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**Oxford City
Council Local
Plan 2036**

*Movement and
Transportation*

BACKGROUND
PAPER

INTRODUCTION

The way by which people choose to move themselves around, in to, and out of Oxford has implications for their personal health, wider societal health, quality of life in the city, and the greater environment. Fossil-fuelled vehicles use limited resources and emit fumes that have widespread negative impacts on climate change, human health, ecosystems, historic buildings, and many other things. Road safety for pedestrians and cyclists is also affected by the number of motorised vehicles. Opportunities to walk and cycle in a safe environment without harmful fumes are important in encouraging use of these modes, which themselves can benefit people's health and wellbeing. The increase in population expected in the city and across Oxfordshire will mean there are more people needing to travel into and around the city. Within Oxford a much higher proportion of journeys are made by bus and cycle than the national average and the rest of Oxfordshire. Journeys to Oxford that originate outside Oxford are much more likely to be by car, particularly when destinations are in the east and north of the city, with comparatively high levels of bus use for journeys to the city centre. It is important that new developments are located so that sustainable modes of travel are the preferred choice. It is also important that infrastructure is provided to maximise the attractiveness of these modes and demand for car travel is controlled by limiting access to car parking, particularly at places of work, which will require supporting measures including expansion of Controlled Parking Zones. The limited availability of land in Oxford means that the best use must be made of space, including road space and car parking space. It is important that streets are attractive spaces.

This background paper supplements the relevant background papers on transport and air quality that were published at the Issues stage of consultation in 2016 and the Preferred Options stage of consultation in 2017. The studies referred to in this paper will also form part of the evidence base for the Oxford Local Plan 2036.

This paper is structured into sections and subsections as follows:

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PLANS, POLICIES, AND REPORTS

National Planning Policy Framework

The NPPF strives to deliver the government's vision of sustainable development. Considerations of movement and transportation play a key role in achieving that. Generally, the NPPF sets out that plans should minimise the need to travel for

employment, shopping, leisure, education, and other activities. It stresses the importance of land-use planning and strategic location of services and functions in order to maximise use of sustainable transport modes (i.e. walking, cycling, and public transport).

More specifically, para 91 in section 8: *Promoting healthy and safe communities* provides support for many of the aspirations of the Plan, with specific reference to the desirability of mixed-use areas, street layouts, and connections that encourage walking and cycling. In addition, section 14: *Meeting the challenge of climate change, flooding, and coastal change* sets out the government's aspiration to have the planning system support the U.K.'s transition to a low carbon future; which is something that the measures included in the movement strategy of the Plan are attempting to deliver as well.

Most relevantly, however, section 9: *Promoting sustainable transport* is dedicated to concerns of movement. Paras 102-111 provide guidance and support which has informed our movement and transportation strategy. Para 102 places considerations of transport issues in a prominent position at the earliest possible stage of plan-making and development proposals in order to maximise opportunities to promote sustainable transport; take advantage of opportunities to change and evolve transport technology; appropriately account for environment impacts; and internalise patterns of movement into the design of schemes and places. Para 103 notes the importance of focusing development on locations which are, or can be made, sustainable (to mean reduced travel demand). Mixes of uses and provision of high quality walking and cycling networks, as well as facilities that support them, are highlighted in para 104 as factors which planning policies should support. Paras 105-106 discuss parking and provide support for Councils in setting policies that take into account local context, needs, and pressures. Para 110 gives first priority to pedestrian and cycle movement with public transportation second and other modes left to follow. Generally, the maximisation of opportunities to improve and increase use of sustainable transportation/movement modes is a consistent theme throughout the section.

Government Guidance

The Manual for Streets contains principles for the design of residential and other lightly trafficked streets. Its aim is for streets that are designed not just to accommodate the movement of motor vehicles but also for streets to be designed as 'places'. It sets out the importance of a 'movement framework' that enables and encourages walking and cycling and public transport use. Walkable neighbourhoods usually have a range of facilities available to residents that can be accessed on foot. The environment is attractive and convenient for walking. Pedestrian or cycle only routes must be designed properly so they do not lead to anti-social behaviour.

Local Transport Plan (LTP)

It is important to bear in mind that Oxford City Council does not fulfil the role of Highways/Transport Authority within Oxford. Oxfordshire County Council plays that role, whilst Oxford City Council occupies the role of local planning authority in our two-tier structure. Oxfordshire County Council's fourth Local Transport Plan¹ (LTP4) was approved by Full Council in July 2016 and houses a series of supporting documents and strategies that are also worth mentioning.

Oxford Transport Strategy (OTS)

The Oxford Transport Strategy² (OTS) sits within LTP4 and identifies the current and future challenges for transport in the city and sets out a strategy based on a combination of infrastructure projects and supporting measures to enable economic and housing growth.

The Strategy is aimed at improving access and making Oxford a better place to live, work and visit, by reducing congestion, improving public transport and making Oxford more cycle and pedestrian friendly. It sets out city wide measures, as well as going into more detail related to North Oxford, the Eastern Arc, and the City Centre. A key OTS project is mass transit, which includes: Bus Rapid Transit that would connect all major employment areas in the city to existing city-edge and future remote Park & Ride sites and the county towns; a doubling of Park & Ride capacity; improved interchange between bus and walking and cycling; use of high capacity electric vehicles; off-board ticketing; reopening of the Cowley Branch Line; and major rail and passenger improvements at Oxford rail station. The Strategy promotes active travel, i.e. walking and cycling, and includes proposals for 'Super', 'Premium', and 'Connector' cycles routes to support mass cycling across the city and beyond. Improved way finding and increased cycle parking capacity (including underground cycle storage in the city centre) also forms part of the strategy. Proposals for bus rapid transit and mass cycling rely on the reallocation of road space and so the county council is currently exploring a number of options to support this and to contain further growth in traffic; including additional access restrictions across the city, road-user charging, and a workplace parking levy. The strategy also includes proposals to expand the coverage of controlled parking zones across the city which are required to ensure commuter car parking is not displaced to residential streets.

Over recent years, while Oxford's population has grown (13% increase between 2001 and 2011), traffic flows on key roads across the city have not increased. This has been achieved through a combination of measures including the use of city centre access restrictions, more restrictive car parking policy, expansion of controlled parking zones and bus and

¹ <https://www.oxfordshire.gov.uk/cms/public-site/connecting-oxfordshire>

² http://mycouncil.oxfordshire.gov.uk/documents/s33711/Background%20CA_JUN2816R12%20Connecting%20Oxfordshire%20vol%208%20part%20i%20-%20Oxford%20Transport%20Strategy.pdf

cycle improvements. The overarching aim of the OTS is to increase overall transport capacity but with no further growth in traffic, or a reduction where this will improve the public realm and supports proposals for bus rapid transit and mass cycling. To achieve this, the majority of movement around the city will need to take place by walking, cycling, and public transport as these are the most space efficient and sustainable modes.

Active and Healthy Travel Strategy

The Active and Healthy Travel Strategy sits within LTP4. It aims to create the conditions in which more people choose to walk and cycle for more journeys, including those where people use a combination of walking, cycling and public transport to reach their destination (also known as door to door).

Active and healthy travel is more than just another mode of transport. These travel choices have the added benefit of improving personal health and fitness, contributing to cutting congestion and decreasing pollution and can increase community cohesion through greater levels of personal interaction (particularly walking). However, awareness that many people do not consider walking or cycling due to concerns about safety and personal security brought about this strategy in order to attempt to address these issues positively through a belief that much can be achieved through good highway design and initiatives; such as raising awareness of the benefits of walking and cycling and promoting those routes that make good provision for pedestrians and cyclists.

Oxfordshire Walking Design Standards

The Oxfordshire Walking Design Standards sit within LTP4. The Walking Design Standards provide technical solutions appropriate to specific scenarios that support all pedestrian groups when planning for new development.

As well as being a mode of travel in itself, walking is an element of virtually all trips and is used to access other modes of transport. The document sets out that walking must be accessible and suitable for all users, including young people, older people and those with a disability, and requires that all designers should demonstrate how they have accommodated the needs of these users on all new footways.

The document internalises the concept that streets are not just for moving traffic from A to B and that not all streets have the same purpose. Some are primarily traffic routes, but others are important for local people to meet, shop and interact. In designing streets, it is important to understand the different roles that the street can perform and where it fits in the street hierarchy. Walking is not the same as other road uses and streets should be designed to reflect the purpose and role that is required of them. For example, a local urban high street should be able to address a number of uses, such as enabling people to shop without cars, providing a well-connected catchment area of customers for business

and provide inclusive space for people to participate in local activities and interact with others. People on foot need routes that are direct and convenient.

Oxfordshire Cycling Design Standards

The Oxfordshire Cycling Design Standards sit within LTP4. The Cycling Design Standards provide technical solutions appropriate to specific scenarios that support all cycle users when planning for new development. The document internalises the evidence-based conclusion that the more people choose to cycle, the greater the benefits for everyone, regardless of whether or not they choose to cycle. An increase in cycle journeys contributes to reduced traffic congestion, better public health, a better environment, a stronger economy and a more pleasant place to live. These are things that are universally desired, and are key objectives of the Local Plan.

Many people already choose to cycle in Oxfordshire. This is very encouraging, but more often than not those that choose to cycle are from specific demographics. The document seeks to ensure that the right conditions for everyone to choose to cycle are created; whether they are young or old, male or female, or disabled. The aim is to position cycling as the preferred choice for everyone. To do so, it needs to be ensured that people can cycle directly without unnecessary delays, that there is somewhere convenient to leave their cycle at their destination, and that they can not only be safe while cycling but feel safe as well. The document attempts to achieve this through good highway design to create an attractive safe environment for cycling. The better the environment for cycling, the more people will choose to cycle. It is believed that there is a huge unmet demand for more people choosing to cycle in Oxford, which can be unlocked if the right steps are taken in design, engineering, and provision.

The City Council's Response to LTP

The City Council's response to LTP was prepared on behalf of the City Council by Alan Baxter Ltd. This considered the OTS to represent a forward thinking and ambitious package of measures, albeit with potential to be taken further. The report made the following key comments and recommendations:

- Suggested the LTP could go further to support walking, cycling and public transport, with a significant re-allocation of road space;
- As a compact city, Oxford should set a radical and ambitious strategy for increased cycling and walking, based on adopting best practice from other European cities such as including a walking strategy;
- Concern that the proposed frequency of bus rapid transit is not high enough for 'turn up & go' especially if changing lines; also time to cross to other side of Oxford could be 1hr+;
- There should be review of bus routing and a bus management strategy which can deliver further service improvements including further bus priority;

- Park & Ride – should enhance existing as well as investigate additional sites;
- Support development of a freight consolidation strategy;
- Strongly support Zero Emissions Zone;
- More intelligent management of ring road, e.g. Intelligent Transport Systems;
- Support Workplace Parking Levy

Oxfordshire Housing and Growth Deal

The County Council and the five District Councils (The Growth Board³) have signed up to the Oxfordshire Housing and Growth Deal which aims to deliver 100,000 homes by 2031. A significant proportion of these homes are planned to be well-connected to the Oxford urban area in order to service Oxford’s continued economic growth. Thus there is a pressing need for people to be able to travel efficiently in and out of the city, recognising that owing to its constrained nature the majority of the city’s workforce live outside of the city and need to be able to travel in and out of the city to work.

The Growth Board has produced a long-term vision for transport across the county which links to the National Infrastructure Commission’s work “Partnering for Prosperity”⁴, particularly focusing on the first/last mile of transport in Oxford – between the city’s rail station and people’s homes or workplaces. As part of the evidence base the NIC commissioned former London Cycling Commissioner Andrew Gilligan to assess cycling opportunities in the growth arc. The report “Running out of Road: Investing in cycling for Cambridge, Oxford, and Milton Keynes”, published in June 2018, focuses on investment in cycling improvements in Oxford, Cambridge, and Milton Keynes. The report states £200 million is needed to fund cycling improvements in the three cities, with three quarters of this recommended for Oxford alone. The report notes that Oxford’s roads and junctions are laid out almost entirely for the benefit of the motor vehicle and recommends the provision of segregated bike lanes on main roads, off-road routes, and remodelled junctions to make them safer for cyclists and pedestrians.

The Growth Board’s other work includes the commissioning of the independent Oxfordshire Infrastructure Strategy, a report that aims to identify, map, and prioritise the infrastructure – including new roads, schools, hospitals, and dwellings – that Oxfordshire will need to meet the expected population growth by 2040.

³ *The Growth Board is a joint committee of the six councils of Oxfordshire together with key strategic partners. It has been set up to facilitate and enable joint working on economic development, strategic planning and growth. It does this by overseeing the delivery of projects that the councils of Oxfordshire are seeking to deliver collaboratively in the fields of economic development and strategic planning.*

⁴ *Partnering for Prosperity: A new deal for the Cambridge-Milton Keynes-Oxford Arc November 2017*

Oxford City Centre Movement and Public Realm Strategy

In order to work towards meeting the aim of the OTS and to build upon the report written by Alan Baxter Ltd., Oxford City Council and Oxfordshire County Council jointly commissioned Phil Jones Associates (PJA) and ITP to produce a City Centre Movement and Public Realm Strategy. The aim of this study was to consider how best to address the pressures and challenges that Oxford will meet as it continues to grow and develop, and to do so whilst improving the quality of life and experience in the city centre. Between September 2017 and February 2018 the project team undertook a comprehensive programme of engagement with key stakeholders including local interest groups such as the Civic Society and Oxford Preservation Trust; a range of cycling, pedestrian and bus user groups; local businesses; and elected members. The engagement process comprised design workshops; discussions with both city and council officers; site visits with both officers and members; and a presentation to the Oxford Design Review Panel.

The final report (July 2018) sets out a series of recommendations based primarily around the concept of re-organising and re-allocating space in the city centre in a more efficient manner that will maximise gains in movement and quality of life and experience. The strategy seeks to change several city centre streets into one-way routes for motor vehicles and two-way routes for walking and cycling. This re-allocation prioritises pedestrians, cyclists, and users of the city centre above motor vehicles. These streets would form a key part of a revised transport management system which would allow buses to travel around the whole city centre.

These recommendations present a number of complex challenges for both City and County Councils. In order to take these recommendations forward a considerable amount of further work needs to be done on reaching a consensus across officers, elected members, stakeholders, and other interested parties to move these proposals forward towards implementation. In addition to the challenges of gaining consensus on the recommendations, the proposals are predicated upon Oxfordshire County Council's proposed transport demand management measures.

CURRENT SITUATION, EXISTING PROGRAMMES, & FURTHER INFORMATION

Oxford Residents' Survey

The Oxford Residents' Survey 2014/15 carried out by Ipsos MORI asked what things were important in making somewhere a good place to live. 27% said level of traffic congestion was an important aspect of making somewhere a good place to live (7% said this in the comparison council area), and 38% said public transport (18% said this in the comparison council area). This put public transport as the 4th most important aspect of 21 in making somewhere a good place to live, and traffic congestion as the 10th. Residents were also

asked which aspects were in need of improvement. 62% said traffic congestion needs improvement (compared to 15% in the comparator council). This makes it the aspect of Oxford most in need of improvements according to residents surveyed. In the north-east area of Oxford, 70% said improvement is needed.

Commuting Patterns

Between 2001 and 2011 the net increase in the number of commutable jobs (those involving a set journey from the home to place of employment) in the city was almost 8,000 (9% increase). The Eastern Arc area saw a 23% increase and it has now surpassed the city centre as the area of the city with the most jobs.

73% of Oxford city residents work within the city. However, almost half of Oxford's workforce (45,900 people or 46%) commuted into the area in 2011. This is an increase in absolute numbers (of 5,801) but a slight decrease in proportion compared to 2001. The greatest numbers of inbound commutes and the greatest increase in the numbers of journeys since 2001 is from the Vale of White Horse, with 10,800 commutes into Oxford, 1,100 more than 2001.

Outbound commuting from Oxford has increased since 2001, although below the growth in inbound commuting. 16,000 employed Oxford residents (23%) travel out of Oxford to work elsewhere, mainly other Oxfordshire districts (The Vale of White Horse receiving the most commuters from Oxford) and London.

Mode Share of Commuting Journeys

Oxford city residents are significantly less reliant on the car for journeys to work than residents in other Oxfordshire authorities (34% of Oxford residents travel to work by car in Oxford compared to 63% in the rest of Oxfordshire).

Within Oxford 68% of journeys were made by sustainable methods of travel (bicycle, foot and bus). These have all increased from 2001, whereas the use of a car for commuting within the city has stayed the same (see graph in Figures 1 and 2 below).

While the modal share for public transport trips into the city has increased steadily in recent years, the majority (66.8%) of commuters travelling into Oxford from elsewhere travel by car (see Figures 1 and 2 below). Travel by car remains the dominant form of transport to all destinations other than the city centre. Since 2001, the number of journeys made by car has increased from 27,700 to 30,600.

Figure 1: graph to show the mode of travel of Oxford-resident and non-resident commuters

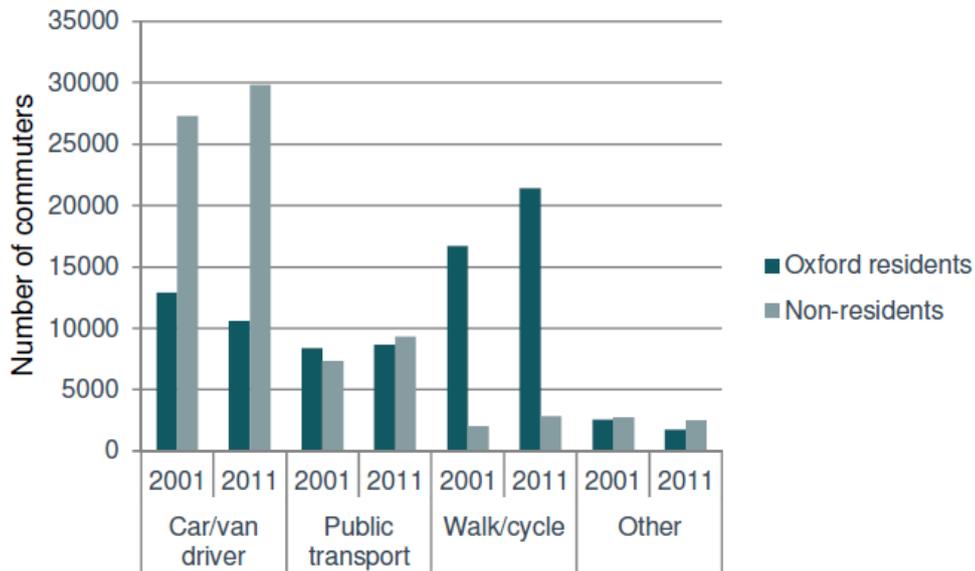
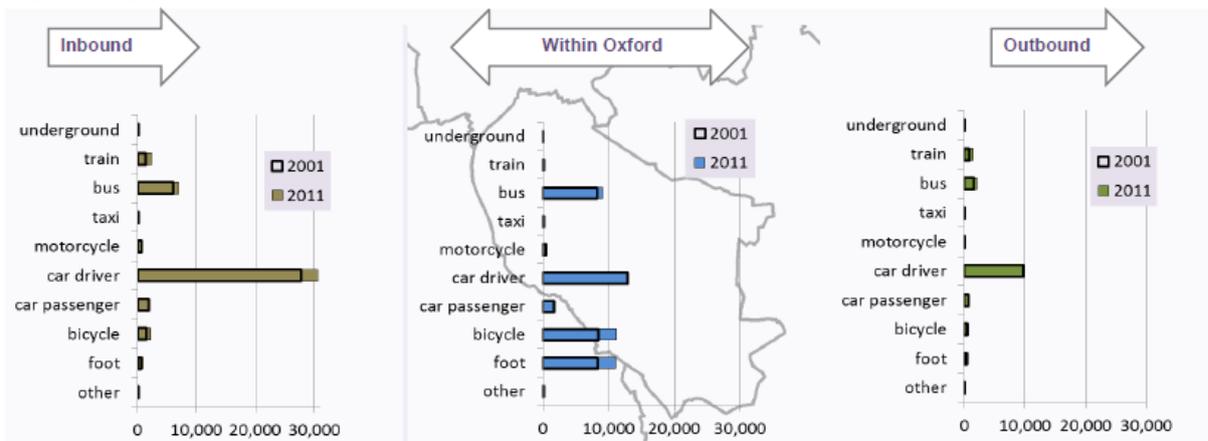


Figure 2: graph to show the mode of travel into Oxford, out of Oxford, and within Oxford



Source: Oxfordshire Insights Census data analysis:

http://insight.oxfordshire.gov.uk/cms/system/files/documents/TTWmode_Oct14_FINAL.pdf

The 2011 Census figures show that the highest relative ratios of private motorised transport trips - compared to those made by sustainable modes for travelling to work - are in Cowley, Littlemore, and North Oxford. The proportion of car journeys made varies depending on the part of Oxford that is the end destination. As the table in Figure 3 below shows, the Eastern Arc (an area that includes Headington, Cowley and Littlemore) attracts more car journeys, and a higher proportion of car journeys, than the city centre or North Oxford.

The number of trips by private motorised transport into workplaces in the city centre or North Oxford declined from Census 2001 to Census 2011. This reduction in numbers was exceeded by the increase in this type of travel to the Eastern Arc. However, the percentage change in those accessing the Eastern Arc to work by bus was the largest percentage increase.

Figure 3: Graph to show the mode share of commuter travel to three employment areas in Oxford at the time of the 2001 and 2011 censuses

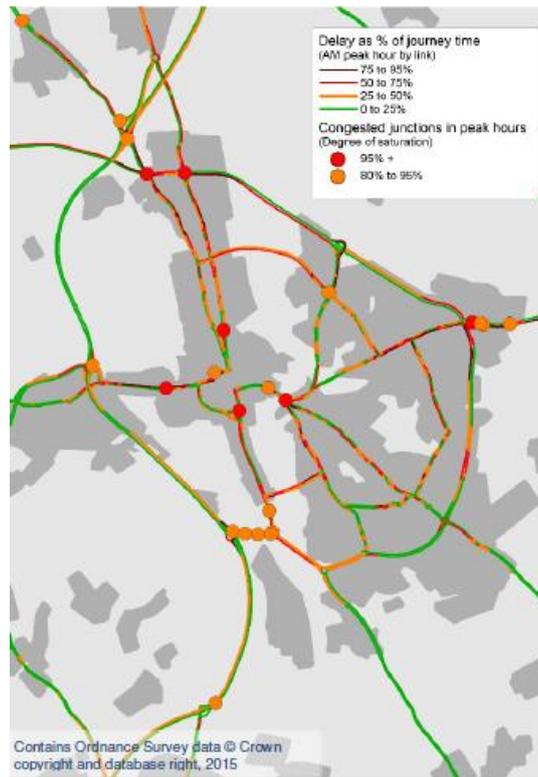
Area	Private motorised vehicle			Mass transit			Walking & cycling		
	2001	2011	% Change	2001	2011	% Change	2001	2011	% Change
City Centre	14,663	12,126	-17	11,627	11,955	3	9,944	12,254	23
Eastern Arc	24,087	27,362	14	3,211	5,062	58	7,611	10,856	43
North Oxford	3,533	3,143	-11	986	1,040	5	1,294	1,423	10
Total	42,283	42,631	1	15,824	18,057	14	18,849	24,533	30

Source: LTP4 Background Paper changing patterns of growth and travel

Traffic Congestion

As a medieval city, Oxford's often narrow streets are, in many areas, unsuited to motorised vehicles – or high levels of motorised vehicle use. Peak period traffic congestion is a persistent problem. Within the centre there is a clear conflict between cars, buses, and delivery vehicles which compete for the limited space with pedestrians and cyclists. Traffic congestion on Oxford's road network, ring road, and approaches is already significant - as the diagram in Figure 4 below shows. Levels of traffic have not been increasing, and have decreased slightly in some areas since 2001, but congestion and delay is still a problem, in peak times particularly.

Figure 4: Map showing the areas of greatest congestion in and around Oxford



Transport Demand Management

The County Council is currently exploring options –including further access restrictions across the city, road-user charging and a workplace parking levy in order to deliver a series of objectives, including the following:

- Congestion-free public transport routes across the city, consistent with those routes identified in the Oxford Transport Strategy
- Segregated cycle route provision on key routes throughout the city consistent with those routes identified in the Oxford Transport Strategy
- Excellent air quality
- A quality public realm and pedestrian environment that supports city centre and district centre vitality

Transport demand management measures are required because levels of traffic congestion on many parts of the city’s road network are such that they prevent the achievement of the above objectives, and there is insufficient physical space to overcome these problems through simple engineering efforts such as increased capacity or basic bus priority measures.

Zero Emission Zone

The OTS set out the aspiration for a Zero Emission Zone in Oxford to be introduced in the period 2020-2035. The City Council and County Council have jointly commissioned a study to investigate the feasibility of introducing a Zero Emission Zone in Oxford. The study is looking at a range of options on how such a zone can be implemented in Oxford in the period from 2020-2035. It is envisaged that the zone will start small and expand as technology develops. The use of electric vans, buses, and cars are some of the ways to achieve zero emission travel. Cycling and walking are naturally emission free and help avoid air pollution. Work is currently on-going on this project and progress is being made.

Sustainable Transport Improvements

Walking

Walking is an important transport mode. Nearly all journeys involve an element of walking. In a compact city such as Oxford, walking is an obvious choice of travel mode for many people for many journeys. It is important that the public realm is designed in a way that makes walking attractive and safe. It is also important that facilities are located so that journeys can be easily made on foot, with facilities that attract a lot of people located in clusters in accessible locations.

Walking is an essential component of almost all journeys. Walking has many advantages over other modes. It creates no emissions and does not contribute to congestion or damage the environment. It is also good for people's health. More people walking in an area can also help deter crime and may even contribute to the building of social cohesion. Its compact nature makes Oxford a walkable city.

Walking should be made as attractive as possible, both to ensure it is used as a mode in itself, and also in recognition of the importance of attractive walking routes to bus stops or train stations in encouraging use of these modes over the car. To encourage more walking it is necessary to consider the pedestrian environment and also the connectivity of walking routes. It is important that roads can be crossed safely and directly, and also that new developments are well linked to facilities and workplaces. Volumes and speeds of motorised traffic also affect the quality and range of pedestrian activity.

Cycling

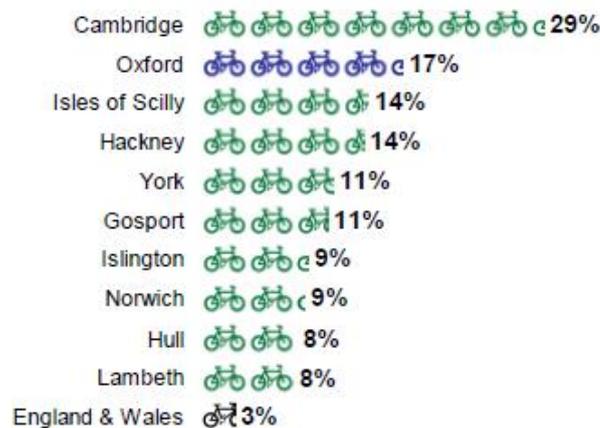
Although Oxford already has the second highest proportion of cycle commutes in the country, successful delivery of the OTS in the most sustainable manner will require an increase in both the share and overall amount of journeys by bike. Cycling has many advantages in that it does not worsen air quality and it can promote health and wellbeing. Because the mode share of cycling is already so high in Oxford, to increase it will require those less confident at cycling or those who feel they are not well enough connected to

their place of work by bike to feel able to begin cycling to work and for other journeys. This will mean that routes will need to feel safe from end to end, with a variety of connections, allowing wide accessibility of the city by safe cycle routes.

The OTS shows cycle ‘super highways’ and ‘premium’ routes and sets out how they should be designed to optimise cycling conditions. The City and County Councils have also identified other ‘connector’ cycle routes, which in some cases exist or are used informally, but which could be improved or formalised. Identification of routes has focussed on considering where new development could help deliver improved connections. Public parks have also been considered for potential to deliver sensitively designed cycle routes, which might encourage less confident cyclists.

The percentage of workers cycling to work in Oxford is 17% (see chart in Figure 5 below). This compares to 5% of journeys to work being made by bike in Oxfordshire as a whole, and 3% in England and Wales. There are likely to be many reasons for this, including the cycling culture and the use as cheap transport by students, as well as the relatively compact urban area. There are many dedicated cycle routes in Oxford and 20mph zones which are likely to encourage cycling.

Figure 5: Graph to show the local authority areas with the highest % of workers cycling to work, from the 2011 census

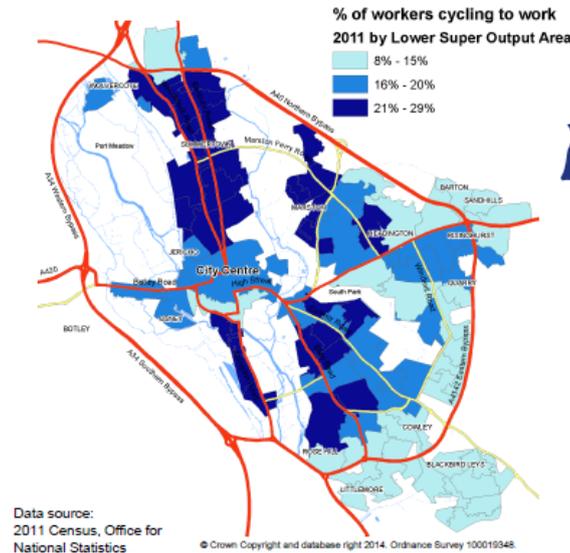


Barriers to increasing the proportion of cycling are likely to include a lack of sufficient priority and space at junctions, and insufficient space on roads. There are opportunities to encourage more cycling, many of which are outlined in the OTS; for example joining up the ‘quiet routes’, and integration with bus, train, and rapid transit.

The map in Figure 6 below shows that there is variation across the city in the number of workers cycling to work. Many of the areas with lower percentage cycling to work than most of the city are those around the ring road. However, there are also some areas closer

to the city centre that have lower percentages than elsewhere in Oxford. This is likely to do with the walkability of these areas; however there is also likely to be potential to improve cycling routes from these areas to other areas of work to increase levels of cycling.

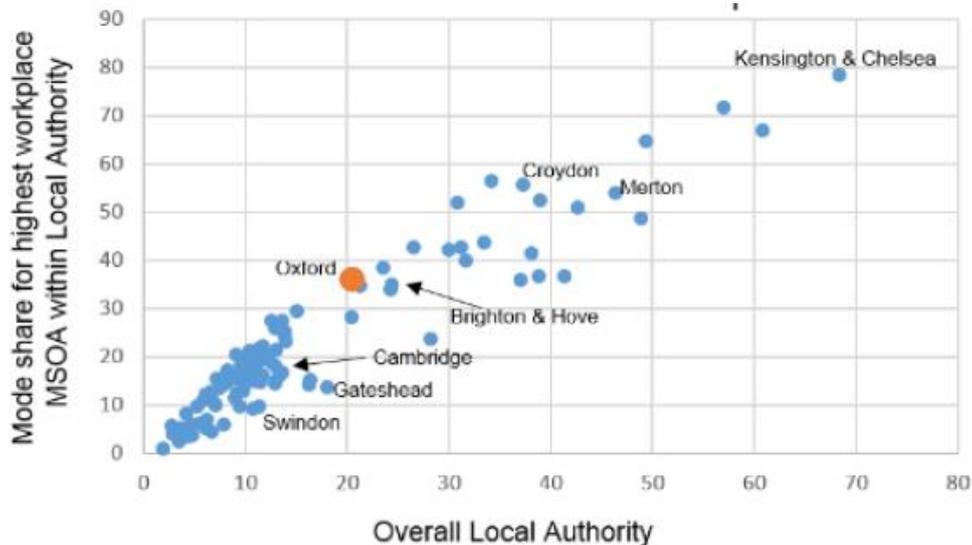
Figure 6: map to show the % of workers cycling to work from different areas of Oxford



Rapid Transit

Mass transit in Oxford has played a key role in limiting growth in traffic congestion in the city over the past 10 to 20 years. Few areas outside London have such a high mode share of public transport use. Figure 7 below shows that mode share of public transport use in Oxford overall is just over 20%. This figure has remained relatively static over the last decade. It is to workplaces in areas around Cowley and Blackbird Leys to which travel by bus has remained particularly static.

Figure 7: Graph to show mode share of public transport in Oxford



Oxford has city and inter-urban bus routes with very high frequencies and also five Park and Ride sites. The table in Figure 8 below shows the existing bus patronage and service on each main bus corridor in Oxford. Very high bus patronage is taken to be over 1000 passengers per hour, and four of Oxford’s bus corridors exceed this in the AM peak and five in the PM peak. The high frequency of buses serving routes into the city centre means there are 190 buses and coaches entering the city centre per hour at peak times.

Figure 8: Table to show buses per hour and bus patronage on Oxford’s key bus corridors

Corridor		Buses per hour (in peak)	Two way bus patronage	
			AM peak hour	PM peak hour
London Road	Inner cordon	64	1,596	1,825
	Outer cordon	64	1,328	1,310
Cowley Road	Inner cordon	50	1,396	1,353
	Outer cordon	36	939	672
Woodstock Road	Inner cordon	26	799	940
	Outer cordon	16	626	332
Botley Road	Inner cordon	42	1,150	1,149
	Outer cordon	20	430	439
Banbury Road	Inner cordon	46	855	902
	Outer cordon	50	1,050	1,097
Iffley Road	Inner cordon	14	580	470
	Outer cordon	14	347	164
Abingdon Road	Inner cordon	44	924	1,119
	Outer cordon	44	786	839
Eastern Arc	Inner cordon	16	214	161
	Outer cordon	16	240	164

The OTS proposes a network of Rapid Transit (RT) corridors that would provide a congestion-free route for public transport, linking existing and proposed Park & Ride sites at and beyond the city edge. In the short and medium term the RT network will be bus-based, but in the longer term there may be scope for trams to play a role, depending on the level of growth.

As well as carrying a greater number of people, RT will also improve the speed, reliability, comfort and image of buses, with key features typically including:

- a high level of road priority, delivered through a combination of physical segregation and traffic management, larger, modern-looking, higher quality buses;
- off-board ticket purchasing systems;
- faster methods of passenger boarding and fare collection;
- high quality passenger waiting facilities;
- real-time information systems;
- the extensive use of 'Intelligent Transportation Systems' in the operating control system; and
- a unique and attractive public image and identity

Rail

Oxford's rail mode share for commuting journeys into the city is fairly limited. The mainline rail station provides access for 5% of commuters to the city centre. The main origins of these commuters are Banbury, Didcot, and Bicester, which are served by two or three direct services to Oxford in the peak hours. Other areas of employment in Oxford, particularly the Eastern Arc, are relatively inaccessible by rail and access requires interchange on to local buses.

Recent improvements to the rail network around Oxford have seen a new station opened at Oxford Parkway, offering a second route to London and improved service from Oxford to Bicester and a connection to High Wycombe. Strong ambitions are present for the comprehensive redevelopment and enhancement of Oxford Station. The Oxford Station SPD sets a framework for aspirations surrounding objectives for the station such as urban design considerations that better integrates the station with the city centre and that enables easy access to the station by foot and bike.

Over the Local Plan period it is hoped that the Cowley Branch Line will be opened for passenger use. It is intended that there would be new stations in the Littlemore area. This would greatly improve accessibility to the city's main employment areas including the Oxford Business Park, the Oxford Science Park and BMW. It is proposed that the Local Plan will safeguard the route and proposed station sites to help delivery. The City Council and County Council are committed to continuing discussions with Network Rail to help facilitate the opening of the Cowley Branch Line for passengers.

Parking

Car parking uses land – vast amounts of land – and in a compact city such as Oxford where land is scarce and there are so many competing demands on the land; consideration should be given to maximising efficient use of that land and whether parking of vehicles is the best way of doing so. However, there will be those who need to drive or who drive for to access certain areas at certain times and for particular types of trips. The needs of

people to access services and potential impacts on local centres if there is not enough parking must be balanced against the negative effects of car traffic generation. As such, different approaches will be required for review and management of different types and levels of car parking. The approaches taken in the Plan, or being investigated by the County Council, are outlined in this sub-section.

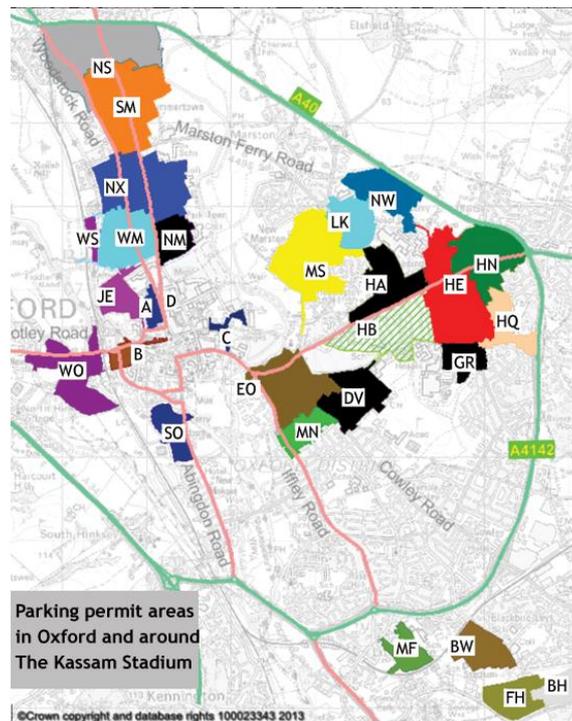
Residential Parking

The Local Plan proposes low levels of residential parking for new residential developments. The majority of the city has an excellent existing level of public transport provision, as well as good connectivity by walking and cycling, so car-free developments are feasible. A low standard for car parking provision means that a greater proportion of scarce land can be used for providing homes, and also avoids issues of parking creating poor urban design. Reduced car parking, and therefore car ownership and car trips, is likely to reduce air pollution and noise levels. Fewer cars using the roads improves the attraction of walking, cycling, and spending time in the public realm. The policy will need to allow or require some parking, for example for disabled and visitor parking, ensuring there are not negative consequences for accessibility for the elderly, disabled and vulnerable groups. This may not need to be allocated.

Controlled Parking Zones

Many areas of Oxford are covered by controlled parking zones (CPZ), as shown on the map in Figure 9 below. A CPZ is an area where parking is only permitted in designated parking bays, and the rest of the kerbside space is restricted by yellow lines. Residents, their visitors, and local businesses can park in designated bays when displaying a relevant parking permit for that zone. In controlled parking areas, new developments with little private parking are less likely to have a negative impact on surrounding areas, as parking cannot be displaced to the street.

Figure 9: Map to show parts of Oxford where a Controlled Parking Zone is in force



Further expansion of Controlled Parking Zones (CPZs) is envisaged for the city to ensure that increases in residential population and/or in visitors do not bring about increases in cars present in the area, and that any increases in parking are not simply displaced to neighbouring streets. Large parts of the city are already covered by CPZs and where these have been implemented they have been extremely successful in removing commuter parking. Over time it is likely that the majority of streets in the city will be covered by parking restrictions.

Public Car Parking in City and District Centres

With regards to public parking provision, it is envisaged that in the city centre, levels of public parking will be maintained at approximately the same levels as currently, with a discouragement of arrivals during network peaks. Meanwhile, within district centres it is proposed to maintain roughly current levels of public parking.

Park and Ride

The OTS acknowledges that future housing and employment growth across Oxfordshire is set to further exacerbate congestion upon key radial and orbital transport corridors of the city. In addition to existing city-edge Park & Ride, the OTS proposes to double capacity by providing remoter Park & Ride sites which will also help to intercept car trips closer to their origin and away from Oxford's Ring Road. This will help support the intention to have no increase in public parking within the city centre and district centres, despite an anticipated increase in visitors to these centres.

Workplace Parking Levy (WPL)

The County Council is currently considering the feasibility of introducing a Workplace Parking Levy in Oxford. A similar scheme has already been implemented in Nottingham which has helped to fund extensions to their tram network, supported expansion of bus services to major employment areas and help fund the upgrade of Nottingham rail station. A WPL in Oxford would help to gain control over the use of the car for travel to work and would help fund transformation improvements including bus rapid transit, additional Park & Ride capacity and the reintroduction of passenger services on the Cowley branch line. . Whilst the OTS proposes that the whole city is subject to a WPL, the possibility of having differential rates across the city could be considered, for example, a premium rate in the city centre, and rates elsewhere which are dependent on the level of accessibility by other sustainable modes of travel.

Corridor Studies and Major Infrastructure Work

The County Council has already produced corridor studies for Botley Road, Banbury Road and Woodstock Road. . With further feasibility studies underway for a number of radial and orbital route to the south and south east of the city including Abingdon Road, Iffley Road, the Cowley Road/Garsington Road corridor, Barns road and parts of the B4495. These show how the corridors could be designed to provide higher quality routes that prioritise cycle, pedestrian, and bus rapid transit measures.

Access to Headington is a project to deliver a £12.5m package of schemes in the Headington area to improve access to the major employment, health and education sites in Headington. Existing traffic congestion in the area leads to a number of problems, including delay to bus services and an unwelcoming environment for pedestrians and cyclists, therefore measures will be aimed at managing growth in car traffic and planning for more walking, cycling and use of public transport.

Improvement along the Botley Road corridor, between Binsey Lane and Eynsham Road, for pedestrians, cyclists and buses, are to be implemented by 2020/21, with funding secured from the Government's National Productivity Investment Fund and Oxfordshire Housing & Growth Deal.

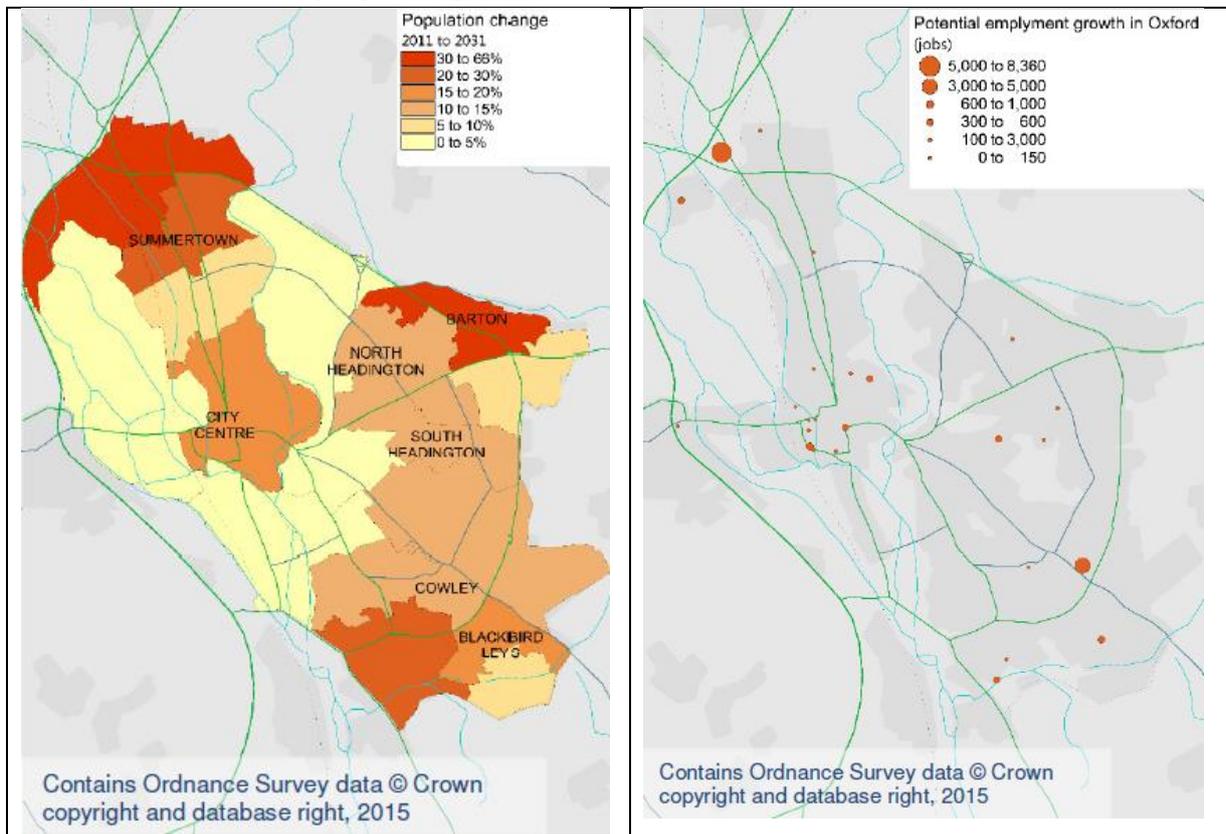
Growth Deal funding will also deliver cycle and pedestrian access and safety improvements at various locations across the city which link housing sites to district centres and employment areas, with the aim of attracting new or inexperienced cyclists who do not want to cycle on more heavily trafficked streets. These schemes will be delivered between 2018 and 2023.

FUTURE TRENDS

Predicted Growth of Employment and Housing

The population of Oxfordshire is expected to grow significantly. As background work to the OTS, the County Council completed some high-level analysis of the SHMA 2031 housing allocations for Oxfordshire which indicated there could be up to 26,000 additional trips in and around Oxford. The choice of mode for making these trips is likely to be heavily influenced by the location of new housing and what travel choices are available now and in the future. The highest levels of growth in the number of commutable jobs by 2031 are expected to be seen in North Oxford and the Eastern Arc.

Figure 10: Maps to show the predicted population growth in different parts of Oxford and potential new employment growth areas in Oxford



Source: LTP Background Paper changing patterns of growth and travel

Walking and Cycling

Nationally, cycling levels have declined slightly in recent decades, with the distance travelled by bicycle falling by 2% between 1995/97 and 2008. However, cycling in Oxford does not tend to follow this trend and automatic bicycling counts indicate that overall

cycling levels may have increased slightly since 2005 (source: Oxfordshire Local Transport Plan 2011-2030).

Walking is the cheapest and easiest way of getting around over shorter distances for many people. It is also extremely difficult to measure and to assess the level of usage because walking forms a component of almost all journeys and happens almost everywhere. However, in the ten years to 2003, the number of walking trips measured nationally fell by 20%. This decline in walking journeys is largely accounted for by trips that have transferred to the car (source: Oxfordshire Local Transport Plan 2011-2030).

Mass Transit

The OTS has considered available options for road-based mass transit solutions, and given the constraints of Oxford's geography and urban form, has proposed bus rapid transit (BRT) as the best solution for developing a level of prioritised road-based travel. BRT has the potential to make road based public transport significantly more attractive and to expand capacity.

Rail demand forecasting work carried out by Network Rail in 2013 found that the rail network around Oxford will be subject to a high level of infrastructure investment over the next fifteen years and the result of the planned package of rail improvements, will be an increase in passenger demand for rail services. The predicted growth in Oxfordshire's population would lead to 20% increase in use rail commuters into Oxford by 2031, if travel patterns remain the same. However, it has been forecast that the rail network improvements strategy could lead to a 70% increase in patronage (OTS).

The new service from Oxford to London Marylebone, with a new station at Oxford Parkway, provides new strategic rail connections and an alternative route to London, and is likely to lead to increased rail patronage and better access to employment sites north of the city for those travelling from Bicester, for example. The re-opening of the line between Bicester Town and Bletchley will place Oxford at the centre of an expanded network of trains from the south and west of England, and the West Coast and Midland Main Lines. Electrification of the main line from London to Newbury and Oxford will include the introduction of new trains.

Oxfordshire County Council is currently working with Chiltern Railways on their proposals to reopen the Cowley Branch Line for passenger trains; creating stations at Oxford Business Park and Oxford Science Park, and served by an extension of the London Marylebone to Oxford line. A Rail Connectivity Study⁵ is currently underway to look at this and other rail

⁵<http://mycouncil.oxford.gov.uk/documents/s42406/Rail%20Connectivity%20Study%20Annex%201%20-%20Oxfordshire%20Corridor%20Study%20Remit%20v1.0.pdf>

improvements required across the county to support growth. The objectives of the study are to identify opportunities for rail stations, services and routes along the Oxfordshire corridor, specifically including Oxford Station and the rail corridor that runs through it (Didcot – Oxford – Aynho); explore the drivers and potential for rail growth along the Oxfordshire corridor that can directly enable and support economic and housing growth; and set out a high level strategy for potential rail interventions over a thirty year time frame identifying phased requirements for the short, medium and longer term.

Improvements to the railway won't only lead to an increase in commuters to Oxford travelling by train. Network Rail predicts a 71% increase in passenger demand on routes from Oxford by 2026, rising from 4.9m to 8.3m journeys. The route with the greatest absolute increase in passenger demand is Oxford to central London, with a forecast increase of 1m journeys between 2011 and 2026 (Network Rail forecast).

Advances in Technology

Driverless cars are being tested now and are expected to be on the road within 3 years, with mass-production in the 2020's. Driverless cars have the potential to save road space and time, improve safety, and reduce emissions. They bring the potential for efficient and convenient car-sharing amongst communities, which could save considerable amounts of urban space by reducing the need for private parking spaces.

Smart management systems such as tidal flow of traffic in the AM & PM peaks, and ring road roadside information on the most congested routes are being introduced and have the potential to help manage congestion.

CONCLUSIONS DIRECTING POLICY

- With population and job growth in the city, a continuation of existing travel behaviour would threaten to over-burden the transport network to an extent that compromises the character of Oxford and the quality of life of those living and working here.
- It is important that housing development is delivered in locations that encourage sustainable travel choices; for example, proximity to established walking and cycling networks, and access to public transport services.
- Barriers to increasing walking and cycling in Oxford should be overcome; including roads busy with other forms of private transport, issues of air quality, and physical features or areas of private land preventing direct routes that improve connectivity and meet latent travel demands.
- Limiting access to car parking, particularly at workplaces, is necessary to help manage growth in traffic and, along with other demand management measures

being considered by the County Council, will support the reallocation of road space required for bus rapid transit and mass cycling.

PROPOSED POLICIES

Leading from the conclusions drawn above, five policies were developed to embody the Plan's movement strategy and for the Plan's chapter on efficient movement. They are listed below, each accompanied by a brief explanation relating them to the information and matters outlined throughout this paper.

Policy M1: Prioritising walking, cycling, and public transport

Policy M1 embodies the general aspirations and objectives of the Plan as they relate to a strategy for movement and transportation. Specifically, the policy formally establishes Oxford City Council's movement hierarchy, and outlines the Plan's ambitions for maximising opportunities to encourage sustainable modes of movement and transportation. The policy both addresses strategic-level considerations and provides guidance for dealing with development applications as well. The policy reflects the NPPF's prioritisation of sustainable transport modes. All four conclusions (as above) derived from the study of all evidence related to movement and transportation in Oxford (as outlined throughout this paper) are reflected in this policy.

Policy M1: Prioritising walking, cycling, and public transport

Planning permission will only be granted for development that minimises the need to travel and is laid out and designed in a way that prioritises access by walking, cycling, and public transport.

Walking:

In order to promote walking in the city and improve the pedestrian environment, development proposals must meet the needs arising from the development and take opportunities to achieve improvements. Proposals shall:

- a) ensure that the urban environment is permeable and safe to walk through and adequately lit, with good and direct connections both within and across the wider network;
- b) make improvements to the pedestrian environment including the provision of high quality crossings points where needed, seating, signage and landscaping; and
- c) support high quality public realm improvement works (refer to Policy DH1) and ensure that footways are sufficiently wide to accommodate the level of use.

Cycling:

In order to promote cycling in the city and ensure an accessible environment for cyclists, the Council will seek to ensure that development:

- d) provides for connected, high quality, convenient and safe (segregated where possible) cycle routes within developments and the wider networks that are permeable and can

accommodate the anticipated growth in cycling;

- e) provides for accessible, conveniently located, secure cycle parking facilities (refer to Policy M5); and
- f) makes provision for high quality on-site facilities that promote cycle usage, including changing rooms, showers, dryers and lockers.

New pedestrian and cycle routes:

New (or improved) pedestrian and cycle routes are shown on the proposals map. Proposals will be expected to facilitate and deliver these links to serve needs arising from development and where opportunities arise to secure improvements. Planning permission will not be granted for development that would jeopardise future delivery of these links.

Public transport:

In order to safeguard and promote the provision of public transport in Oxford development that will add to demands on public transport should contribute towards improvements to bus network infrastructure including pedestrian and cycle routes to bus stops, shelters, passenger seating, waiting areas, signage, timetable information and infrastructure relating to zero emissions.

Financial contributions will be sought towards the cost of new or improved bus services where existing services are not considered adequate. The City Council will work with its partners to improve the ease and quality of access into and around Oxford by public transport, by:

- i) ensuring that road space is managed efficiently to support public transport – including rapid transit - through initiatives such as bus priority measures, infrastructure and demand management.
- ii) supporting the County Council in their management of both scheduled and tourist coaches entering and leaving the city;
- iii) improving the capacity and attractiveness of Park and Ride, particularly the development of remote sites closer to county towns;
- iv) promoting bus/rapid transit access to and between major employers, hospitals, schools and colleges including the Headington and Marston area, Wolvercote/Cutteslowe and Cowley and Littlemore; and
- v) ensuring sufficient space is provided particularly within the city centre and district centres for bus stops and interchange between bus services and cycling.

Proposals for new development will be expected to incorporate the measures set out above to meet the needs of the development and where the opportunity arises, to secure improvements. Developments should be designed to accommodate bus movements, where appropriate.

Rail network:

Proposals to enhance the City's rail network will be supported, in particular the re-development of Oxford Station and additional rail capacity to accommodate more services, including opening of the Cowley Branch Line for passengers. Land for the provision of new stations at Oxford Business Park/Retail Park (Cowley area) and Oxford Science Park (Littlemore area)(refer to Sites 9 & 10 chapter 9) and access routes to the stations and across the line is safeguarded.

Proposals for improvements to Oxford Railway Station that increase network capacity, improve the design and quality of facilities and interchange and support the Cowley Branch Line will be

supported.

Sites for Cowley Branch Line stations and local access routes which are safeguarded and which should be improved by local development are defined on the Policies Map.

Policy M2: Assessing and managing development

Policy M2 sets out specific guidance for dealing with development applications. It identifies the documentation and evidence required for justification and analysis of significant new developments in the city. It reflects requirements outlined in para 111 and section 9 of the NPPF. The first two conclusions (as above) derived from the study of all evidence related to movement and transportation in Oxford (as outlined throughout this paper) are reflected in this policy.

Policy M2: Assessing and managing development

A Transport Assessment must be submitted for development in accordance with the requirements as defined in Appendix 7.1.

Transport Assessments must assess the multi-modal impacts of development proposals and demonstrate the transport measures which would be used to mitigate the development impact.

A Travel Plan, which has clear objectives, targets and a monitoring and review procedure, must be submitted for development that is likely to have significant transport implications in accordance with the requirements in Appendix 7.2.

Where a Delivery and Service Management Plan is provided this should set out how deliveries will be managed and demonstrate how impacts will be minimised including congestion, safety noise and how zero or ultra-low emission and last mile opportunities will be considered.

Where a Construction Management Plan is provided this should set out how the construction phase of the development will be managed.

Planning permission will only be granted if the City Council is satisfied that adequate and appropriate transport-related measures will be put in place.

Policy M3: Motor vehicle parking

Dramatic reductions in private motor vehicle use were repeatedly highlighted in all evidence as critically important in order to improve movement in and around Oxford; the economy of the city; the general health of the population; and the quality of life in the city. Policy M3 represents one of the Plan's strongest mechanisms for achieving this reduction; by controlling the amount of private motor vehicles consistently present within the constrained area of the city. Controlling the level of motor vehicle parking and the amount of land used up by this purpose will mitigate the negative effects of motor vehicle use and

high levels of car parking, and encourage more sustainable modes and patterns of movement to replace the trips that would have otherwise been made by private motor vehicle. All four conclusions (as above) derived from the study of all evidence related to movement and transportation in Oxford (as outlined throughout this paper) are reflected in this policy.

Policy M3: Motor vehicle parking

In Controlled Parking Zones (CPZs) or employer-linked housing areas (where occupants do not have an operational need for a car) where development is located within a 400m walk to frequent (15 minute) public transport services and within 800m walk to a local supermarket or equivalent facilities (measured from the mid-point of the proposed development) planning permission will only be granted for residential development* that is car-free.

In all other locations, planning permission will only be granted where the relevant maximum standards set out in Appendix 7.3 are complied with.

Disabled parking provision must be provided in all residential developments in accordance with the standards set out in Appendix 7.3.

Parking for car club vehicles must be provided in all residential developments with the standards set out in Appendix 7.3.

Planning permission for non-residential redevelopments will only be granted if it is demonstrated that there will be no increase in parking provision.

Planning permission for additional parking provision within new developments will only be granted for spaces that are designated for disabled people, car clubs or where it can be demonstrated that there are essential operational or servicing needs (identified in the supporting TA and TP).

Policy M4: Provision of electric charging points

Policy M4 embodies Oxford City Council's ambitions to shift away from high levels of carbon use and emission; to improve air quality; and to establish a Zero Emission Zone. The policy also reflects the NPPF and the government's aspiration to have the planning system support the U.K.'s transition to a low carbon future. All four conclusions (as above) derived from the study of all evidence related to movement and transportation in Oxford (as outlined throughout this paper) are reflected in this policy.

Policy M4: Provision of electric charging points

Where additional parking is to be provided in accordance with Policy M3, planning permission will only be granted for new residential developments if:

- a) provision is made for electric charging points for each residential unit with an allocated parking space; and
- b) non-allocated spaces are provided with at least 25% (with a minimum of 2) having electric charging points installed.

Planning permission will only be granted for non-residential development that includes parking spaces if a minimum of 25% of the spaces are provided with electric charging points.

Policy M5: Cycle parking

Dramatic increases in cycling were identified as critical to Oxford by the Gilligan Report, and are sought by Oxford City Council as one of the major objectives of the Plan in order to improve movement in and around the city, as well as general health levels. Policy M5 represents one of the Plan's strongest mechanisms for achieving this; by making cycling and commuting by bicycle more accessible and attractive for the average person and for all people in general. These ambitions are consistent with the NPPF. All four conclusions (as above) derived from the study of all evidence related to movement and transportation in Oxford (as outlined throughout this paper) are reflected in this policy.

Policy M5: Cycle parking

Planning permission will only be granted for development that complies with or exceeds the minimum cycle parking provision as set out in Appendix 7.3.

Cycle parking should be, well designed and well-located, convenient, secure, covered (where possible enclosed) and provide level, unobstructed external access to the street. Cycle parking should be designed to accommodate an appropriate amount of parking for the needs of disabled people and facilities for electric charging infrastructure.

For new non-residential development, the City Council will seek the provision of showers and changing facilities in accordance with the thresholds and minimum standards set out in Appendix 7.4.

Where opportunities to do so arise in relation to development, consideration should be given for the provision of space for storage of dockless bikes.

CONCLUSION

The approach to movement and transport in the Local Plan outlined above continues and builds upon the transport policies in Oxfordshire County Council's Local Transport Plan and Oxford Transport Strategy. It attempts to take a proactive stance; has been positively prepared to aid Oxfordshire County Council in meeting the additional transport demands associated with Oxford's growth; and responds to some of the key challenges facing the city. Furthermore, the approach complements many of the Plan's overall strategic objectives, particularly those relating to health and air pollution. The Plan's transport policies show clear linkages to strategic movement and transportation ambitions, particularly by prioritising sustainable transport and safeguarding transport infrastructure improvements.

The Plan's approach is considered to be justified, effective, positively prepared and consistent with the NPPF. It is therefore considered to be sound.