standard single carriageway<br><br>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) |

| | | | |
|---|---|---|---|
| (major) | | | |
| **Class 3b:**<br><br>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<br><br>*Responsibility of the Council Council* | Predominantly single carriageway; some sections might be of a lower standard<br><br>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:**<br><br>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<br><br>*Responsibility of the Council 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 in 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 on the road network

86. Light Commercial Vehicles such as vans will lead the increase in freight traffic on the road network in Oxfordshire. These will need to be taken into account in new road schemes and maintenance, such as the programmes discussed above. However, the main concern among residents relating to freight transport is often the unpleasant experiences for cyclists and pedestrians and environmental damage that can be caused by heavy lorries (HGVs).

87. We will define the roads that are suitable and unsuitable for HGVs and develop a freight journey planner for Oxfordshire to advise operators on the best routes through the county. We will install and maintain fixed signage to direct lorry drivers to the advisory freight routes through the county. We will work with Network Rail, rail freight operating companies and businesses in Oxfordshire to increase the proportion of heavy goods being carried to, from and through the county by rail.

88. Where HGVs would cause environmental damage, we will retain environmental weight limits, enforceable by the County Council through Traffic Regulation Orders. These prohibit HGV through traffic, but allow local access. We will consider imposing further environmental weight limits where there is compelling evidence of risk of environmental damage due to through HGV traffic, which outweighs the risks arising from the use of alternative routes.

89. We will also seek to minimise environmental damage from HGVs through the use of Routing Agreements and Construction Logistics Plans associated with new developments. Structural weight limits will be applied to protect the county's bridges where necessary. These measures form part of the Oxfordshire Freight Strategy.

Policy 04 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 05 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, and the need to make efficient use of transport network capacity.

Policy 06 Oxfordshire County Council will support initiatives to increase the proportion of freight carried by rail, and will identify suitable routes for freight movement by road and, where appropriate, implement measures to support the use of these routes, balancing the needs of businesses with protection of the local environment and maintenance of the highway network.

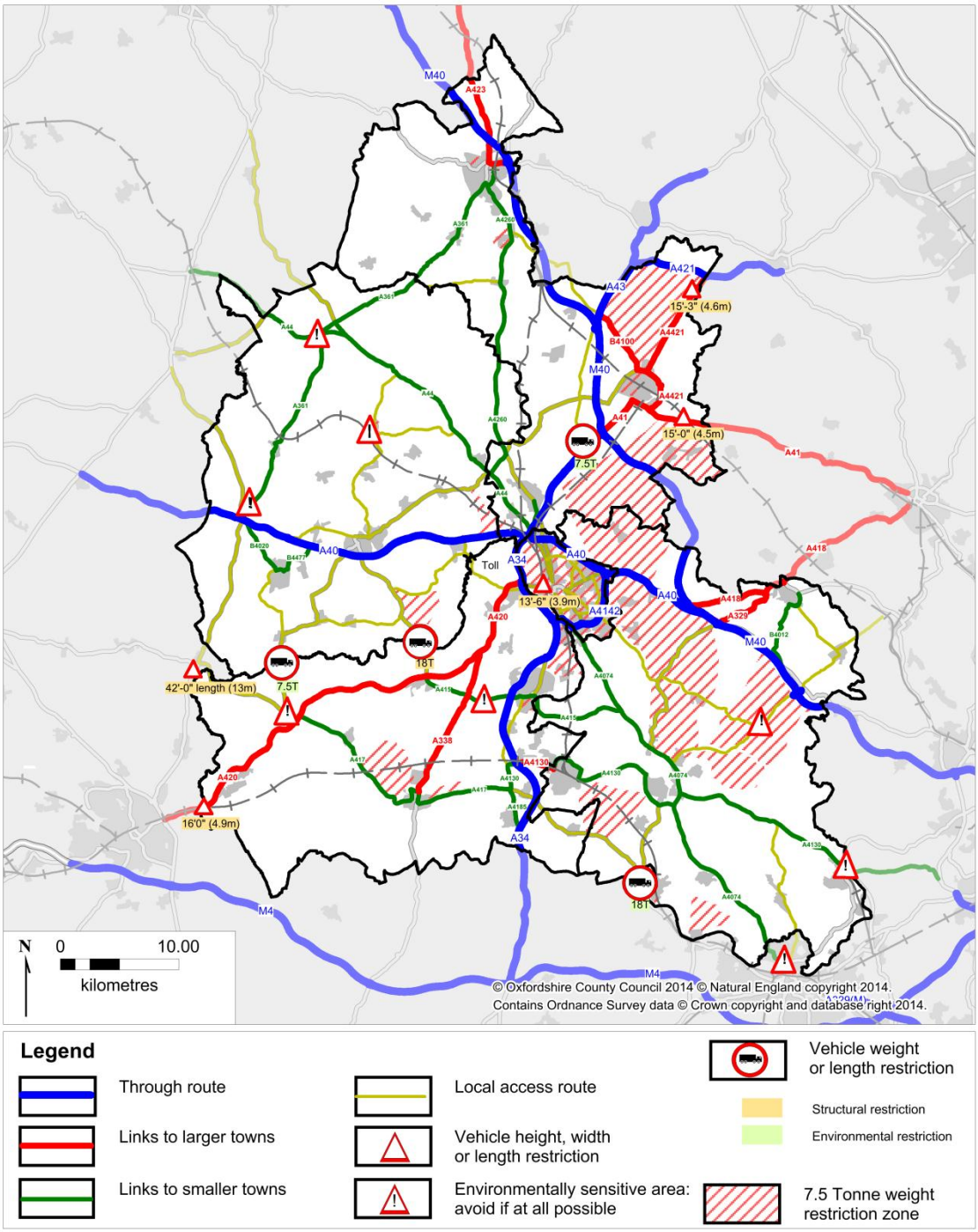



*Figure 21: Lorry routes in Oxfordshire*

## Better-integrated, high-quality public transport

90. 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 will need to be more attractive than driving a car. 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. There will need to be a significant improvement in public transport provision, rather than small improvements to frequency and journey time.

91. 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 will be 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. These infrastructure projects will sometimes be led by opportunities in funding streams.
- 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.

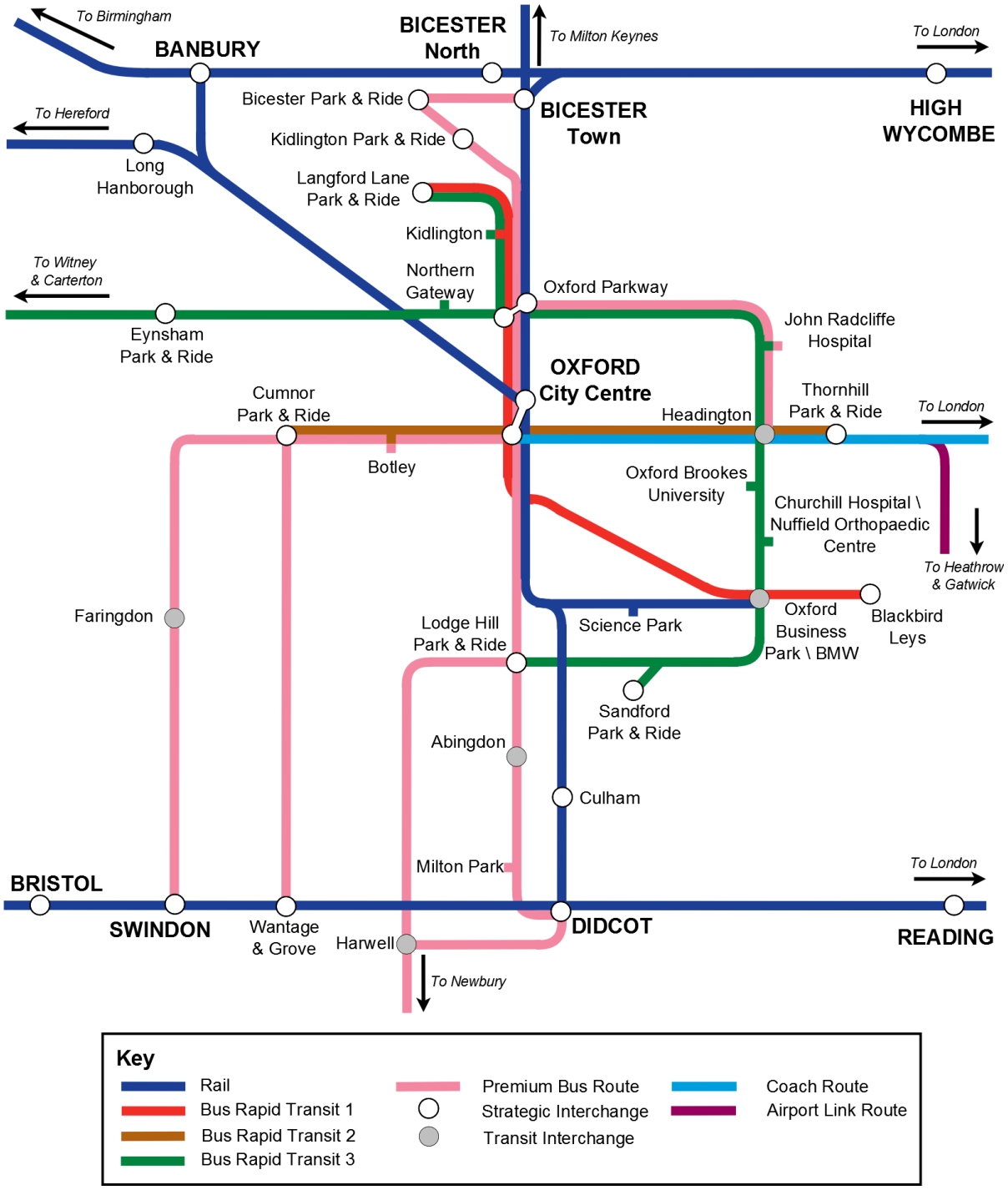



*Figure 22: Proposed Science Transit network*

92. Oxfordshire is an important destination for coach services. Oxford has a 24 hour a day scheduled coach connection with London, with nine coaches an hour each way on the route at the peak. It has half-hourly coach 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 serves as a through-stop for a number of national scheduled coach services, including National Express, which brings 200,000 passengers through the coach station annually. 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 our coach infrastructure has the space and facilities to accommodate growth from both scheduled and charter coach services.

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.

### Bus strategy

93. 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 many regions in the UK, especially those outside of large cities. We do not have control over 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 and through these we have introduced initiatives such as smart ticketing and payment in Oxford. Further, county-wide improvements to bus services and delivering our Science Transit ambition depend on this relationship.

94. Our bus strategy sets out how we will continue to work with operators to refine and expand the county-wide bus network, developing bus rapid transit services along the busiest routes, upgrading Premium bus services in the county, and developing the wider bus network. Partnership with rail operators will need to be strengthened, and there is a need to bring bus and rail operators together.

95. Within Oxford, increasing bus use will lead to greater pressure for kerb space, to the point where there would be insufficient physical space for buses to stop in the city centre. The Oxford Transport Strategy proposes the introduction of bus rapid transit on routes leading into and through the city centre. This would involve higher capacity vehicles with shorter dwell times at stops. It also proposes a new Park and Ride network, with new sites identified to intercept trips further from the city, thus reducing traffic volumes on Oxford's ring road and approaches to it.

Policy 09 Oxfordshire County Council will continue to provide support for bus services it considers socially necessary, where these cannot be provided commercially, and will develop a strategy for determining where this is applicable.

### Rail strategy

Our rail strategy sets out our ambition and priorities for rail investment in Oxfordshire, and is being taken forward in partnership with Network Rail and train operators. It covers both the planning and delivery of short term schemes to be delivered within the current control period for rail investment (2014 to 2019) and sets out the priorities and evidence base to support investment in the industry's subsequent five year planning periods.

Our strategy has been informed by a rail demand forecasting exercise completed by the Council in 2013, which showed that passenger demand is predicted to increase by 68% to 2026, most of this growth being generated by new rail investment. The greatest increases are predicted on the Oxford-London corridor, where from 2015 there will be a choice of routes and increase in services, resulting from the opening of East West Rail (EWR) Phase 1 and Oxford Parkway station, and on the rail network through Oxfordshire linking Didcot, Oxford, Bicester on to Milton Keynes and beyond when Phase 2 opens in 2019. Our strategy for rail investment also includes other route and service upgrades, for example to support growth and investment in Science Vale and further upgrades to the Cotswold Line.

We are also working with Network Rail on their long term planning process to 2043, recognising 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.

Our strategic rail priorities include:

- Supporting the EWR consortium and Network Rail in the design and delivery of EWR Phases 1 and 2
- Promotion of a major upgrade to Oxford station, including additional platforms, through lines and a new station building and transport interchange
- Development of the next stage of upgrades to Didcot Parkway, including new multi-storey car park, northern entrance and new station building
- Opening of the Cowley rail line to passenger services, with new stations serving the Oxford Science and Business parks
- Developing a business case for increased freight and passenger capacity between Didcot and Oxford, including opportunities for Culham Station
- Development of a business case for a new rail service linking Bristol and Swindon to Oxford and beyond, including a proposed new station in the Grove / Wantage area
- Supporting provision of enhanced and direct rail services from Oxfordshire to Heathrow Airport
- Supporting the completion of the Cotswold Line redoubling project

- Better integration of rail and strategic bus networks as part of Science Transit
- Enhancing access to local rail stations by supporting appropriate expansion in car parking and the provision of secure and accessible cycle parking

Further investment in the strategic and local rail network through Oxfordshire will also be needed, picking up the outcomes from the Rail Industry's long term planning work to 2043, which has identified future constraints on the rail network in the Didcot and north of Oxford areas in particular.

Policy 10 Oxfordshire County Council will work with the rail industry to enhance the rail network in Oxfordshire and connections to it, where this supports the county's objectives for economic growth.

## Air travel

96. International business travel is essential and, despite advances in video conferencing, is likely to remain an important factor in decisions businesses make about where to locate. Proximity to Heathrow also makes Oxfordshire a popular destination for tourists. Being 'within an hour of Heathrow' is very important for the south of the county, but there is growing demand for business and tourist flights to and from Oxford.

97. London Oxford Airport, located to the north of Kidlington, has the capacity for many more domestic flights, and flights to destinations in 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.

Policy 11 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

98. In some cases, making public transport more attractive will not be enough to deter car use, and the cost of premium space in the city centre will be such that the introduction of a Workplace Parking Levy or other constraint may become inevitable. To an extent this is already happening with the University and other employers charging for the cost of parking. The Oxford Transport Strategy sets out proposals to introduce a Workplace Parking Levy, 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.

99. Elsewhere, we will work with district councils to ensure that parking provision and charging regimes support area transport strategies.

Policy 12 Oxfordshire County Council will manage the parking under its control and work with district councils to ensure that overall parking provision and controls support the objectives of local communities and this Plan.

## Ensuring that everyone can participate in economic growth

100. The step change in public transport will not be felt everywhere. There will still be places that cannot viably be connected by bus. With the pressure on Council budgets, more places may fall into this category. Whilst we will seek to ensure that this does not apply to new developments, a significant minority of people living in existing residential areas and rural areas may see no improvement in public transport or may even see a deterioration in service.

101. It is vital that all of Oxfordshire's residents have an opportunity to contribute to, and benefit from, the economic success 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 and 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.

102. For longer trips and where walking or cycling is not an option, other solutions may be necessary. We 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.

103. 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.

104. 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 13 Oxfordshire County Council will work with partners and particular sections of the community to identify how access to employment, education, training and services can be improved, particularly for those with disabilities or special needs, or who otherwise have difficulties in walking, cycling or using public transport, or for people without access to a car.

Policy 14 Oxfordshire County Council will support the development and use of community transport to meet local accessibility needs.

Policy 15 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

105. Keeping Oxfordshire's road and transport infrastructure in good condition is important for the county's economy. Oxfordshire is responsible for maintaining over 4500km of roads, and roads in poor condition can create a bad impression and deter inward investment and tourism, which are key to Oxfordshire's success.

106. While potholes can cause damage to cars, they often 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 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.

107. 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 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 County Council has developed an Asset Management approach to deliver a more efficient and effective approach to the infrastructure assets through longer term planning. 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*

108. 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.*

109. 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*

110. We will invest in energy reducing technology for street lighting and associated electrical apparatus.

111. 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.

112. 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 ranging from primary route to minor lane or track, 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 16 Oxfordshire County Council will target new investment and maintain transport infrastructure to minimise long-term costs.

Policy 17 Oxfordshire County Council will publish and keep updated its policy on prioritisation of maintenance activity: this will be set out in the Highways Asset Management Plan.

# 5. Cutting carbon

**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,**
- **Reduce per capita carbon emissions from transport in Oxfordshire in line with UK government targets.**

113. Reducing carbon emissions from transport sits alongside creating growth as the highest local transport policy priorities for central government. The 2011 White Paper Creating Growth, Cutting Carbon: Making Sustainable Local Transport Happen 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'.

114. 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. Local authorities, the paper states, are best placed to do whatever works best in their area to get more people to walk, cycle or use public transport.

115. 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 carbon 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.

116. Alongside this 'modal shift' objective, we will support the uptake of zero and low carbon emission vehicles – for both private and public transport.

## Minimising the need to travel

117. 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.

118. 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 will work closely with Oxfordshire's district councils and neighbouring local authorities to coordinate land-use and transport planning, with the aim or ensuring housing is located close to employment or good public transport links where possible, and that 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:

> '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.' (from NPPF paragraph 34).

The NPPF also states that developments should

> '…give priority to pedestrian and cycle movements, and have access to high quality public transport facilities..' (paragraph 35)

119. 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, though 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.

120. 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.*

121. 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 18 Oxfordshire County Council will seek to ensure that the location, layout and design of new developments minimise the need for travel, encourage walking and cycling for local journeys and leisure, allow the developments to be served by high quality public transport and will support the development of travel plans to achieve this.

122. 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. The County Council is working in partnership with central government and BT to bring high speed broadband to 90% of homes and businesses by the end of 2015 and we will continue to make this a priority for new developments.

Policy 19 Oxfordshire County Council will help reduce the need to travel by seeking further opportunities to improve internet and mobile connectivity across Oxfordshire and supporting other initiatives that enable people to work at or close to home, and will work in partnership with service delivery organisations to influence the location of key services where possible

## Active travel

### Increasing walking

123. Walking emits less carbon than any other form of transport. It is free to the user and requires no special equipment. It is age-inclusive: pedestrians include some of the county's youngest and oldest road users. From a strategic perspective, its advantage is that it uses less space than other forms of transport, and does not require any parking or waiting facilities. The more people there are walking about, the safer people feel. Communities benefit from greater interaction, and local shops and businesses benefit from increased footfall.

124. Walking has huge health benefits, and can be built into every type of journey. It is a necessary part of all public transport journeys, so a key part of encouraging people to use public transport is making the walking element of their journey attractive. While ideally properties should be within a short walk of bus stops, it may be necessary for people to walk further to access high quality, frequent, express-type services. Pressure on bus services in the future, particularly in Oxford, means that we want to encourage more walking where it is an obvious alternative to other forms of travel.

125. For people to want to walk, they need to feel safe, secure and comfortable. They need to be able to make good progress along their line of route and feel as though they are as important or more important than car drivers. Being able to make journeys safely on foot provides important independence for the oldest and youngest residents, and being able to get about using walking aids, wheelchairs and mobility scooters allows people with physical disabilities and mobility

impairments to play an active part in the local economy. Given the ageing population, we need to make walking routes accessible and safe for all.

126. In developing area strategies we will review walking networks and focus capital improvements on routes with the greatest potential for increasing the numbers of people walking, particularly where improving the pedestrian environment would support economic growth and reduce car use. We will also prioritise strategically important walking routes for maintenance. Where funding allows, we will carry out targeted safety improvements on routes to school, to encourage active travel and reduce pressure on school bus transport.

127. In planning improvements to walking routes, we will carry out audits with users, and consult people with disabilities. We will focus on improvements that make routes safe for all users, such as pedestrian crossings and improved surfaces, but will also improve the pedestrian environment by removing street clutter, improving drainage, and providing seating where appropriate, as well as making other design improvements to enhance people's enjoyment of public space. To ensure that walking routes are accessible by people with disabilities, we will follow the principles set out in the Department for Transport Guidance, Inclusive Mobility or government guidance that may replace it in future.

128. When improving walking routes in urban areas with high footfall we will sign the routes, and will provide accurate information on walking via the Oxfordshire Journey Planner.

### Increasing cycling

129. Cycling as a means of transport emits zero carbon in use. Where trips by bike replace private car or public transport trips, this helps to reduce carbon 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 aim is to triple the percentage share of people who cycle to work in the county from the current estimated percentage figure of 7%[3] to 21% by 2031. We will do this by:

- Treating cycling as a major mode of transport, considering it at an early stage in all policy decisions, new projects, maintenance schemes and developments.
- Allocating more investment to cycling, working towards the £10 per annum per resident spend on cycling recommended in the government's Cycling Delivery Plan.
- Where there is a clear justification and outcome, applying for grant and other funding opportunities announced for cycling and related schemes.
- Engaging with developers to ensure that high quality cycle infrastructure is designed-in to their own development plans and secure Section 106 money to improve cycle facilities in and around the site, to encourage people to cycle as soon as they move in to the development.

[3] 2011 Census data

- Where possible, allocating dedicated road space for cycling, and reducing vehicle speeds where it isn't, focusing on routes where there are already a large number of cyclists, and ones where there is potential for more.
- Creating a network of branded cycle routes, working towards a complete network for the county but prioritising routes where there is most potential for cycling to replace car trips.
- Integrating cycling with public transport, with branded cycle routes linking centres of population with rail stations and Premium bus route stops, safe and secure cycle parking at interchanges, with additional facilities at major transport hubs.
- Planning comprehensive, connected cycling networks for the larger towns, linking existing sections of cycle route together and creating new ones, and collecting developer funding to implement them. These will include routes to schools.
- Providing accurate information about cycling routes via the Oxfordshire Journey Planner, and promoting cycling in partnership with the Oxfordshire Cycling Network.
- Encouraging cycling for recreation, making full use of the potential of Oxfordshire's Public Rights of Way network.

130. The Oxfordshire Cycling Strategy sets out the detail about how we will go about increasing cycling and provides the framework for developing cycling within Oxfordshire's towns.

### Design

131. We will ensure that new development adheres to the principles and philosophy set out in the DfT's *Manual for Streets*, which applies a user hierarchy to the design process, with pedestrians at the top. In residential areas this will include restrictions on parking, 20mph 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.

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

Policy 20 Oxfordshire County Council will encourage the use of modes of travel associated with healthy and active lifestyles and will improve built and green infrastructure to support greater levels of walking and cycling.

Policy 21 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 travel choice

133. Providing people with excellent public transport and walking and cycling infrastructure, as well as information about their travel options, will not be enough to bring about the shift that we need from car use to other methods of transport. In line with the Government's approach set out in *Creating Growth: Cutting Carbon: Making Sustainable Local Transport Happen* (DfT, 2011), we will adopt the principle of the 'ladder of interventions', enabling choice following provision of better information and education.

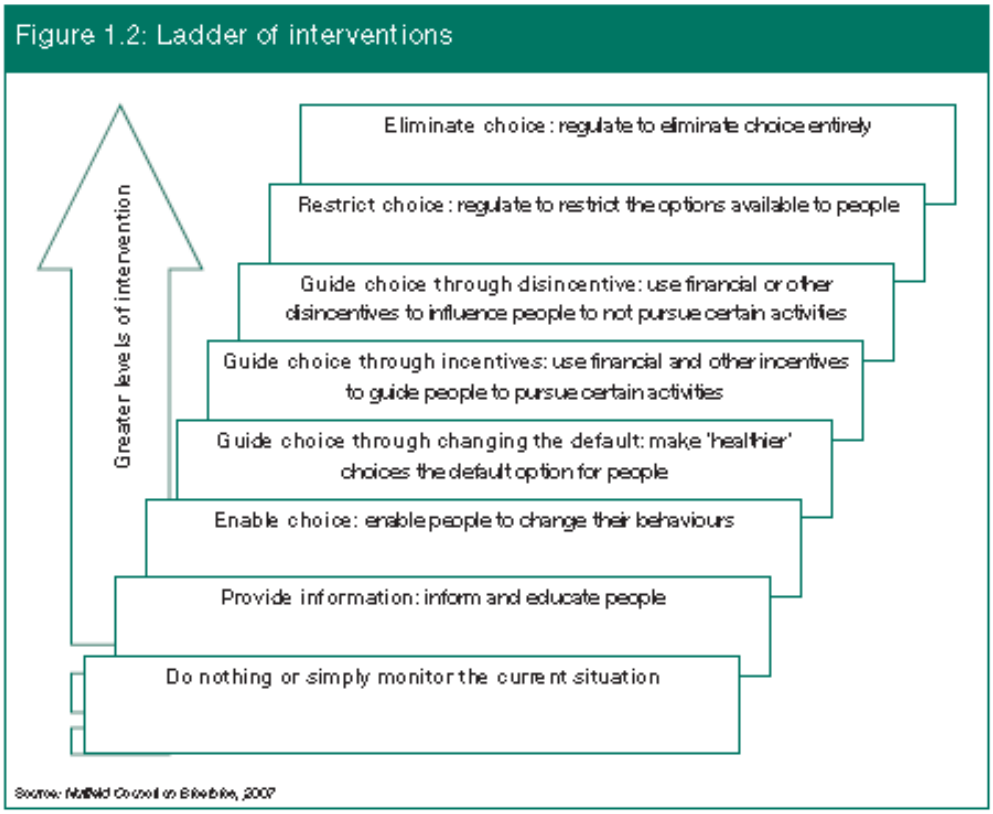



*Figure 23: The Ladder of Interventions (from Creating Growth, Cutting Carbon: Making Sustainable Local Transport Happen, DfT 2011)*

134. With the widespread use of mobile internet devices, the Oxfordshire Journey Planner will be the 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.

135. The journey planner 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. In addition, the 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.

136. It will make use of a wide range of data to predict demand on Oxfordshire's transport networks and give people an accurate forecast of journey time via all modes of transport and combinations of modes. The journey planner will also highlight the carbon savings and health benefits from switching to different modes.

137. The purpose of the journey planner is to provide a tool to support multi-modal journey planning both in advance of a journey and in real time, i.e. at the point in time at which a user wishes to travel, and to help overseas businesses and travellers to make seamless, quicker, informed journeys between innovation areas and tourist destinations, for example.

138. This tool will be 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 will 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*.

139. We recognise that access to the internet is not universal, so we will continue to ensure that basic information on public transport services is available by other channels. 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.

Policy 22 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.

140. The Council will seek opportunities to promote sustainable travel where they can be resourced from external funding streams. In recent years we have successfully obtained grant funding from the government's Local Sustainable Transport Fund to carry out targeted behavioural change initiatives in the Headington area of Oxford, and we will seek similar opportunities in the future.

141. 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 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

142. 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

143. In January 2014 a Low Emission Zone (LEZ) came into effect in central Oxford, applying to buses only. This was introduced primarily to reduce levels of pollution from 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 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 (CO2) emissions than traditional diesel-engined buses.

144. 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. The County Council 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.

145. 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. The programme will involve a number of road overbridges being rebuilt to provide sufficient clearance for the overhead wires and masts. We will continue to support this by managing the impacts on the road network during construction. Network Rail will replace bridges on a like for like basis, but where appropriate, improvements will be sought, with the County Council making a contribution from other funding sources.

### Private cars

146. 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 carbon 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.

147. 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 emission vehicles at Park and Ride sites, but not in town centres.

148. We will seek funding opportunities and work with other local authorities 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 23 Oxfordshire County Council will promote the use of low carbon forms of transport, including electric vehicles and associated infrastructure where appropriate.

## Reducing the carbon footprint of our own operations

149. 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.

150. 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.

151. 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 carbon emissions of transporting them. Our policy is set out in more detail in the Highways Asset Management Plan.

Policy 24 Oxfordshire County Council will work to reduce the carbon footprint of transport assets and operation where economically viable, taking into account energy consumption and the use of recycled materials.

# 6. Improving quality of life

Objectives

- 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.

152. Alongside supporting growth, transport has the potential to improve quality of life for everyone, but can also have side effects which reduce it. Figure 23 represents the ways transport can impact on seven quality of life factors[4] . 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 24: Transport impacts on quality of life*

[4] Seven quality of life factors taken from the Economist Intelligence Unit's Quality of Life Index for countryes. The 2 not included are Political Freedom and Gender Equality. 'Security' is actually 'Political stability and security' in the Index.

## Protecting and enhancing the environment

153. 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
- Landscape and townscape

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

154. Damage to the environment 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 per head, 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 minimises damage to the environment and seeks opportunities to enhance it.

155. Environmental factors, including relevant legislation and guidance regarding the impact on the natural environment, 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. This will deliver better outcomes than considering the environment later in the process, when making changes becomes more costly.

156. We will ensure that consideration of biodiversity impacts informs transport decisions, and that, where impacts are unavoidable, mitigation and compensation are provided for biodiversity loss. In managing our transport assets, we will consider how we can make positive biodiversity gains, including protecting and enhancing habitats for bees 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*.

157. 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 forthcoming Oxfordshire Green Infrastructure Strategy, and the Rights of Way Improvement Plan.

158. 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.

159. 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 25 Oxfordshire County Council will work to reduce negative environmental impacts of the operation of the transport network, and where possible provide environmental improvements, particularly in Areas of Outstanding Natural Beauty, Conservation Areas and other areas of high environmental importance.

160. We will ensure that an understanding of landscape and townscape character and sensitivity to development informs transport decisions, 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), as well as local landscape and townscape character assessments.

161. 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 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 26 Oxfordshire County Council will work with partners to improve public spaces and de-clutter the street environment.

## Improving health and wellbeing

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

- Encouraging physical activity
- Promoting independence for older and disabled people
- Improving air quality
- Improving road safety

### Physical activity

163. 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 this needs to be maintained and there is room for improvement. Preventing chronic disease through tackling obesity is a key priority of Oxfordshire's *Joint Health and Wellbeing Strategy.*

164. 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 usually involves walking or cycling to or from a station or bus stop. Our policies to increase the amount of walking, cycling and public transport use support the priority of tackling obesity. Physical activity has also been shown to improve mental health.

165. The Council is also responsible for management and maintenance of an extensive network of Public Rights of Way (PRoW), which provide opportunities for people to take outdoor exercise as a leisure activity, as well as providing valuable pedestrian, equestrian and cycle links for getting around. Opportunities for leisure cycling can build confidence and encourage people to take up cycling as part of their daily routine. The Rights of Way Improvement Plan sets out our plans for developing the network.

166. We will seek enhancements to the PRoW network from new developments, with additional sections of path where necessary to link the developments to the existing network.

Policy 27 Oxfordshire County Council will record, maintain, improve and waymark the public rights of way network so that all users, including cyclists and horse riders, are able to understand and enjoy their rights in a safe and responsible way.

167. Towpaths along the River Thames and the Oxford Canal provide opportunities for long distance walking and, where it is permitted, for 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, for example that of the water vole.

Policy 28 Oxfordshire County Council will support appropriate opportunities for improving towpaths along the waterways network, for local journeys and leisure, where it would not harm the ecological value of the area or waterway network.

### Promoting independence

168. Nationally, the ageing population means that there will be huge pressure on social and health services. Transport 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.

169. In Chapter 4 we discussed the importance of ensuring that older and 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.

170. 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.

171. The County Council has 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 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.

172. 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.

173. A formal assessment (SCIA) has been made of this Plan as a whole 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.

174. We are committed to ensuring that our transport systems themselves are as inclusive as they possibly can be, and that they advance inclusivity by helping everyone to take an active part in society and the local economy.

Policy 29 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.

175. 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. In consultation with public health colleagues, we will factor this consideration into our recommendations.

### Improving air quality

176. In Chapter 3 we described the problem of air pollution from oxides of nitrogen affecting Oxfordshire. This is a serious public health issue, affecting respiratory health for people using the highway in affected areas. Air quality monitoring, and leading the development of plans to improve air quality, are the responsibility of district councils in Oxfordshire.

177. When an area is declared an Air Quality Management Area (AQMA) because of exceedances of particular pollutants, the district 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 the district councils to develop appropriate solutions, taking into account our overall transport strategy.

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

- **Oxford**: The Oxford AQAP covers the entire city within the ring road. Measures to support it are contained in the Oxford Transport Strategy.

- **Chipping Norton**: The Chipping Norton 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. We have commissioned a feasibility study for the implementation of the lorry management measures.

- **South Oxfordshire:** There are three AQMAs in the district, in Henley, Wallingford and Watlington. 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.

- **Vale of White Horse**: Vale of White Horse District Council has drafted an action plan covering the two AQMAs in the district: Abingdon town centre, and Botley, adjacent to the A34. 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 a busy trunk road controlled by the Highways Agency. The Highways Agency has introduced a 50 mile per hour speed limit on the A34 to reduce air pollution; however levels remain above the air quality standard. Our ongoing work with the Highways Agency to develop a strategy for the A34 will take into account the need to reduce NOx pollution in Botley and support the AQAP.

179. We will work with the district councils to develop transport measures as part of AQAPs for the county's other existing AQMAs, in Witney, Kidlington, Bicester and Banbury, and other AQMAs that may be declared during the period of this Plan.

Policy 30 Oxfordshire County Council 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 also contribute to other transport objectives.

## Improving road safety

180. When evaluating the costs and benefits of new road schemes, the Department for Transport uses an estimate of just under £50,000 for the average value of preventing each road casualty, however serious. This reflects not only medical costs, but also the suffering of those involved as well as any lost economic output. This figure 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.

181. 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.

182. 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.

183. 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.

184. 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 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.

185. 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. Events include child cycle training, child pedestrian training, child seatbelt fitting and young drivers and motorcyclist themed events.

186. 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 vegetation cutting to maintain visibility, and reactive maintenance to repair serious safety defects such as large potholes and damaged safety barriers.

187. 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, in many cases, have little impact. An assessment of the priority of a safety scheme will take account of its cost and anticipated accident savings.

188. 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.

189. In Oxford, most residential roads were reduced to 20mph in 2009 and this has been successful in reducing collisions and encouraging more walking and cycling. Recent Government guidance (January 2013) 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.

190. 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 them where they can be justified and funded. This includes areas where 20mph limits could help meet wider objectives, such as encouraging more cycling and walking.

191. 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, for local journeys, recreation and health.

192. 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. However, we try always to present a balanced view of walking and cycling, weighing the risk of accidents against the greater health risk to the population of not taking sufficient exercise.

193. 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 31 Oxfordshire County Council will identify those parts of the highway network where significant numbers of accidents occur over a monitoring period of five years, and propose engineering solutions where these would be effective in helping to prevent accidents.

Policy 32 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 20mph speed limits and zones.

# 7. How we will implement this Plan

194. 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 integrated 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

195. For those parts of the county due to experience significant housing and/or employment growth, we have developed draft Area Strategies reflecting emerging Local Plans. These are:

- Oxford
- Science Vale (the area encompassing Wantage and Grove, Abingdon, Didcot, Culham, and Harwell Campus)
- Bicester
- Banbury
- Witney
- Carterton

196. These set out a clear strategy for transport in those areas to guide decision making and support future funding arrangements to mitigate the impact of the growth proposed. We are also developing route strategies for the A40, A34 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.

197. Area and supporting strategies will be formally adopted as part of the Local Transport Plan. The proposed make up of *Connecting Oxfordshire* is set out at the start of this document.

## Influencing and supporting neighbourhood plans

198. 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 the policies in the preceding chapters.

199. To guide and support the development of Neighbourhood Plans we have developed an on-line toolkit for use by communities. We will respond fully to consultations on draft Neighbourhood Plans, and once they are adopted, we will support them through our role as statutory consultee on the transport aspects of planning applications. We will seek to ensure that developers provide or contribute towards the Neighbourhood Plan's transport infrastructure requirements, in proportion to the transport impact from the development.

Policy 33 Oxfordshire County Council will support the development of Neighbourhood Plans (as outlined in its published Toolkit) and seek to influence neighbourhood plans with a view to ensuring consistency with the Local Transport Plan. Where a Neighbourhood Plan has been adopted, 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

200. Councils no longer receive block funding 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 have given sole responsibility for deciding on priorities for investment and putting in bids for the LGF to the Local Enterprise Partnerships (LEP).

201. 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.

202. From time to time specific grant funding opportunities arise, but these are moving towards becoming funding streams within the LGF, for example the Local Sustainable Transport Fund. Under current conditions of tightening local authority budgets, government grants with revenue elements are particularly valuable, allowing us, for example in the case of LSTF, to carry out promotional activities no longer affordable from Council budgets. We will seek to bid for every available opportunity, and this means that we need to have schemes and projects ready to put forward.

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

204. While development 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 in delivering our transport strategy.

205. We will work in partnership with the district councils and the LEP to develop a prioritised programme of capital transport schemes, taking into account the various funding sources. This will be updated annually. Our current programme is set out in Chapter 14 of this document .

Policy 34: OCC will work in partnership with the Local Enterprise Partnership and developers to meet the objectives of the plan and seek external funding to support the delivery of transport infrastructure priorities as set out in the SEP, City Deal and Local Investment Plan.

## Influencing development

206. Much of what we want to achieve depends on how we can guide development, and raise funding for transport improvements through planning obligations. Our approach is both proactive (strategic planning) and reactive (responding to development proposals).

207. The County Council works closely with district councils, who 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.

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

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

210. 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.

211. Ultimately, the County Council can recommend refusal, but district councils are not obliged to follow our recommendation and need to balance it with other factors.

212. 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;
- Has a minimal adverse impact on the existing highway network by providing appropriate highway mitigation works;
- Is designed to encourage and support the increased use of sustainable means of 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.

213. In responding to consultations on planning applications the County Council will prioritise 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.

214. Applications need to be accompanied by the right supporting information 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.

215. We will normally expect a Transport Assessment to accompany a planning application, or, in the case of smaller developments, a shorter Transport Statement will be requested. 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.

216. 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. A detailed assessment of air quality and noise impact may be required.

217. 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 sensitive locations such as villages and residential areas. This may lead to a formal routeing agreement being signed.

218. For the largest developments, 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 for car journeys to and from the site and promote sustainable travel.

219. The County Council will develop and publish guidance documents to assist developers in meeting our requirements.

## Mitigation and developer contributions

220. 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.

221. 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.

222. 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 make a contribution towards the wider improvements. The contribution from each development will be linked to its transport impact and the transport need it generates. This contribution will be additional to any works or contributions aimed at resolving any particular problems caused by the development alone.

223. 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.

224. 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 commercial Premium routes network. 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. This is in LTP policy 35, the implications of which policy for buses are set out in more detail in our bus strategy.

Policy 35 Oxfordshire County Council 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 seek developer funding for these to be provided until they become commercially viable;
- 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;
- require that all infrastructure associated with the developments is provided to appropriate design standards and to appropriate timescales;
- set 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;
- ensure that developers promote sustainable travel for journeys associated with the new development, including through the provision of effective travel plans.