13. Oxford Area Strategy

13.1 Oxford is the county town of Oxfordshire, supporting a population of over 151,000 living within the city, and serving the 484,500 residents in the rest of the county. Oxford hosts a temporary population of around 40,000 students, and 8.8 million tourists each year. It is the largest employment centre for the county, providing around a third of all jobs in the county. Although it is the county's main focus for retail and entertainment, it competes with several major centres within an hour's drive, notably Reading and Milton Keynes.

13.2 Beyond its role as a county town, Oxford is a focus for the wider region. For example, it is a major provider of health services across the region, as well as being a world-class educational centre, an international centre for business and manufacturing, and a global tourist destination. All of this makes Oxford an extremely attractive destination and creates huge current and potential future economic benefits, but also puts pressure on the city's transport network.

Transport within Oxford

13.3 Development and road building have been restricted by Oxford's built heritage, its waterways and the floodplain, with the result that the majority of the city's developed land is on higher ground to the east of the city centre. To the north, west and south of the city, development is concentrated on narrow spurs of land alongside four radial routes. To the east, radial routes converge at The Plain, linking to the city centre via Magdalen Bridge and the High Street.

13.4 Between the eastern radial routes, the former villages of Cowley and Headington have grown and become urban centres in their own right. In this chapter, the outer wards adjoining the ring road, which include the major employment areas in Headington and Cowley, are together described as the 'Eastern Arc'. These wards contain a large proportion of the city's employment land, and over 50% of the city's population. This is shown on Figure 1.

13.5 The ring road links the outer housing and major employment areas of the Eastern Arc, but road access between the eastern radials further in to the city centre is limited. One classified route exists (the B4495), linking Summertown and south Oxford via Headington and Cowley, but this route is indirect, discontinuous, and often heavily congested at its junctions with the radial routes

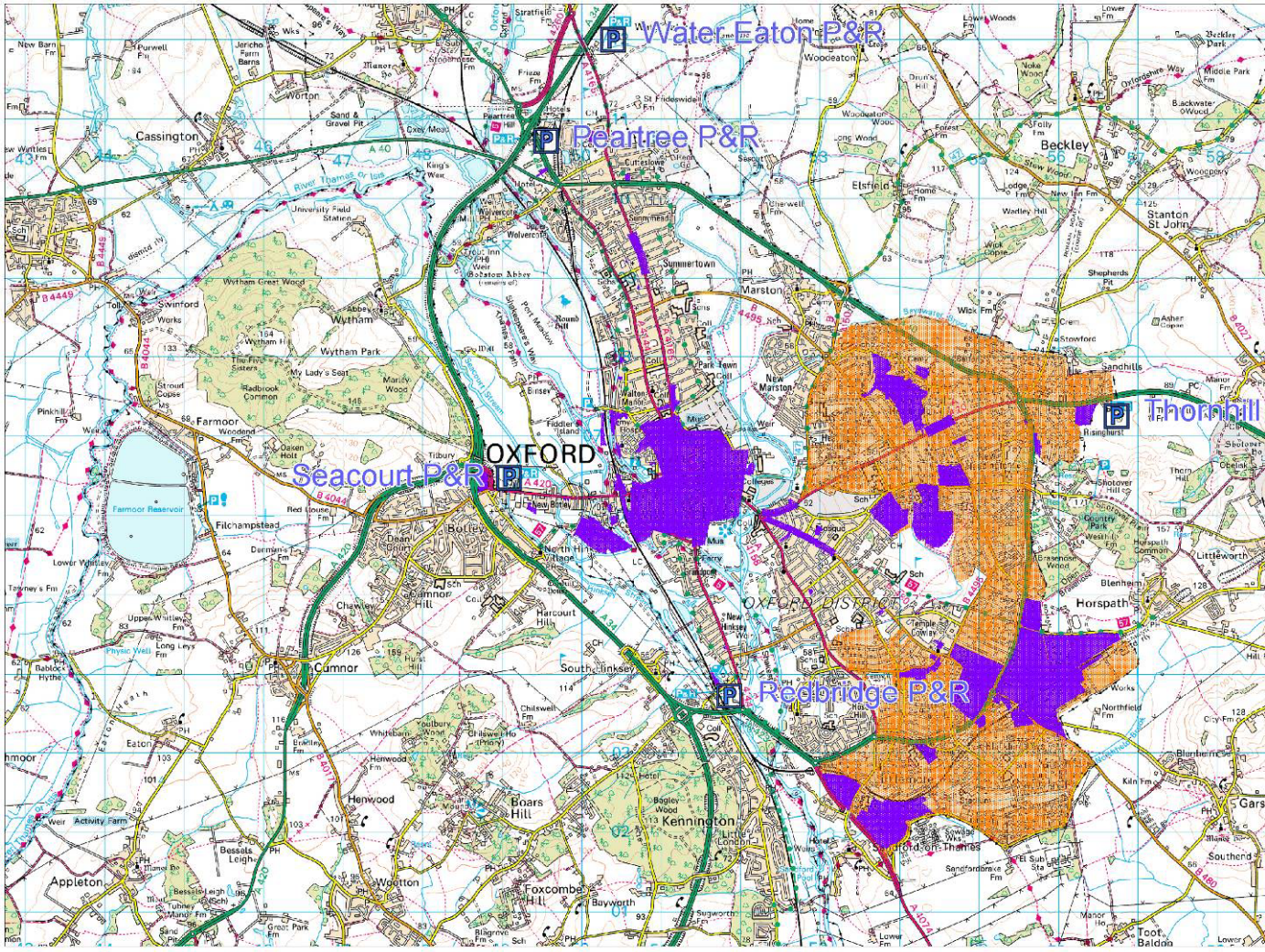

Figure 1: Eastern Arc and major employment in Oxford

13.6 A variety of factors led to severe congestion in the city centre as the 20th century progressed, but an inner ring road was resisted. Transport planning policy was instead directed towards reducing the amount of traffic in the city centre, through a variety of traffic management measures, including bus priority and parking restrictions, and providing comprehensive park and ride facilities and cycle infrastructure. Car access to the city centre was severely restricted as part of the Oxford Transport Strategy in the late 1990s, resulting in improved conditions for pedestrians and cyclists, and contributing to Oxford's high frequency bus network: probably the best in the UK outside London.

13.7 To the west, Oxford is bypassed by the A34, which is a major north-south trunk road linking the midlands with the South Coast ports. There are three junctions from the A34 linking to Oxford, and it provides the major link between the larger towns of the central Oxfordshire area. It therefore suffers from congestion caused by the combination of journeys through the county and local Oxford and Oxfordshire trips. The northern, eastern and southern bypass roads carry traffic to the Eastern Arc, as well as linking to London via the A40/M40.

13.8 Compared with other towns and cities outside London, Oxford is well served by high quality local public transport. Transport policy interventions have resulted in a 'turn up and go' level of service on the radial routes into the city centre. Oxford has one of the most modern, accessible and environmentally friendly bus fleets in the UK. However, bus services are concentrated on the radial routes, and many journeys across the Eastern Arc are difficult by bus.

13.9 Oxford has five park and ride sites (see figure 1), with parking space for 5100 cars, high frequency bus services to the city centre, and some services from three of the sites directly to hospitals in the Headington area. The city also benefits from high frequency coach services to London. These terminate at Gloucester Green bus station and stop at intervals on their way through Oxford, as well as at Thornhill Park and Ride. The park and ride system is very well used: average maximum car park occupancy across the five sites is over 80%, and Thornhill is often full by 9am.

13.10 Access to Oxford by rail is via Oxford rail station, with frequent trains to London Paddington, and Cross Country services to the south coast and the north, as well as more limited services to Worcester and Bicester Town. The rail station is a ten-minute walk from the commercial centre of Oxford. However, it is a 20 to 30-minute bus journey to Headington

and Cowley at peak times. Oxford rail station also attracts a large number of out-commuters.

13.11 At the time of writing, Chiltern Rail has plans to open a new rail station at Water Eaton, linking to London Marylebone via Bicester (trains would start at Oxford station). In the longer term, the East West Rail project seeks to promote a new, direct regional rail link between Oxford, Milton Keynes and East Anglia.

Goals and objectives

13.12 The national, regional and county goals are set out in Part A of the Oxfordshire Local Transport Plan 2011-2030. The following visions, which are specific to Oxford, fit with these wider goals but additionally reflect the city's special regional, national and international role.

13.13 The **Oxford Sustainable Community Strategy** sets out a vision for Oxford as follows: '…Oxford will be a world-class city for everyone. Oxford as a city will build on its heritage and its international reputation as a place of learning and innovation to create high quality life outcomes for all those who live in the city. We shall develop a city that becomes carbon neutral with high eco standards that protect the health and wealth of all our citizens and which will be a model of good practice locally, nationally and internationally. We shall enhance the role of the city within Oxfordshire and the South East of England as a sub-regional capital assisting surrounding areas by the development of high quality, sub-regional and regional services and facilities.'

13.14 The **Oxford Core Strategy** vision seeks to build on Oxford's many strengths, but goes further, to emphasise the need to provide *everyone* with the opportunity to achieve a high quality of life, including providing more affordable and family homes.

13.15 The agreed **LTP3** priorities for Oxford support these visions in terms of ensuring economic success and therefore employment, reducing carbon emissions, protecting health, and accommodating additional housing development. However, they also need to play their part in achieving the more ambitious vision for the city to have an enhanced role as a 'sub-regional capital', and to be a 'model of good practice locally, nationally and internationally'.

13.16 The agreed 'high' priorities for Oxford are to:

* Reduce congestion

* Develop and increase the use of high quality, welcoming public transport
* Develop and increase cycling and walking for local journeys, recreation and health

13.17 The agreed medium' priorities for Oxford are to

* Improve the condition of local roads, footways and cycleways, including resilience to climate change – this will contribute to reducing congestion through encouraging people to walk and cycle
* Secure infrastructure and services to support development
* Reduce carbon emissions from transport
* Improve air quality, reduce other environmental impacts and enhance the environment – this will also help encourage people to walk, and will benefit the economy by making Oxford a better place to visit

Challenges

13.18 The county council will face a range of challenges, constraints and pressures in achieving these objectives for Oxford, in addition to financial pressures.

Environmental

13.19 Construction of new transport infrastructure in Oxford is constrained by the city's topography and its built heritage, as well as its green spaces and the green belt. Figure 2 illustrates a number of these. However, Oxford is a relatively compact city, allowing many people the opportunity to live within walking or cycling distance of their employment. The city's waterways and many green spaces provide good opportunities for further cycling and walking links.

Housing and employment

13.20 There is a recognised need to provide more housing within the city. This will help to address the imbalance between housing and employment. Oxford has the second highest job density (number of jobs relative to working age population) in the South East, and this results in a high level of in-commuting from outside the city – the major cause of congestion at peak times.

13.21 Much of Oxford's housing is in the Eastern Arc, with large estates extending outside the ring road to the east and southeast. Further housing development is planned outside the ring road e.g. at Barton and other regeneration areas (as well as in the West End of the city centre

and other smaller sites in the city). Outside the city centre, the city's major employment sites are also located predominantly in the Eastern Arc – see Figure 1. While access to the city centre by public transport is good, it is more limited within the Eastern Arc, meaning that many people do not have easy access to jobs relatively near to where they live. The cycle network in the Eastern Arc is not as joined up as it could be, and cyclists sometimes have to negotiate busy roads and cycle-unfriendly junctions, making cycling unattractive to many people.

13.22 Access to employment in the Eastern Arc from outside Oxford is difficult other than by car. Oxford is well served by public transport on its radial routes, but park and ride services do not exist to key employment areas in the Cowley and Littlemore area, and the lack of direct bus services from outside Oxford is one of the main reasons why people drive to it. Driving is made more attractive by the availability of a huge amount of free workplace parking in the area – a total of over 12,000 spaces at the largest ten employers.

13.23 Three major hospitals are located in Headington, serving patients right across the region. Some direct park and ride services do exist but most patients and visitors from outside the city choose to drive. As there is no direct access from the ring road, hospital trips contribute to congestion on routes into Headington and along the B4495.

13.24 Areas of housing close to the city centre and around Headington contain a high proportion of houses in multiple occupancy (HMOs). The high density of occupancy makes these areas easy to serve with public transport but, combined with the lack of off-street parking, it also means that streets are dominated by parked cars. The need to consider the car parking needs of residents can restrict the scope for transport improvements.

Retail

13.25 The Westgate Centre in the West End of the city centre is very likely to be redeveloped and substantially extended in this LTP period, which will lead to an increase in demand for trips to the city centre.

13.26 In the Eastern Arc, Cowley Centre has been designated the primary district centre of Oxford in the emerging Core Strategy for Oxford, which means it is likely to become the focus for retail development in the city in the medium to long term. This is likely to increase demand for trips to Cowley Centre, both from within and outside Oxford.

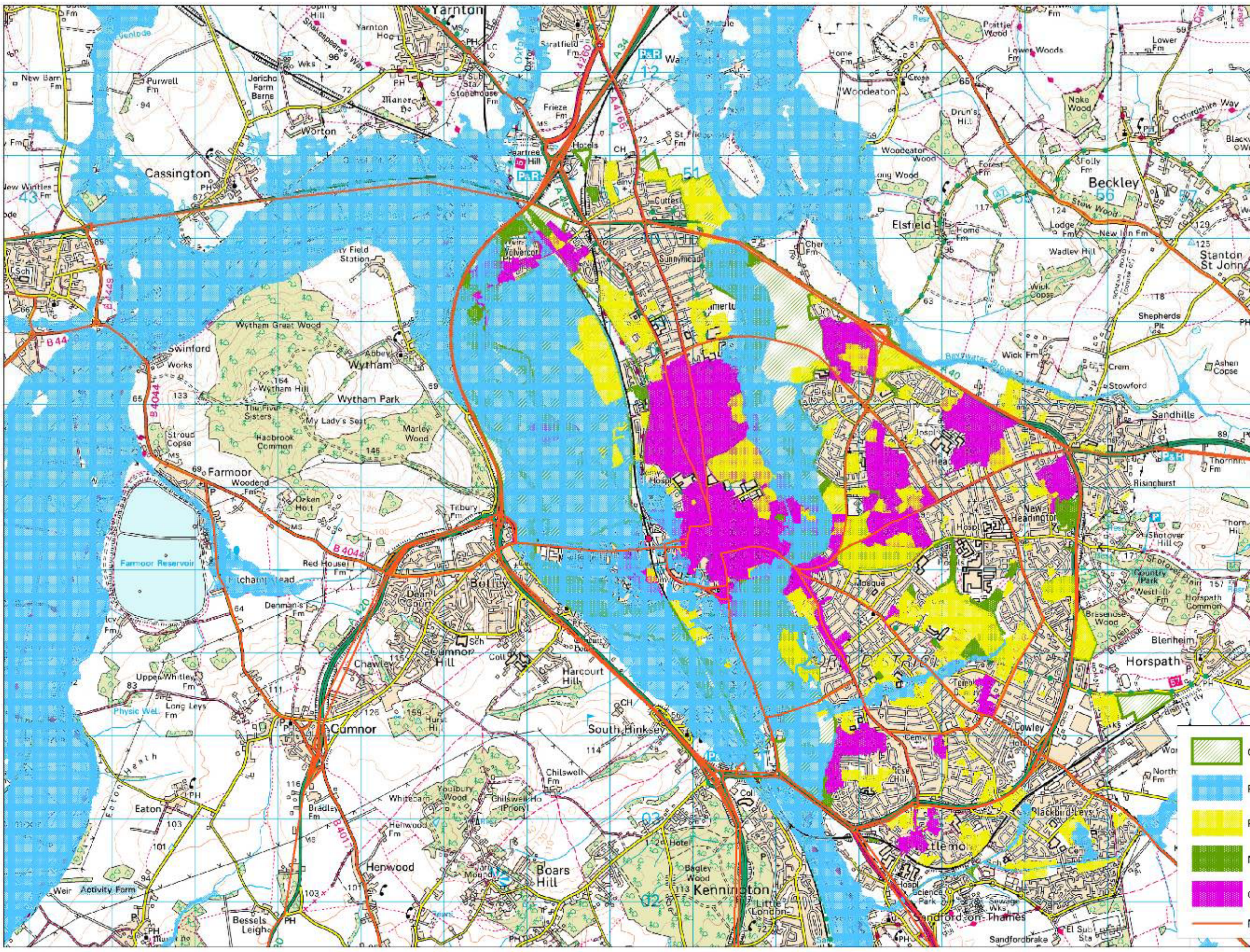

Figure 2 - Oxford - major roads and environmental constraints

Traffic growth and congestion

13.27 Traffic flows into the city centre have been maintained at roughly the levels they dropped to following the implementation of the Oxford Transport Strategy central area measures in 1999. Despite this, there is still considerable congestion on some of the main approaches to the city centre at peak times, particularly the routes leading into Frideswide Square. Outside the city centre, background traffic growth, as well as development, has led to significant congestion on other parts of the network, in particular at key junctions on the ring road and the approaches to Oxford (see Figures 3 & 4). Much of this is caused by car trips to the major employment areas in the Eastern Arc. Two of the park and ride sites are regularly full (Seacourt and Thornhill) and two others (Pear Tree and Water Eaton) are approaching full capacity.

13.28 Traffic growth generally across the South East has been forecast to rise by 24% between 2003 and 2015, and by 35% by 2025. Specific predictions for Oxford are difficult because of the uncertainty over the number of additional dwellings to be built around the county. However, the following planned and possible developments are likely to have a significant impact on the network (see Figure 5):

* Housing development within Oxford, especially at Barton and the regeneration areas
* Mixed development in the West End of Oxford city centre
* A new rail station at Water Eaton with fast services to Bicester and London
* Further development at Oxford Business Park and Oxford Science Park
* Intensification of use of hospital sites in Headington
* Possible development of the Northern Gateway – predominantly employment (subject to Core Strategy)
* Housing development outside the city, particularly at Science Vale and Bicester.

There is expected to be particular pressure on the ring road, especially at Wolvercote and Cutteslowe roundabouts, and the A34.

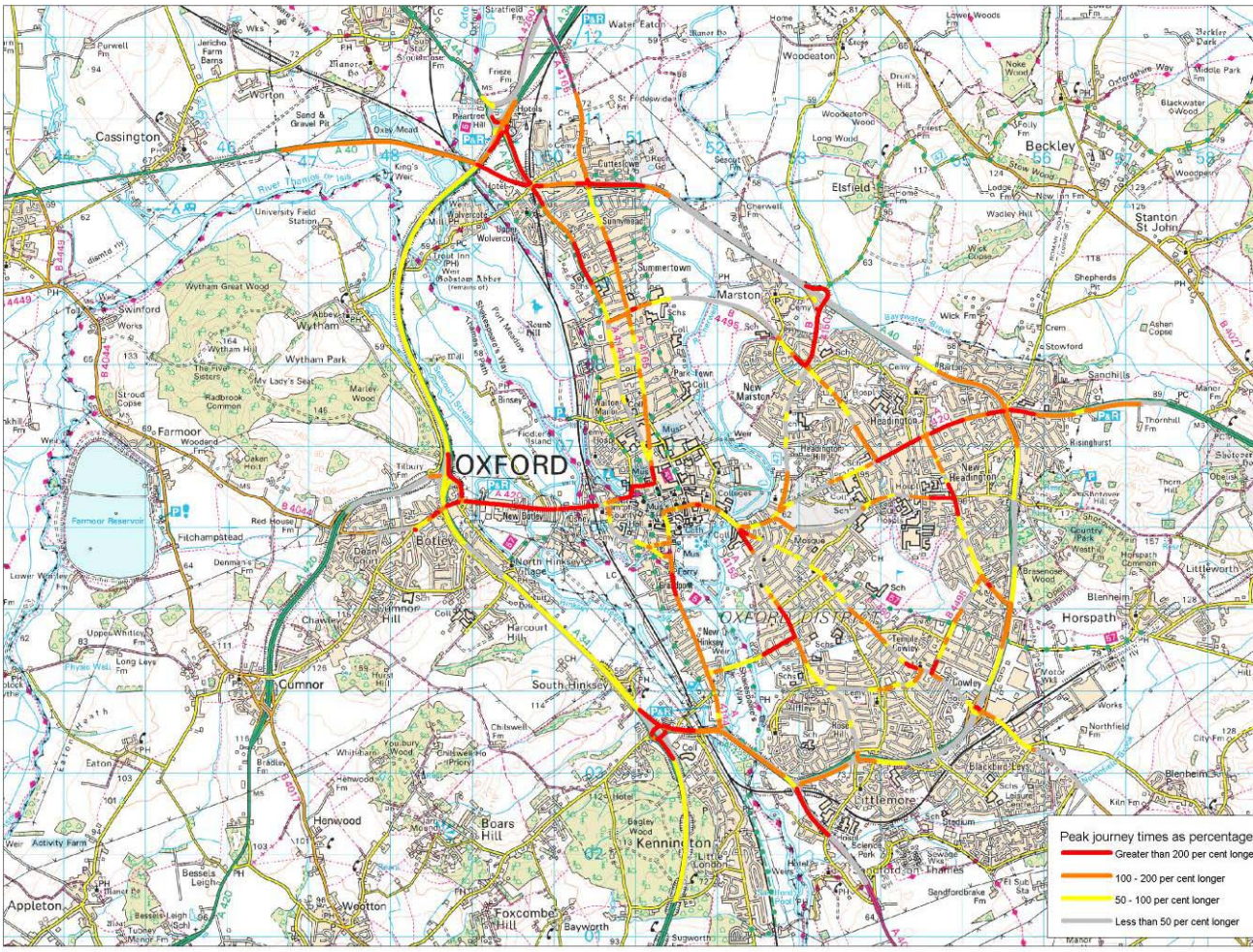

Figure 3 - Oxford: average congestion 0700 - 1000 September 2008 to August 2009

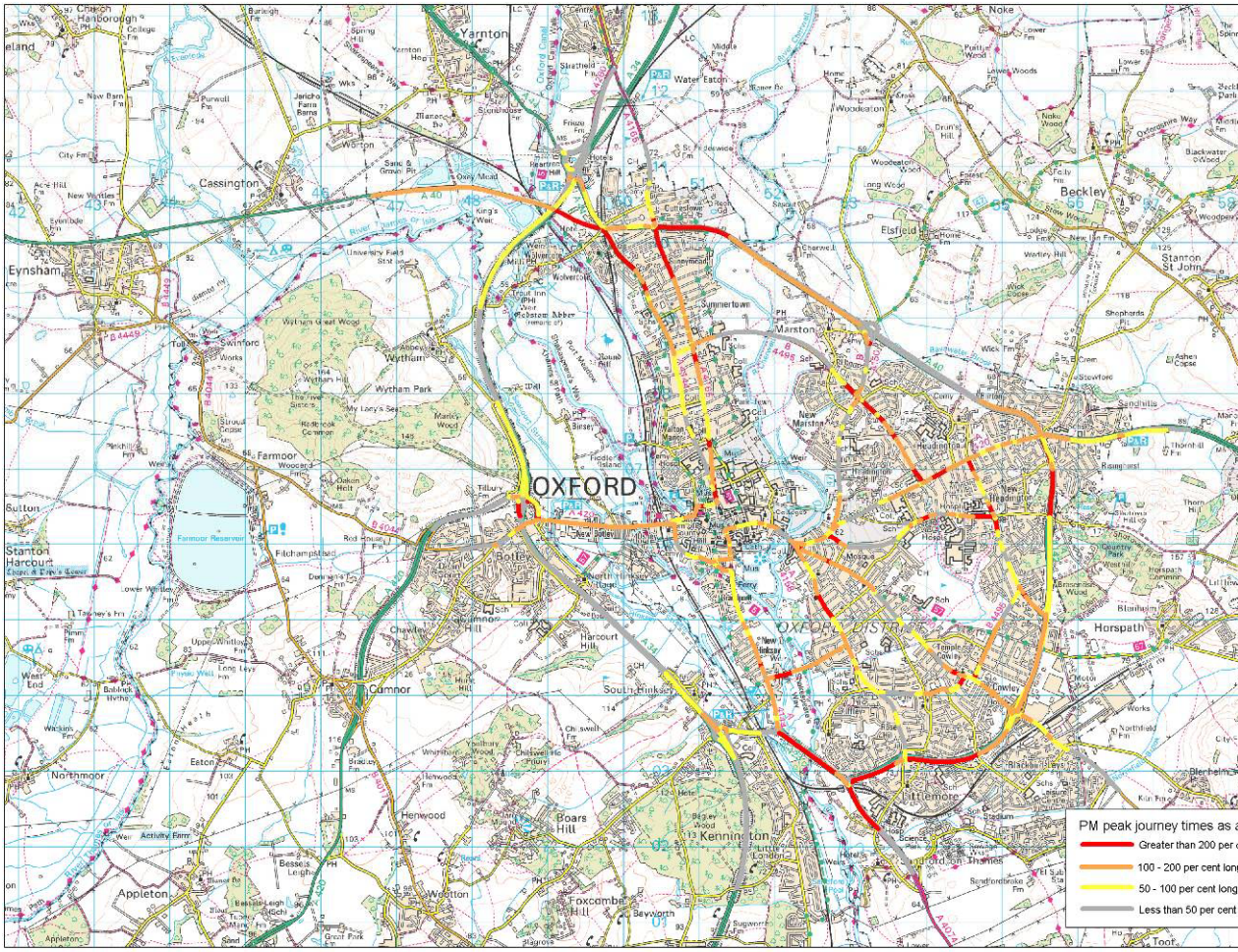

Figure 4 - Oxford: average congestion 1630 - 1830 September 2008 to August 2009

13.29 There is also the likelihood that car ownership will continue to rise, increasing the propensity to choose driving as the preferred mode for travel, and making it all the more important to plan new development so that other modes are more attractive.

13.30 Without a strategy to reduce or prevent the increase in traffic in Oxford and on the approaches to it, the average delay to individual journeys would be very significant and damaging to the economy, as well as the quality of life of the city's residents. Delays not only present a problem for car drivers, but also for public transport users: many key junctions still lack bus priority, leading to poor journey time reliability. The increase in traffic would make conditions for pedestrians and cyclists worse, and would cause a deterioration in air quality. Many drivers, particularly those with free workplace parking, will be less likely to switch mode if they do not perceive any benefits from giving up the comfort of their own car.

13.31 Rail congestion also affects train services at Oxford station, and the rail industry has plans to increase capacity as well as provide additional services to London from a new station at Water Eaton. However, this will increase the demand for travel to the stations.

13.32 Bus capacity is likely to increase in response to demand. This fits with the objective of encouraging greater use of public transport, but where routes converge in the city centre, the number of buses already has a major impact on air quality and the pedestrian environment, as well as damaging the historic character of important streets. Without a proper strategy, this problem would get worse, potentially damaging the economy and making walking and cycling in the city centre less attractive.

Air pollution problems

13.33 The national threshold for the air pollutant nitrogen dioxide is exceeded at eight locations in the city. Traffic is the main source of emissions at all eight of these "hotspots". The hotspots are:

* City centre
* Headington roundabout
* Headington centre
* Summertown centre
* Cowley centre
* Wolvercote roundabout

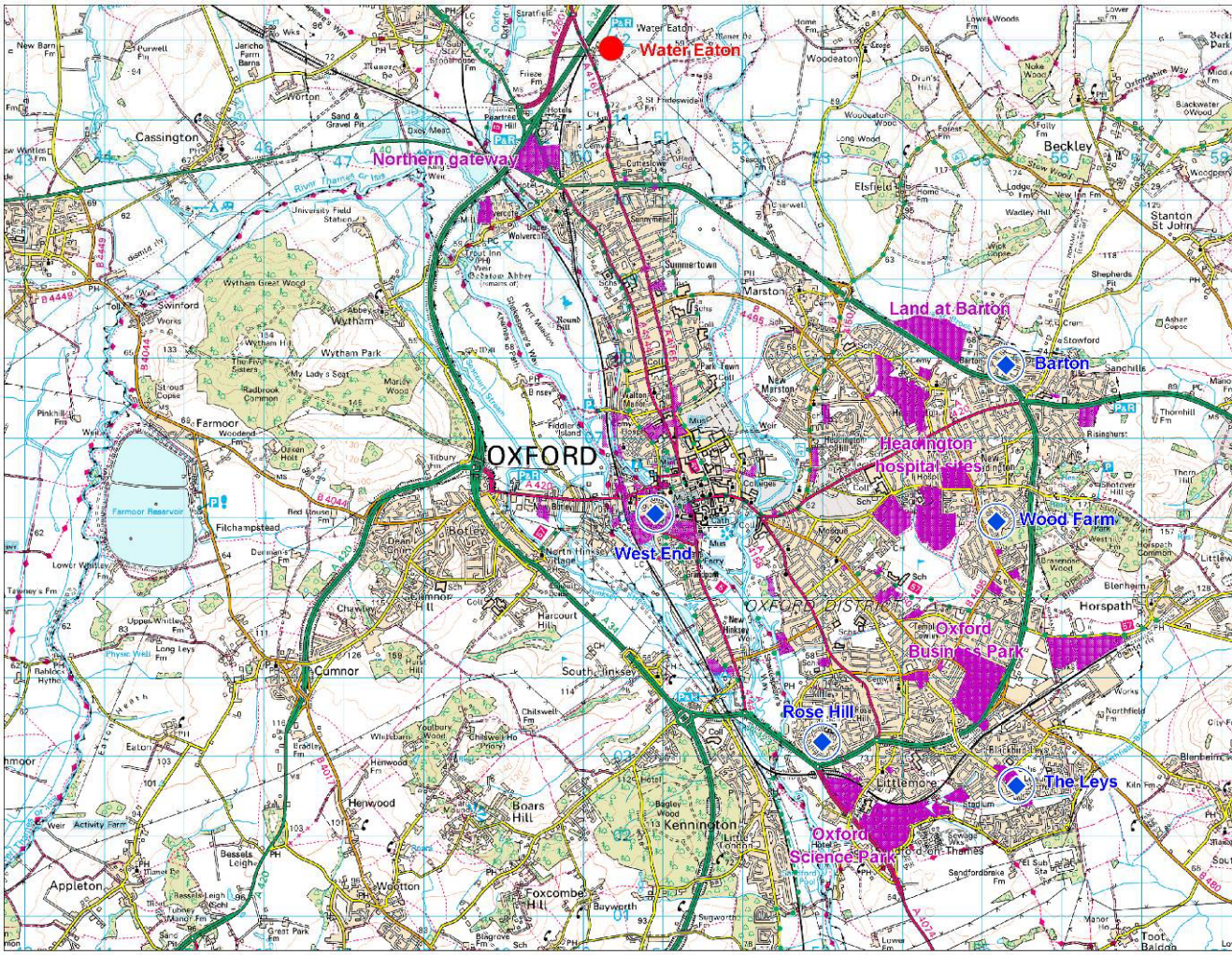

Figure 5 - Future developments and regeneration areas in Oxford

* Cutteslowe roundabout
* Weirs Lane

These are shown on Figure 6.

13.34 To ensure a co-ordinated approach to improving air quality in these eight hotspots, Oxford City Council has declared a citywide Air Quality Management Area, which will lead to the production of a citywide Air Quality Action Plan. This plan will be developed jointly by the city and county councils and will be an integral part of the area strategy for Oxford.

Geographic priorities

13.35 Demand for travel in Oxford is focused strongly on destinations in the city centre and the Eastern Arc. The amount of peak time car travel to the Eastern Arc is a major contributor to congestion at many of Oxford's hotspots, in particular at junctions around the B4495, which links Summertown and Cowley via Headington, and on the northern and southern approaches to Oxford.

13.36 This congestion delays journeys to key destinations in Oxford, as well as trips through the county. It causes many drivers to divert away from main routes, affecting the quality of life in residential areas. It affects air quality and can make cycling and walking unattractive. Our strategy will therefore focus on transport to and within the city centre and the Eastern Arc.

City centre, including the University Science Area and the West End

13.37 Transport policy since the 1970s has resulted in a low car use compared to other modes for trips to and across the commercial and retail heart of the city centre. With increased demand stimulated by development of housing in the city and around the county, as well as city centre attractions, it will be important to further reduce this low car mode share, in particular by increasing the proportion of people who walk or cycle. It will also be important to support the economy and accommodate more people using the city centre by enhancing the pedestrian environment.

13.38 Air quality remains a concern along much of the city centre road network, as does the impact of traffic on the historic fabric of the city and the pedestrian experience.

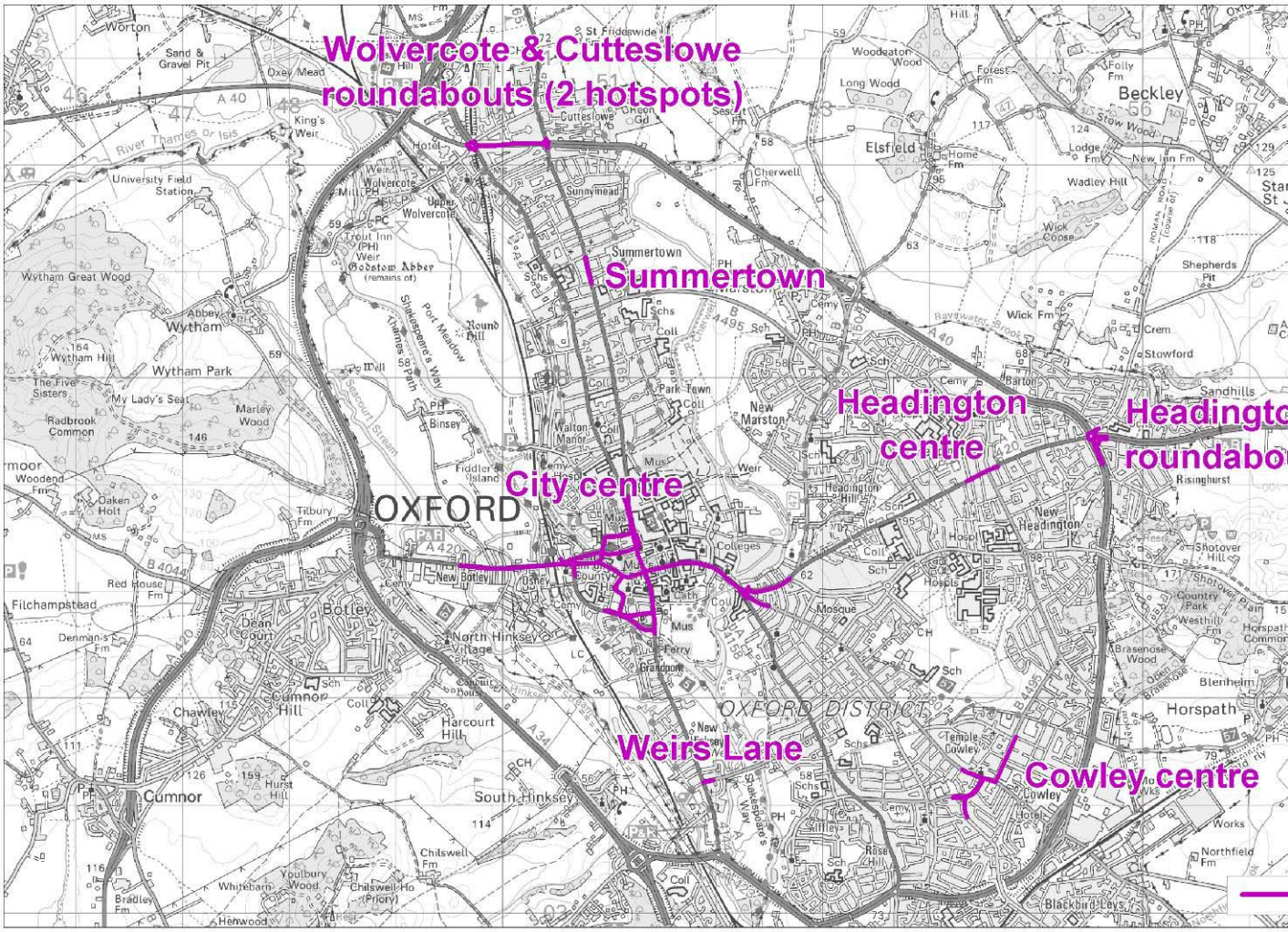

Figure 6 - Air pollution hotspots in Oxford

13.39 Our strategy for the city centre will focus on

* Improving access via sustainable modes
* Improving non-car cross-centre journeys including interchanges
* Enhancing the pedestrian environment to facilitate interchange between modes and help the local economy
* Improving air quality
* Reducing private car use relative to sustainable modes for journeys through the University science area

The 'Eastern Arc'

13.40 Much of Oxford's employment is concentrated at sites in Cowley (e.g. BMW, Oxford Business Park, Oxford Science Park) and Headington (major hospitals and Oxford Brookes University). The Cowley sites in particular have large amounts of workplace parking and no direct public transport access to park and ride sites. This means that many people from outside Oxford traveling to work in the Cowley and Headington areas choose to drive – see Figures 7 & 8.

13.41 Park and ride services to Headington exist but are limited by parking capacity at Thornhill and affected by long journey times from Water Eaton and Redbridge. While the major employers in Headington have parking policies in place to restrict workplace parking, a considerable amount remains.

13.42 Significantly, journeys to Eastern Arc employment from outside Oxford cause congestion problems on the northern and southern approaches to the city in particular, but also on parts of the B4495, which links Summertown and Abingdon Road, via Headington, Cowley and Rose Hill.

13.43 Much of Oxford's housing is also located in the Eastern Arc, and many of the car journeys to local employers are short journeys from within the city. Local bus services within the Eastern Arc exist, but congestion along the B4495 causes delays and service unreliability. The cycle network is often inconsistent, making cycling unattractive. This makes it difficult to encourage people to switch mode for local journeys. Further development is planned up till 2026 (with more likely beyond then) at locations in the Eastern Arc, e.g. Barton: the resulting increased demand for car travel would impact further on current congestion hotspots. It is important that people moving into new developments should choose non-car modes for their journey to work. Particularly for private car journeys to and between destinations in the Eastern Arc,

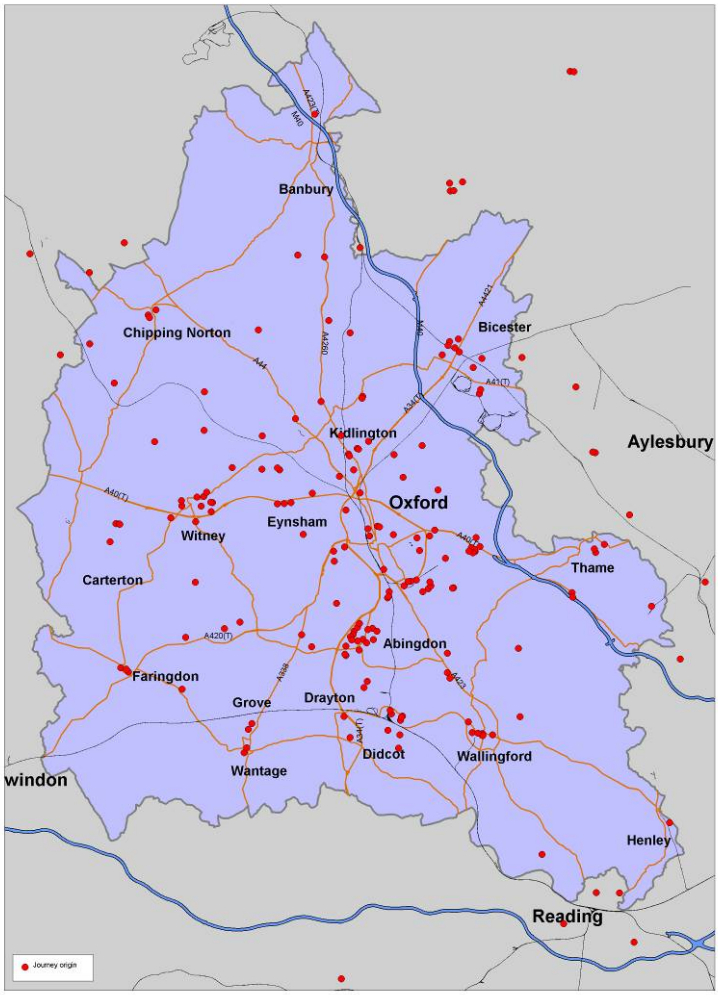

Figure 7 - Origins of people driving to the Headington area (OX3) for work or study

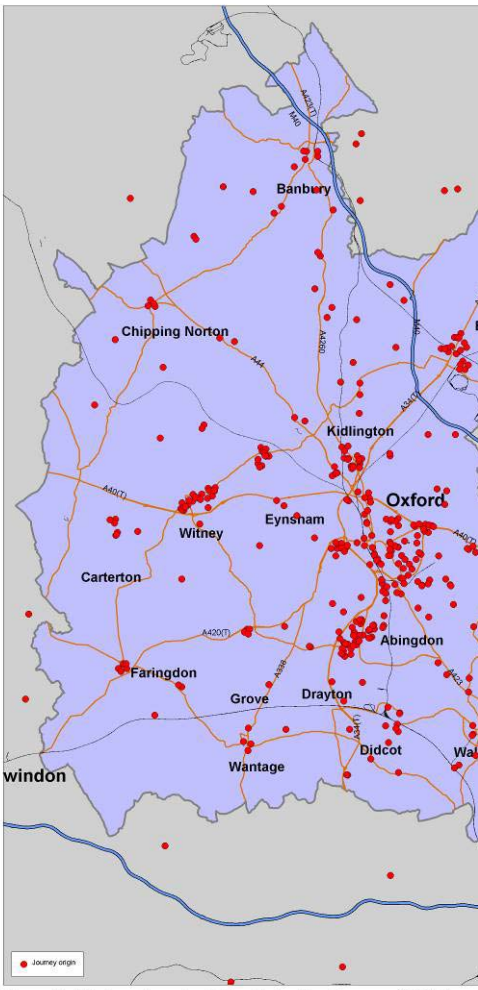

Figure 8 - Origins of people driving to the Cowley area (OX4) for w

drivers have a choice between the ring road, the B4495 and minor residential roads. Making the ring road the preferred choice for drivers, whilst accommodating through trips, will be an important element of our strategy.

13.44 Our strategy for the Eastern Arc will focus on:

* Delivering a form of high quality "rapid transit" public transport (which could be light rail or guided trolleybus), serving park and ride sites and major employment and housing areas in the Eastern Arc. The service could potentially make use of traffic free infrastructure and the Cowley branch line. As a possible future phase, there could be links to Abingdon, Witney and Bicester.
* Working with employers to develop travel plans and reduce the availability of car parking for staff
* Improving the reliability of local bus services, and improving cycling links, to encourage mode switch away from car travel for shorter journeys
* Tackling congestion at key junctions on the ring road

Other parts of Oxford

13.45 In other parts of Oxford, where improvements do not have a direct impact on the priorities mentioned above, there is nevertheless scope to increase the uptake of public transport, walking and cycling, and our strategy includes some measures to achieve this. This recognises the importance of providing a joined up network across the city, which can influence mode choice for all journeys, including those affecting the priority areas.

13.46 There will be improvements in local centres, to encourage more people to shop locally, thereby helping local businesses to thrive and reducing the need to travel. In particular, walking and cycling access to these areas will be improved.

Strategy measures

13.47 The priorities for investment in Oxford will be:

* High priority: improving conditions for pedestrians and cyclists, and reducing emissions
* Medium priority: improving access by rail and expanding park and ride facilities.

* Low priority: traffic management and measures to support Oxford's speed limits

13.48 Measures to improve access to Oxford from outside the city, for example improvements to some of the key junctions on the ring road, will require a high level of investment.

Park and ride strategy

Park and ride will be provided to 'intercept' journeys that would otherwise continue by car to destinations in the city. It will support a continuing reduction in workplace car parking within the city and the development of public transport alternatives to driving.

13.49 This will be achieved by increasing capacity for accessing the city centre by park and ride, and introducing new park and ride services to the Eastern Arc.

13.50 It will be important to ensure that car mileage for individual trips is minimised, by ensuring that bus services from outside Oxford remain more attractive than park and ride, while maintaining the attractiveness of traveling by park and ride in preference to driving into the city. Pricing mechanisms that reflect this hierarchy will be considered, including the possibility of different tariffs at different times of the day or week.

13.51 There will be a need to ensure good access to the park and ride sites, including careful consideration of the impact on all modes using local transport networks.

13.52 Schemes and investigative work will include:

* Expansion of Thornhill Park and Ride car park
* Delivery of high quality mass "rapid transit" park and ride access to major employment and housing areas in the Eastern Arc
* Investigation into expansion, access improvements and changes to operations at other park and rides and potential additional sites (including remote sites), taking into account Water Eaton rail station and a new orbital service (see above)

Rail strategy

Access to Oxford by rail will be improved, with the aim of getting as many people as possible with convenient access to a nearby local station, to travel to Oxford by train.

13.53 This will be achieved by:

- Working with the rail industry to improve rail capacity and the passenger experience at Oxford, and to improve rail links;
- Working with the rail industry to provide good access to a new proposed rail station at Water Eaton (Chiltern's Evergreen 3 Project), including careful consideration of the impact on all modes using local transport networks, and encouraging access by non-car modes, particularly where existing public transport passes near to the site;
- Improving pedestrian and cycle links between Oxford station and the city centre and University Science Area, and working with bus operators and the rail industry to improve bus links and interchange facilities.

13.54 Schemes and investigative work will include:

- Oxford rail station forecourt improvements
- Public realm schemes to improve conditions for pedestrians in Frideswide Square and approaches to it, George Street, Magdalen Street and St Giles
- Access to Water Eaton station from the road network as well as by public transport and cycling

Traffic management strategy

Traffic will be managed in a way that minimizes congestion where it is most harmful such as in the city centre, areas of poor air quality, bus routes and strategic routes. This will include more intelligent co-ordination of junction and road capacities. However, there are limits to how much traffic can be accommodated on the road network, and there will therefore be an investigation into more stringent demand management measures, including high occupancy vehicle lanes and road user charging.

City centre

13.55 Frideswide Square will be redesigned, including significant improvements to the square's appearance and environmental quality as a key gateway to the city. Traffic management to reduce the amount of car traffic through the science area will be investigated.

Eastern Arc

13.56 In the Eastern Arc, to support improvements to public transport aimed at reducing the number of car trips to the area, traffic management will focus on

* Reducing the availability of commuter parking, and
* Measures to improve bus service reliability and to encourage walking and cycling.
* Subject to funding, there will be improvements to the infrastructure at key junctions on the northern and southern approaches to Oxford, which will reduce congestion and improve bus priority on routes into the city.

13.57 Schemes and investigative work will include:

* Frideswide Square improvements to include approach from Botley Road
* Botley Road/A34 slip road junction improvements (this links with the Frideswide Square scheme)
* Improvements to northern approaches (Wolvercote and Cutteslowe junctions)
* Improvements to southern approaches (Heyford Hill, Rose Hill junctions)
* Investigation into measures to reduce the amount and/or the attractiveness of workplace parking in the Eastern Arc
* Extension of CPZs or other car management measures to mitigate the impacts of any reductions in workplace parking, including possible increase in on-street pay and display for short term parking
* Investigation into traffic management measures to improve bus reliability and reduce private car traffic along the B4495

Walking strategy

The pedestrian environment will be improved to encourage people to walk to their destination, or to be willing to walk further as part of a journey that is made mainly by public transport. Where appropriate, improvements to the pedestrian environment will be made where large numbers of people already walk, to maintain the attractiveness of Oxford and help the local economy.

City centre

13.58 Pedestrian routes between the station, the city centre, and the science area will be improved, and there will be further schemes to improve the pedestrian experience in the city centre as a whole.

Eastern Arc

13.59 Pedestrian access to local bus stops will be improved, including improved interchange facilities and signage where orbital and radial routes intersect. To complement the introduction of a new orbital "rapid transit" park and ride service, high quality walking routes will be developed between the stations on this route and key destinations. This recognises the fact that a fast, direct, limited stop service means some people will need to walk further than they would from stops on a slower, conventional local business service.

13.60 Schemes and investigative work will include:

- Public realm improvements in the city centre George Street, Magdalen Street, St Giles, Broad Street and Castle St
- Public realm improvements in the West End of the city centre
- Public realm improvements in St Clements and at The Plain (will also benefit public transport users and cyclists)
- Public realm improvements in Cowley Centre (though this is likely to be led by the developer)
- Improved pedestrian access to local bus stops, including improved interchange between orbital and radial routes in Summertown, Headington, Cowley and Rose Hill
- Walking routes arising from a new "rapid transit" park and ride service

Cycling strategy

Further development of the cycle network will encourage more people to cycle, particularly for journeys to work and education. Additions to the network will include quieter, direct, 'off road' routes. Awareness of cycle routes will be increased through better signage and targeted promotion.

City centre

13.61 The provision of more and better managed cycle parking will encourage more people to cycle to the city centre. Radial cycle routes, as well as routes across the city centre will be improved, and there will be schemes to make access to and egress from park and ride sites easier for cyclists, to encourage 'park and cycle'.

Eastern Arc

13.62 Cycle infrastructure improvements will be particularly targeted where there is the greatest potential for mode switch from car to cycling, and will include improved cycle access to major employers and employment areas. Infrastructure will be provided to encourage cycle access to a new, "rapid transit" park and ride service.

13.63 Schemes and investigative work will include:

* Cycle/pedestrian improvements to allow 2-way cycling on Pembroke Street
* Development of a cycle hub and improved cycle parking and management in the city centre
* Jackdaw Lane cycle and footbridge over the Thames
* Warneford Meadow cycle route
* Cycling improvements on Oxford Road, Cowley
* Cycling improvements on Windmill Road
* Reconstruction of Iffley Road, combined with improved cycle facilities
* Reconstruction including re-marking of Marston Rd between London Place and Edgeway Road
* Identification of other 'missing links' and potential schemes to further join up the city's cycle network
* Investigation into cycle 'expressway' network, taking a more radical approach to on-street car parking and land use than previously

* Investigation into the relative merits of segregated versus un-segregated shared use footways, with a view to determining a preferred option

Bus strategy

Improved bus services will encourage people to choose public transport over car travel. Infrastructure improvements and traffic management measures will help bus operators to run high quality, reliable and frequent services, that are seen as good alternatives to the private car.

City centre

13.64 It will be important to maintain the attractiveness and inclusiveness of travel to the city centre by bus. To achieve this, there will be further bus priority measures on radial routes, and improvements to ticketing arrangements, as well as better bus waiting and terminal facilities. Access by bus to the University Science area will be improved and there will be an investigation into a service to assist people with mobility difficulties in crossing the city centre.

13.65 At the same time the environmental impact of buses and coaches on the city centre will be reduced, through possible changes to routing and ticketing arrangements.

Eastern Arc

13.66 The reliability of bus services will be improved through traffic management measures to protect them from congestion. Access from outlying housing areas will be improved where possible, taking advantage of the increased demand arising from new housing development.

13.67 Schemes and investigative work will include:

* Re-routing of buses and coaches in the city centre
* Schemes targeted at reducing congestion and giving buses priority where possible in the Eastern Arc:
    a. Hollow Way/Garsington Road
    b. Windmill Road/The Slade
    c. Osler Road
    d. Headley Way
    e. Cherwell Drive/Marsh Lane junction
    f. Access to the main hospitals in Headington

* Improvements to bus stop infrastructure and information at local bus stops in the Eastern Arc, particularly at interchange points
* London Road outbound bus priority between Wharton Road and Green Road
* Woodstock Road corridor improvements
* Banbury Road corridor improvements
* Abingdon Road corridor improvements
* Schemes arising from new housing development at Barton
* Investigation into electric bus routes into the city centre
* Investigation into a service to assist people with mobility difficulties in crossing the city centre.

Emissions strategy

To help Oxford move towards the vision of a city 'that becomes carbon neutral with high eco standards', the county council will work with transport operators and businesses to reduce transport-related emissions of carbon and pollutants. This will also encourage walking and cycling, by improving air quality.

City centre

13.68 A city centre Low Emission Zone.will be implemented and options will be investigated for reducing the impact of freight on air quality.

Across the city

13.69 The introduction of charging points for electric vehicles in the city will be facilitated, and options will be explored for incentivising lower carbon emission company and private vehicles.

13.70 Traffic routeing will be improved to reduce emissions in the streets with most pedestrians and residents.

13.71 Schemes and investigative work will include:

* Implementation of a Low Emission Zone (LEZ) for the city centre
* Investigation into an LEZ covering the whole city
* Investigation into options for reducing carbon emissions from goods and private vehicles in the city
* Investigation of options for more efficient logistics arrangements aimed at reducing freight traffic into the city centre

Behaviour change strategy

Car travel will be reduced, particularly to destinations in the Eastern Arc, through travel planning work with targeted schools, large employers, and clusters of small to medium sized employers Where possible this activity will be coordinated with infrastructure provision to maximize value.

13.72 The car share scheme for Oxford will be developed and marketed, and support will be given to the development of car clubs.

13.73 There will be tailored social marketing of sustainable travel, working with health authorities to stress the health benefits of active modes.