Oxfordshire County Council

Network Management Plan

2023 – 2028

Contents

1. FOREWORD by Cllr Andrew Gant

I have great pleasure in presenting Oxfordshire County Council's Network Management Plan.

Oxfordshire is a prosperous and vibrant county, combining a successful, thriving economy with a high-quality environment. It is a world leader in innovation and enterprise in areas including life sciences, space technologies, electronic & sensor developments, creative & digital, and automotive industries.

Working with District Council partners, the Future Oxfordshire Partnership, and the Oxfordshire Local Enterprise Partnership (OxLEP) and others, we play a central role in managing and planning sustainable development across Oxfordshire, within the framework of the Council's response to the climate emergency detailed in our strategic plan 2022 – 2025 (www.oxfordshire.gov.uk/council/our-vision-0) and the Oxfordshire Strategic Vision (www.futureoxfordshirepartnership.org).

We face a huge challenge in facilitating residents' travel needs as the population grows, whilst avoiding the economic damage caused by severe congestion and meeting our net zero carbon objectives. Following the COVID-19 pandemic, responding to the climate emergency and de-carbonising the transport network are our overarching policy priorities. There is a once in a generation opportunity to make a significant shift away from private car use, towards more flexible working patterns and greener travel choices such as walking, cycling, and/or using public transport – reducing pressure on the road network and creating the 'space' for local traffic improvements.

Essential to achieving the County Council priorities and policies set out in the Local Transport and Connectivity Plan (LTCP) is a transport system that enables the efficient movement of people, materials, and goods, while promoting greater use of sustainable travel modes and attainment of our climate commitments.

This Network Management Plan explores the challenges that we face and explains how we will manage our highway network so that it delivers an effective, but sustainable, transport system for the people and businesses using Oxfordshire's highway network.

Councillor Andrew Gant

Cabinet Member for Highways Management, Oxfordshire County Council

2. LEGISLATION

The County Council as Oxfordshire's Highway Authority has powers and duties through which it maintains and improves the highway network, in addition to managing activities taking place on this network. These powers and duties are derived from the national legislation outlined below, which underpins the work of Network Management affording us the powers to manage the highway network.

- The Highways Act 1980 covers the management and operation of the highway in England and Wales.
- The Road Traffic Regulation Act 1984 consolidates the Road Traffic Regulation Act 1967 and subsequent related Acts and statutory instruments. It provides powers to the relevant authority to regulate or restrict traffic on the highway.
- The New Roads and Street Works Act (NRSWA) 1991 which came into force on the 1st January 1993 provides a wide range of information on all aspects of works to roads carried out by statutory undertakers.
- The Traffic Management Act (TMA) 2004 offers new powers and duties to the Local Traffic Authority (LTA) and was introduced to reduce congestion and disruption on the road network (these duties and powers are in addition to the powers that are enforceable under the Highways Act of 1980, the New Roads and Street Works Act of 1991, and the Road Traffic Regulation Act of 1984).

The TMA is split into six parts:
   i)   Traffic Management on Trunk Roads
   ii)   Network Management
   iii)   Permits
   iv)   Street Works
   v)   Highways and Roads
   vi)   Civil Enforcement of Traffic Contraventions Compliance with the Traffic Management Act 2004

We recognise and support the opportunities and benefits that the Traffic Management Act 2004 and network management duty (NMD) provides. Whilst production of a Network Management Plan is not mandatory, the government does encourage highway authorities to prepare one. Given the opportunities and benefits that it provides, which include benefits to the economy, road users and service delivery, Oxfordshire County Council is fully committed to the implementation and delivery of our NMP.

This includes the appointment of a Traffic Manager to perform the tasks that are necessary for meeting the network management duty. In Oxfordshire the Head of Network Management is the Traffic Manager, retaining oversight of all congestion and traffic management activities in the county. Road and Streetworks management will be undertaken by the Group Manager - Network Co-ordination.

The 2004 Act suggests that local authorities could achieve these objectives by taking a range of actions, including by securing a more efficient use of their road network and/or tackling road congestion (or other disruptions to the movement of traffic). It is an *Enabling* Act which allows the Council to change laws, by using appropriate legislation such as delegated or secondary legislation – for instance Traffic Regulation Orders.

Updated NMD statutory guidance (April 2022) detailed how councils are expected to manage their road networks to provide measures to support active travel.

Our NMP explains how we will deliver these objectives.

<u>Network Management Duty</u>

The network management duty (the duty) is part of the Traffic Management Act 2004. It applies to all local traffic authorities.

The duty came into force on 5 January 2005 and recognises:

- The importance of managing and operating the road network.

- The importance of optimising benefits for all road users.

- The needs of those who maintain the infrastructure (both of the network itself and of the services within it).

Section 16(1) of the Traffic Management Act 2004 states that:

It is the duty of a local traffic authority to manage their road network with a view to achieving, so far as is reasonably practicable and having regard to their other obligations, policies and objectives, the following objectives:

(a) Securing the expeditious movement of traffic on the authority's road network; and
(b) Facilitating the expeditious movement of traffic on road networks for which another authority is the traffic authority.

(2) The action which the authority may take in performing that duty includes, in particular, any action which they consider will contribute to securing:

(a) The more efficient use of their road network; or
(b) The avoidance, elimination or reduction of road congestion or other disruption to the movement of traffic on their road network or a road network for which another authority is the traffic authority;
and may involve the exercise of any power to regulate or co-ordinate the uses made of any road (or part of a road) in the road network (whether or not the power was conferred on them in their capacity as a traffic authority)

The arrangements for performing the network management duty include:

- Taking any action that we consider will contribute to securing more efficient use of the road network.

- Take any action that we consider will avoid, eliminate, or reduce road congestion or other disruption to the movement of traffic.

- Establishing processes for identifying things which are (or could) cause road congestion or disruption.

- Considering possible actions that could be taken to address congestion or disruption.

- Ensuring that specific policies or objectives are determined for different roads or classes of roads.

- Monitoring the effectiveness of the organisation and processes for tackling congestion and the implementation of decisions.

- Regularly assessing the performance of the duty and keeping the effectiveness of arrangements that have been put in place under review.

DfT guidance also notes that the network management duty is one element of an authority's transport activities and should complement the council's other policies and actions.

We will therefore embed desired outcomes and appropriate policies and plans under the network management duty within the council's Local Transport and Connectivity Plan and other relevant polices to achieve a coherent approach.

<u>Other legislation</u>

As well as the Traffic Management Act 2004 and network management duty the council has other legal responsibilities on the highway, which are of equal importance.

We have a range of duties and powers under which we maintain, improve, and manage the highway network and information services. These include:

- The Oxfordshire County Council Permit Scheme for Roadworks (Traffic Management Act 2004, Part 3).

- The Equality Act 2010 including the Public Sector Equality Duty.

- Bus Services Act 2017

- Transport Acts 1985, 2000 and 2008

- Road Traffic Reduction Act 1997

3. THE HIGHWAY NETWORK

Strategic Corridors

Oxfordshire sits on the busy road and rail transport corridor between the south coast ports, the Midlands and the north and enjoys easy access to London and the West Midlands via the M40. Major congestion along the Strategic Roads Network (SRN) across Oxfordshire has an adverse effect on journey time reliability of those using it. Heavy congestion is apparent along the A34 between the junction with the A423 and the point at which the A34 meets the M40 and along the M40 between junctions 9 and 10.

Oxfordshire suffers from a lack of connectivity with the east of England, particularly high-value growth areas around Milton Keynes and Cambridge. The existing SRN links between Oxfordshire and London, Birmingham, Heathrow Airport and Southampton are currently used by a high volume of through traffic which can result in long delays to journeys by road.

The M40 carries the most traffic, particularly on the stretch between junctions 9 and 10, which links the A34 via the A43 to the M1, with over 100,000 vehicle movements per day.

The A34 carries up to 70,000 vehicles per day, including a large proportion of lorries. As the A34 accommodates a significant volume of local trips, and because it forms part of the Oxford ring road, the severe congestion it suffers is damaging to both the local and national economy. It is particularly vulnerable to disruption due to incidents, because of the lack of alternative north-south routes for journeys both within and through the county.

The M40 and A34 are managed by National Highways.

Rail Network

The rail network will continue to expand with the next phase of East West Rail (scheduled for opening by 2025) reinstating the link between Oxford, Bicester, and Bletchley/Milton Keynes. This will be supported by improvements in capacity of the rail network at Oxford Station, including a new platform and western entrance.

Government is committed to supporting East West Rail to enable the continued development of the Oxford to Cambridge Arc area, with EWR Company now developing proposals for the final EWR stage onwards to Bedford and Cambridge (East West Rail: Connecting Communities from Oxford to Cambridge).

Additional rail capacity is also expected through grade separation at Didcot East and four tracking between Oxford and Radley to mitigate conflict at Oxford North Junction.

Bus Network

A strong strategic urban and inter-urban bus network exists within Oxfordshire with the provision of high-quality bus facilities and bus priority measures. However, the rural and tertiary bus network is significantly less established. Congestion along key roads results in services being delayed and unreliable.

An established Oxford Park and Ride (P&R) network exists with five current sites. However, their proximity to the Oxford ring road means P&R has the potential to add additional pressure and congestion on the road network.

A key objective in Oxfordshire is the development of services to key employment hubs and hospital sites in east Oxford. Significant proposals exist to review the P&R network, including provision of new P&R sites further out of Oxford (with the first new site being delivered in Eynsham off the A40) and exploration of expanding facilities at existing P&R sites to facilitate greater integration with other sustainable modes.

There are various schemes to improve bus connectivity throughout Oxfordshire. These include bus priority lanes on the A40 as part of this major transport project and short-term investment in bus services and facilities through the Bus Service Improvement Plan (BSIP) to include county-wide traffic signal priority measures. Other schemes include the refurbishment of the Gloucester Green bus terminal, and expansion of both rural connector/demand-response services and higher service frequencies on the main transport corridors to increase capacity.

Active Travel

Expanding and improving the cycle and walking networks is extremely important for Oxfordshire and is one of the council's highest priorities. Not only does this help to reduce congestion and pollution, particularly in urban areas, but also provides excellent health benefits. The council is investing in improved maintenance regimes as well as building new infrastructure to a high standard of design. Initiatives such as School Streets and Low Traffic Neighbourhoods can encourage people to change mode from car to walking and cycling and help reduce congestion caused by the school run.

A series of Local Cycling and Walking Infrastructure Plans (LCWIPs) are being developed for all Oxfordshire larger towns and implemented to ensure a cohesive and joined up network which makes journeys quick, easy, and safe. The council is developing the Strategic Active Travel Network (SATN) outside the urban areas to provide safe and convenient links from villages and between towns, which will contribute to more choice for residents other than the car.

Redevelopment in Oxford city centre is anticipated to generate increased footfall through the main pedestrian routes in Oxford, therefore pedestrian infrastructure in Oxford needs to be developed. This is also the case in each of the urban centres across Oxfordshire.

The council has adopted challenging targets to increase cycling – doubling cycling outside Oxford and increasing cycling in Oxford by 50%. Many of the main roads leading to Oxford city centre suffer from both speeding traffic and congestion at busy junctions, deterring less confident cyclists. Oxford LCWIP sets out a set of comprehensive network improvement for both links and junctions to reduce traffic speed and make cycling feel safer and more attractive. The Central Oxford Transport Plan, combined with many other traffic management measures, will also make cycling much more attractive. Further investment in cycling infrastructure is also proposed between Witney and Carterton, across the Science Vale and in Bicester. It is anticipated that additional infrastructure will be required to support the proposed Didcot Garden Town and in other significant settlements such as Abingdon, Woodstock, and Banbury.

Road Freight

The UK freight system moved 154 billion tonnes of goods in 2019 supporting almost £400 billion in manufacturing sales. The amount of freight moved, and the vehicle miles driven have been increasing over the last 15 years. In total the amount of goods moved has increased by 23% since 2009 and the amount of road freight traffic is forecast to further increase.

Supporting efficient road freight movement is important to the national and local economy. However, owing to the complex nature of the UK freight system there are local challenges that affect residents across Oxfordshire. These include:

- Resilience and congestion issues on the A34 which is an important road for movement between the Midlands and southern ports.
- Inappropriate vehicles and levels of freight movement through towns, leading to environmental and structural weight restrictions.
- Contribution to local air quality issues.
- Construction and logistics movements associated with the large number of housing development sites.
- The strong rural economy in Oxfordshire which is often away from the 'A' road network.

In order to address the issues associated with the movement of goods in Oxfordshire, the county council adopted a new Freight and Logistics Strategy in July 2022. The strategy was published in support of the Local Transport and Connectivity Plan (LTCP).

The strategy addresses some of the challenges associated with the movement of goods in Oxfordshire and sets out the actions required to deliver appropriate, efficient, clean, and safe movement. These include setting out more appropriate routes for HGVs on a route map, exploring freight Consolidation Centres on the outskirts of Oxford, better managing traffic movements on the major and strategic road networks such as the A34 through more effective network management practices, and the provision of secure HGV parking facilities to prevent informal parking on the highways.

City of Oxford

Due to the high number of jobs and the shortage and cost of housing in the city, more people commute to Oxford from outside the city than are working residents.

There is a mature and well-used network of commercial bus services, including regular services to the city centre from five Park and Ride sites on the edge of the city. Many radial routes have stretches of bus lane, but these are not continuous due to lack of available space, and neither are bus priority measures widespread.

Prior to Covid 19, on average around 50% of people arrived in the city centre by bus, 12% by cycle and 26% by car.

Over 25% of Oxford residents who work in Oxford, cycle to work, with a further 25% walking and 20% using the bus.

In 2011 census, around 31% of all Oxford employment was in the city centre. Travel to the city centre is already relatively sustainable but could be more so, with 70% of Oxford City Centre workers living within cycling distance, either in Oxford (52%) or near Oxford (18%).

Outside the centre, travel to work is much less sustainable. In Headington, for those living within cycling distance, nearly 3000 (38%) arrive by car and only 1300 (17%) arrive by bicycle and in Cowley, 62% (3900) of this group arrive by car, with just 1000 (16%) arriving by bicycle and just 13% on foot.

Inter-urban

The A34, A40, A44 and A420 in particular are heavily used for local car trips, leading to significant congestion on the network to/from Oxford, particularly key junctions such as the Hinksey Hill and Botley Interchanges, M40 Junction 9 and, in the case of the A40, the Wolvercote, Cutteslowe and Green Road roundabouts.

There is a good network of frequent, commercially operated bus or rail services linking the county's main towns with Oxford, yet the proportion of car journeys between these towns and Oxford remains stubbornly high. This network is partly based on the success of Park & Ride on the edge of Oxford, which has been developed since the 1970s in conjunction with restrictions on access to the city centre and bus priority measures. However, continued high car usage combined with plentiful public and private parking across Oxford, mean that the road corridors leading into Oxford used by buses and general traffic all suffer from congestion. This is despite Park & Ride providing a viable option in many cases. The Council's Connecting Oxford proposals are therefore designed to tackle these issues and to afford more reliable and faster journey times for cycling, walking and public transport (including Park & Ride).

Outside Oxford

Car ownership and car usage is high outside Oxford, with 87% of households owning a car – compared with only 67% in Oxford. This is reflected in the high proportion of journeys made by car outside Oxford, including a large number of short trips within the county's towns. Many of the new development sites in Oxfordshire are inevitably harder to serve by the existing inter-urban bus network due to the need to divert services from fast and direct routes.

Commercial bus networks to/from Carterton, Witney, Abingdon, Wallingford, Banbury, and Bicester are all well developed, and operators have introduced new services in growth areas such as Didcot, Harwell, Wantage and Thame and along the A420 corridor using S106 funding. Rural connectivity remains an issue for operators and the County Council.

The quality of cycling and walking networks remains variable, despite significant investment in the Science Vale Cycle Network (SVCN) and creation of Local Cycling & Walking Infrastructure Plans, to link employment and residential sites. The council is committed to improving cycling and walking infrastructure.

Although most District Councils charge for long-stay town centre parking, many local trips within Oxfordshire's towns are to/from workplaces with ample staff parking, edge of town retail developments, or schools. This means that a very high proportion of trips within these towns are still made by car.

Major Towns

Banbury:

Banbury is Cherwell's largest town and Oxfordshire's second largest settlement, with a population of nearly 47,000. Banbury acts as a primary regional centre that serves a wide sub-region, with a diverse economy focused on manufacturing, logistics, distribution, and services and increasingly, high tech manufacturing. In addition to provision of significant employment opportunities, the town also provides a focus for major retail, housing, cultural, leisure and community activities.

Bicester:

Bicester is one of the fastest growing economic centres in the country, with a population of approximately 33,000 people. Its economy is focused on storage, defence and distribution activities, food processing and engineering. Bicester Village shopping outlet is a significant UK tourist attraction, drawing in nearly six million visitors a year, including many from overseas. It benefits from good rail connections with London, which has been improved by a direct connection to London from Bicester Village Station as part of East/West Rail Phase One. Further improvements will come forward as part of East-West Rail, which will connect Bicester with Milton Keynes and Bletchley by 2025, and potentially Bedford/Cambridge as well as Didcot and Reading to the south, in the longer-term.

Witney:

Witney is the largest town in West Oxfordshire, containing the main commercial, leisure, health, and other services for the district. It has a diverse economy and is home to some of Oxfordshire's most successful high technology manufacturing and engineering firms. The historic Market Square, High Street, Woolgate Centre and Marriott's Walk make Witney an outstanding retail and leisure attraction.

Carterton:

Carterton, the second largest settlement in West Oxfordshire, is a relatively modern town which has grown, in the main, to serve RAF Brize Norton. It has a small but varied economy, largely focused on the provision of local services, and has been identified as a growth area by West Oxfordshire District Council, and Carterton Town Council with opportunities for both residential and employment growth.

Abingdon:

In terms of traffic congestion, Abingdon faces major daily traffic challenges due to constrained capacity in its historic town centre, and a high volume of east-west movements to/from local schools and employment centres. Housing growth in neighbouring areas (e.g. in the Science Vale) has exacerbated these pressures in recent years. Abingdon is itself now subject to significant housing growth to the north and west of the existing urban area.

Science Vale:

The Science Vale area strategy is focused on the UK's leading centres for science, technology and innovation at Harwell Campus, Milton Park and Culham Science Centre and includes the fast-growing settlements of Didcot, Wantage and Grove. Significant numbers of homes are being planned and delivered in these places alongside economic development and new jobs, as well as major new transport infrastructure.

Oxfordshire's rural areas

Oxfordshire's rural areas are generally prosperous, so although local travel is largely commuter based, they have managed to retain economic vitality with links to attractive and thriving local centres which provide a good range of services.

Most local trips are made by car although the Council is actively promoting cycling and walking and, where available, community or local bus services.

Road Classifications

In addition to the Strategic Road Network (SRN) managed by National Highways (M40, A34 and A43), the County Council's Major Road Network (MRN) Major Road Network (dft.gov.uk) encompasses strategic roads such as the A40 and A420, suitable for longer-distance and inter-regional traffic – particularly HGV's. Creating the conditions for expeditious movement on the SRN and MRN is a key network management priority for both the Council and National Highways. The status and investment requirements of the MRN are kept under continuous review and prioritised DfT schemes should demonstrate consistency with LTCP Policy 1 (Network User Hierarchy), with issues of severance across the MRN fully addressed.

The Council is also responsible for other Principal (A) and Non-Principal (B & C) classified routes, mainly used for intra-county traffic movements. Weight and height restrictions may be applied to these routes, such as the ones at Newbridge and Botley Road rail bridge.

One of many challenges is that much of this road network needs to be used by cyclists and creating conditions for cyclists to use them or viable alternatives will be examined in the Strategic Active Travel Network (SATN) plans.

The Council defines its 'Resilient Highway Network' as a sub-area or major Strategic Routes of the Local Highway Authorities Network that are vital to maintaining economic activity and access to essential services during extreme weather emergencies and other major incidents. This is particularly relevant to Network Management – for example in terms of incident response and implementing strategic or local diversion routes.

The Council has a legal duty under the Traffic Management Act 2004 to co-ordinate road works across the county; to better regulate traffic flows, and to minimise disruption. We have therefore used a range of criteria to define a list of Traffic Sensitive Streets, in order to better manage the timing and extent of any highway works. This list is kept under regular review.

4. <u>PRIMARY CONSIDERATIONS</u>

<u>Climate Change</u>

Climate change is the large-scale, long-term shift in the planet's weather patterns and average temperatures. Evidence of observed changes in extremes such as heatwaves, heavy precipitation, droughts, and tropical cyclones, and their attribution to human influence, has strengthened over the last decade. There is a need for rapid reductions in greenhouse gases in this decade to prevent global warming beyond 1.5°C.

In recognition of climate change, all Oxfordshire authorities have declared a climate emergency. Following our declaration, Oxfordshire County Council adopted a Climate Action Framework. The framework commits us to operating at net-zero carbon by 2030 and enabling a zero-carbon Oxfordshire by 2050. Transport and smarter management of road space will be essential to this.

Heavy traffic and congestion contribute to high levels of emissions from transport in Oxfordshire. Transport accounts for 75% of nitrogen dioxide (NO_2) pollution in Oxford, and 50 tonnes of CO_2 are emitted by road traffic in Oxford each rush hour morning. Research has indicated around 36,000 premature UK deaths per year could be linked to long-term exposure to air pollution and that there is no safe limit for NO_2.

Under the Climate Change Act 2008 the government is required to reduce emissions in the UK by at least 34% by 2020 and 80% by 2050, from 1990 levels, although in early 2020 it made a legal commitment in the Environment Bill to 'net zero emissions' by 2050.

The Central Oxford Travel Plan (COTP) initiates a phased implementation of a Zero Emission Zone (ZEZ) in Oxford and a Workplace Parking Levy (WPL) to fund:

- A better, faster, and more comprehensive public transport network.

- A complete, high-quality, spacious walking and cycling network.

- Reclamation of some of the road space currently used by general traffic to provide more space for buses, pedestrians, and cyclists.

Network Management will play a key role in monitoring, operating, and enforcing the impacts of Central Oxford Travel Plan (COTP) – for example in terms of public transport journey times and patronage, air pollution and cycling/pedestrian flows.

The impact that congestion has on the environment and quality of life is of concern to many residents and road users, with air quality and noise pollution often being raised as problems where congestion occurs.

Network Management has a key role in meeting the County Council's environmental objectives and response to the Climate Change Emergency. We will use evidence to investigate the relationships between congestion, air quality and noise to identify what measures and innovative transport solutions could be introduced to minimise the impact of congestion on the environment and quality of life.

Growth in Oxfordshire

By 2030, the population is forecast to grow by 30%. Furthermore, there will be a significant increase in the over 85's and declining overall health due to increasingly sedentary lifestyles. This will place Council services such as schools and social care under significant additional funding pressures.

The potential impact of housing and jobs growth on the county's transport networks, taking into account committed transport infrastructure, has been modelled, showing many junctions over capacity in 2031, and severe delays on many routes, especially the A34, A40, A338 and A4074.

Network Management contributes to supporting good growth through the proactive and coordinated management of all Highway activities promoting greater levels of active travel, for example, cycling and walking - either as a sole mode of transport for shorter journeys or for longer journeys in combination with public transport. This will be achieved through provision of a comprehensive live travel information service to improve public awareness of the options available to them other than private vehicle, including measures to spread demand into off-peak periods and managing capacity (e.g. availability of public transport seating and Park & Ride car park spaces). These activities will play a significant role in terms of reducing congestion in Oxfordshire.

Without doing this, vehicle emissions are likely to increase, albeit at a slower rate than traffic growth. Much depends on technological improvements and the incentives and regulations legislated by central government, for example the banning of new petrol and diesel cars by 2030 (with some hybrid options available for sale until 2035 when all cares will be zero emission) as part of the government's '10 point plan' strategy The ten point plan for a green industrial revolution - GOV.UK (www.gov.uk)'.

Works and the scale of activity

The County Council is responsible for the maintenance of over 4,500 km of roads in Oxfordshire. Like in other parts of the UK, the condition of the road network has deteriorated over recent years. The growth challenges listed above will create a core pressure of maintaining an expanding and high-demand road network with reduced public funds, noting that with more growth planned, additional infrastructure will be required to support businesses, communities, and residents.

The coordination and booking of road space to support these demands is managed through the county's road and street works permit scheme with over 35,000 permit applications being received from utility and highway authority promoters each year, with approximately 600+ live sites on the network at any one time.

The strategic objective for the Permit Scheme is to provide a capability to manage and maintain the local highway network for the safe and efficient use of road space, whilst allowing Promoter's access to maintain their services and assets, including installing new connections. The principle of the Permit Scheme is to improve the planning, scheduling, and management of activities so that they do not cause unnecessary traffic disruption to any road user.

87% of permit applications are from Utility companies and the average Utility works duration is 5 days although major works of much longer duration also occur, and these are often driven by new housing developments where existing infrastructure cannot supply the increased demand in public services.

The permit team can refuse a permit application when they consider that elements of the application (e.g., timing, location, or conditions) are not acceptable. But the works driving the permit application are often still essential, so the permit team endeavour to grant permits quickly and efficiently, encouraging works promoters to use the highway and then clear efficiently and meeting all applicable legislation. The permit team also promote and drive collaboration between works promoters offering reduced permit fees and more flexible road space booking to those who can collaborate in the works planning process. In addition, and to promote active and public transport travel, the Council requires clear mitigation factors to be in place to ensure that, as far as is possible, any impacts on active travel and public transport are minimised or eliminated entirely.

Further efforts to reduce and mitigate the activities of those who need to work on the highways of Oxfordshire are being considered with central government's opening of Lane Rental Legislation beyond the 2 trial schemes. OCC will undertake a review of their Network Management function and the Lane Rental scheme powers to ascertain if these powers will be beneficial to the greater control and reduction of highway network disruption in the county.

Road Safety

There are approximately 30,000 accidents on Oxfordshire's roads, 1,700 reported injuries (300 of a serious nature) and 30 deaths, with a higher proportion of serious incidents than many local authority areas due to a higher amount of rural road links on the network. The value of preventing these accidents and incidents is estimated at around £150 million per annum.

Oxfordshire County Council has adopted a 'Vision Zero' strategy to eliminating all deaths and serious injuries from road traffic collisions by 2050. It has also set interim targets of a 25% cut in casualties by 2026 and a 50% reduction by 2030.

In the event of accidents and or incidents on the highway the Network Management Team (NMT) will gather information and plan how the best manage the network during the event. These plans will set out the requirements and responsibilities for the effective management and expeditious movement of traffic in light of accidents, diversions, and major incidents.

In the event of accidents/incidents on the strategic road network requiring road closures, plans exist enabling the OCC to react to and effectively manage accidents and emergencies on the network, including the activation of diversion plans. These plans have either been developed by the Council with input from key partners, or they have been developed by partners (such as the National Highways) with input from the highway authority.

In emergency situations, the NMT needs to work closely with other local and national organisations with a strategic command structure set up between Thames Valley Police (TVP) and OCC's emergency planning team.

With an increasing population, the challenge will be to reduce the number of deaths and serious injuries on our roads through a range of interventions, including use of new systems and technologies to monitor and direct traffic flows.

As well as the impact that road accidents have on individual's lives, there is also an economic cost associated with these accidents, which can be quantified. This includes costs associated with the NHS, vehicle and property damage, police, insurance companies and loss of earnings. There are also wider economic costs associated with disruption on the road network.

Our continued emphasis on reducing road accidents in Oxfordshire helps to minimise these costs, as well as proactively managing the disruption that these accidents cause. Network Management must consider how it can improve collaborative working with Thames Valley Police (TVP), National Highways (NH) and other emergency services to minimise the impact and costs of planned and unplanned disruption on the network, and to use social media and other marketing campaigns to promote road safety and sustainable travel choices.

Performance Management

The successful management of the network will be monitored by measuring a few key indicators that will be reported at a service and corporate level as required.   In particular data will be collected, and key performance indicators developed to:

- Ensure minimal and efficient duration of works
- Protect air quality
- Improve journey times for active travel and bus services
- Maximise the use of technology
- Respond to and address customer needs

5. <u>OBJECTIVES</u>

The overall aim of the NMP is to provide a holistic approach to network management in Oxfordshire. This will help to deliver positive outcomes for our local economy and quality of life for the people who live, work or travel through our County.

The Network Management Plan builds on the objectives and commitments contained in the Local Transport and Connectivity Plan (LTCP). The LTCP outlines a clear vision to deliver a net-zero Oxfordshire transport and transport system. We plan to achieve this by reducing the need to travel, discouraging individual private vehicle journeys, and making walking, cycling, public and shared transport the natural first choice. Specifically, for Network Management the LTCP contains the following commitments:

Policy 31 – we will:

a. Undertake Network management as part of an integrated approach, utilising emerging technologies to maximise its ability to tackle congestion issues in the county.
b. Continue to work closely with all stakeholders, partners, and communities to minimise the adverse impact of disruptions on the entire road network within Oxfordshire and beyond.
c. Balance the needs of all network users, whilst promoting and prioritising walking, cycling and public transport at every opportunity.

The NMP covers the whole of Oxfordshire. We will continue to work with our partners and neighbouring authorities to co-ordinate the smooth movement of traffic, further improving our collaborative working with National Highways.

Network Management plays a key role in promoting healthy & thriving communities and supporting a thriving local economy, contributing to the delivery of a range of transport objectives, including:

- To minimise disruption to the those travelling on Oxfordshire's network prioritising any impact on those travelling by active travel and public transport.
- To proactively manage the network through provision of good quality, and timely information, taking direct and proactive intervention to reduce disruption in line with this plan's priorities.
- To ensure boundaries are pushed and technologies are used to minimise disruption of planned and approved roadworks.
- To support the delivery of active travel and bus priority schemes.
- To support delivery of planned growth and infrastructure with the interests of local communities as a priority.
- To have set out and agreed a range of potential strategies that can be implemented in the event different scenarios such as unplanned/emergency works, RTCs, pinch point gridlocks, known issues.
- To maximise the performance of our highway network and manage it to aid the movement of people, prioritising active travel and public transport.
- To increase journey time reliability and minimising end-to-end public transport journey times on main routes.
- To reduce the proportion of journeys made by private car by making the use of active travel and public transport more attractive.

- To effectively coordinate all activities on the highway to maximise the effective use of road space.
- To ensure all works promoters' activities are undertaken in the shortest possible time thereby reducing disruption and freeing up road space.

The Network Management Team works together to deliver an integrated and holistic service to local residents and communities, to fully utilise smart infrastructure and technology to manage pressures on the network, and to ensure safe, expeditious and efficient movement of people and traffic around Oxfordshire and the wider region.

Network Management will make an increasingly important contribution to the Council's climate change objectives through monitoring of air pollution levels (and street lighting energy consumption) within urban centres, thereby enabling strategies to be implemented to reduce the impact of polluting vehicles on public health and to create the conditions for greater use of active travel modes - such as Low Traffic Neighbourhoods (LTN's) and Local Cycling & Walking Infrastructure Plans (LCWIP's). This will also incorporate more efficient permitting of street works and enforcement of parking restrictions on a county-wide basis.

Oxfordshire County Council has an important role to play in promoting sustainable growth and delivering infrastructure improvements, while recognising the needs of existing residents and businesses in Oxfordshire. As the Highway Authority we have a range of duties and powers under which we maintain and improve the highway network and as the Traffic Authority, manage the activities that takes place on it.

6. NETWORK MANAGEMENT SERVICE

The Network Management Team (NMT) is made up of three distinct but joined elements. These are Network Co-ordination, Parking Enforcement, and Traffic Control Centre.

Network Co-ordination ensure effective monitoring and management of all activities that need road space such as road maintenance, utility street works, new developments, and public events.

Parking Enforcement manages the process of Civil Parking Enforcement and Bus Gate enforcement in Oxfordshire.

The Traffic Control Centre (TCC) operates Urban Traffic Management & Control (UTMC) which seeks to monitor, implement incident strategies, and advise on congestion and incidents on the highway.

Network Coordination - Road Works and Event Management

The primary function of the Network Coordination Team is to:

- Manage works and events on the network to ensure that there is minimum disruption to network users.
- Ensure mitigations are in place to promote active travel and public transport.
- Ensure works are undertaken to national standards and that the Highway Authority does not inherit a maintenance liability.

We also liaise with adjacent Highway Authorities (including National Highways) to coordinate works that cross county boundaries including National Highways.

To achieve this, we have the follow tools:

Permit Scheme

The purpose of the Oxfordshire Permit Scheme is to provide the ability for those wanting to work on the highway with the opportunity to apply for a Permit to do so, and for the Network Co-ordination team to consider applications and to grant, modify or refuse such works. Network Co-ordination can, when approving permits, apply enforceable conditions on the works (for example the manual operation of temporary traffic lights). The permitting system operates via the Department for Transport (DfT) Street Manager with live mapping of approved works made available on the one.network (Elgin) portal.

We will work with developers, Network Rail, Train Operating Companies, and other rail industry partners on major projects such as High Speed 2 (HS2), East West Rail (EWR) (recognising relevant Transport and Works Act powers) with the objective of minimising impacts of their activities upon the highway network and local communities. Having formed strategic partnerships with stakeholders including Bicester Village, NHS Trusts, BMW, and Harwell Campus to share intelligence and approaches to managing local congestion hotspots more effectively.

Event Management

A considerable number of events, including filming activity, takes place on the Oxfordshire Network. The Network Coordination Team provides advice and guidance on these activities,

approves applications to work on the network, to ensure that the network continues to run smoothly.

Highway Licences

Network Co-ordination manage all applications for highway licences made for various activities affecting the highway, such as skips, scaffolds, cranes, hoardings, events, Section 50 road opening licences (private works on the network), Section 171 Road Opening Permits, and temporary traffic signals.

Highway licences are available from the Oxfordshire County Council website.

These procedures ensure that Oxfordshire County Council is fully aware of all notified road works and events taking place on the highway network and that all such activities are undertaken safely and with minimum disruption and that as much information as possible is made available to the general public. The co-ordination activity ensures that statutory regulations such as signs, lights and necessary traffic management are applied where necessary.

Parking Management

Our Parking Policy details the approach to the ongoing development and delivery of parking management in Oxfordshire. Parking management is an important transport planning tool, enabling us to influence how people may choose to travel, with the aim of encouraging them to use more sustainable forms of transport, including Park and Ride facilities. We also recognise the importance of providing blue badge parking to enable those who are less mobile to access key facilities and services where they are less accessible by public transport, walking and cycling. We also support communities to create the right parking restrictions in the right places by designing community supported residential parking schemes on the highway and introducing new restrictions to create safer environments.

This is provided by the follow services:

Enforcement

One of the key objectives of managing the highway network is to manage traffic congestion. The enforcement of parking restrictions plays an important part in effective traffic management and improving traffic flow.

Our parking policy will support and link in with the ambitious transport goals by;

- Supporting safe active travel through targeted enforcement of pavement parking - particularly in support of school streets schemes and on core routes identified in LCWIP's.

- Ensuring traffic flow is maintained on main roads and delays to public transport vehicles are reduced.

- Actively enforcing restrictions in narrow streets to ensure access is maintained for emergency vehicles and refuse vehicles.

- Managing kerb side space fairly to ensure a balance is maintained between supporting the vitality of local businesses and catering for resident and visitor parking.

- Promoting the introduction of resident parking zones to improve the lives of residents and to encourage use of public transport by cutting down on opportunities for commuter parking.

- Managing the demand for specific parking areas including disabled parking, loading bays, bus stops, and taxi ranks and actively enforcing these areas to ensure they are kept available for those drivers who need them.

- Minimising the adverse effects of motorised transport on the environment and health.

- Improving accessibility, particularly for non-car owners and people with mobility or sensory impairment.

- Maximising parking in off-street car parks.

- Enabling the safe servicing of industrial and commercial premises.

- Reducing personal injury accidents.

- By providing a level of enforcement commensurate with the scale of contravention and the finances available.

- Using innovation to continuously improve the way we enforce and manage the road network.

Parking contracts

The contract to enforce Parking restrictions in Oxford City was awarded to Conduent Services Limited in May 2020 which will be in place for the life of this Network Management Plan. The contract to manage parking enforcement in Cherwell, South and Vale districts was awarded to Conduent in 2021 and covers the life of the NMP. The contracts are managed by the Parking Services Team and Key Performance Indicators are used to monitor the success of the services. The agency agreement with West Oxfordshire District Council to manage on-street enforcement is due to end in March 2023 when management of this service will revert to Oxfordshire Council with services supplied by Conduent.

The contracts promise to bring new levels of efficiency and responsiveness to parking problems on the local road network with the service provider utilising greater technology to improve the service in line with our LTCP policy objectives and priorities.

Bus Lane camera enforcement

The provision of bus priority measures across the road network is crucial in ensuring journeys are more reliable and bus users in Oxfordshire are able to get to the destinations they need to, including places of education, employment, healthcare, and leisure. The use of bus lane enforcement has proven to be an important tool in realising the benefits of bus priority measures through changing behaviours and increasing compliance with the restrictions.

Innovation in enforcement

In partnership with our enforcement provider Conduent, over the next 5 years we will work to provide year-on-year efficiencies with the introduction of new innovations including working alongside the Parking Technology Service Provider (PTSP) and other Solution providers to

investigate, trial and implement new methods of service delivery to increase the efficiency of the operation. This will include the use of new technologies and revised/new enforcement powers to ensure effective prioritisation of resources in line with our LTCP objectives and priorities.

Park & Ride strategies

There are five Park and Ride (P&R) sites located around Oxford's ring road, with a further Park and Ride at Bicester, with regular bus services to the city centre and - from some P&R locations to the Oxford hospital sites too.

These sites are vitally important in reducing the number of vehicles coming into Oxford and provide hubs with other modes of transport around Oxfordshire and the UK.

In 2019 the County Council passed responsibility for the management of the Water Eaton and Thornhill Park & Ride sites to the City Council under an Agency Agreement. This means that all of the Oxford sites are now operated by the City Council. A joint working group is in place with the Oxford City Council to ensure that pricing strategies and incentives are aligned across all sites in Oxford.

The Park and Ride sites form an important part of the Central Oxford Travel Strategy, and the proposed workplace parking levy and other traffic restrictions will help in kick-starting funding of new potential bus and park and ride services, offering discounts and incentives to encourage people to use them.

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

Supporting Communities

With the introduction of Civil Parking Enforcement across the County in 2021, we are embarking on a series of parking reviews across the County to ensure that the right restrictions are implemented in the right places, supporting a balance between residential, visitor and business parking to ensure support from local communities. These restrictions will then be actively enforced.

Traffic Control Centre

The Oxfordshire Traffic Control Centre (TCC) is central to the efficient management of the highway network.

Its' overall aim is to facilitate the safe, sustainable, and efficient movement of pedestrians, cyclists, buses, freight vehicles and general traffic on Oxfordshire's transport network, and also to and from the networks of neighbouring highway authorities.

The core strategic approach, which underpins this aim, is to:

Optimise

Ensure the network always operates at optimum efficiency.

Monitor & Actively Manage

Monitoring the Oxfordshire transport network. Proactively managing planned and unplanned disruptions as they occur.

Inform

Providing accurate, timely traffic and travel information in appropriate formats including social media, in-car satellite navigation systems, Mobility as a Service (MaaS) applications, and via roadside signage: Variable Message Signs (VMS) and Real Time (Bus) Information (RTI) displays located across the county.

Collaborate

Improving working relationships and communication between the Traffic Control Centre and relevant stakeholders.

Gather Data & Intelligence

Analysing historic journey time, traffic flow, speed and environmental data collated by the OCC data teams, innovation partners and local bus companies.

Innovate

Investigating and implementing new technologies which will assist with the above.

To deliver the above aims and objectives, a range of activities are carried out, which can be divided into maintenance and development activities. The maintenance activities are vital to preserve the level of service currently offered, and the development activities allow the TCC to develop and improve the service they offer.

Success will be measured primarily against Network Management's strategic performance management criteria and secondly against monthly KPI performance targets:

7. <u>DECISION MAKING FRAMEWORK</u>

The Council has reviewed what it is trying to achieve with our NMP, consistent with the corporate plan Our strategic plan 2022 - 2025 | Oxfordshire County Council, Local Transport and Connectivity Plan (LTCP) and Highway Asset Management Plan (HAMP) and the primary considerations outlined in Chapter 4, setting out a framework and key considerations for decision-making.

Although road space booking and permit applications are considered on a first come first served basis, there is a need to consider, and horizon scan important works coming up on the network and how they fit into the "big picture" of work on the network.

In general terms the OCC network user hierarchy for priority of works on the Highway is as follows:

1. **Emergency repairs to facilitate safe conditions, ensure utility supplies or to prevent an "emergency situation"**
2. **Works of national importance (HS2 and EWR)**
3. **County Council new and improved infrastructure projects**
4. **Digital connectivity infrastructure projects**
5. **Large scale public events**
6. **Major utility infrastructure and works**
7. **Small scale utility works (minor and standard)**
8. **Highway maintenance activities**

These priorities will be used by Network Co-ordination to support active travel, bus priority, major projects, and growth initiatives in the county through proactive decision making in their booking of road space.

The overall aim of the NMP is to provide:

A holistic approach to network management in Oxfordshire which will help to deliver thriving communities and economy for all people who live, work or travel through our County.

To deliver a holistic approach to network management we will adopt a series of principles for the services that we deliver. These will include:

- Seeking to minimise delays caused by congestion through provision of good information and efficient operation of junctions

- Protecting and supporting access and journey times, particular for walking, cycling and bus, during roadworks

- Ensuring new infrastructure implemented aligns with our requirements and policies (such as requiring CCTV at junctions)

- Working close with and exchanging information and intelligence with partners

- Ensuring enforcement of traffic and parking restrictions can be carried out effectively and robustly.

Proactive actions will be required to drive innovative road space management using all available data from within the NMT team. Ongoing and historical assessments of road and street works activities highlighting where traffic disruption and rat running occurs will be used to better plan future works. Local knowledge and data sources must be considered alongside National Highways data to ensure planning undertaken effectively supports road users across the county and strategic road network.

Forward planning the booking and management of road space will be required to drive change in road user behaviour and support OCC's active travel and growth plans. The NMT will work with those planning and implementing active travel, bus priority and major infrastructure projects focussing on maximising available road space mitigation efforts to reduce disruption whilst road and street works are undertaken.

Using the powers and duties afforded through the TMA 2004, NRSWA 1991 and associated codes of practice the NMT will ensure the road space offered to projects are considered appropriately and in line with our network transport user hierarchy to support Oxfordshire County Council's Growth Board plans and priorities.

The OCC Road and Street Works Permit scheme affords the Council powers to control and direct those who book road space to allow their activities to occur, and these powers are supported by conditions that can be attached to granted road and street works permits.

Conditions applied to granted permits reduce the impact of the works to the travelling public and where a works promoter breaches permit conditions fines can be levied by the permit authority.

Permit conditions that can be applied are noted below:

- Time Constraints
- Material and Plant Storage
- Road Occupation Dimensions
- Traffic Space Dimensions
- Road Closure
- Light Signals and Shuttle Working
- Traffic Management Changes
- Work Methodology
- Consultation and Publicity
- Environmental
- Local/Special

OCC uses these conditions and powers of the permit scheme to improve journey times and reliability for all our road users by:

- reducing the congestion caused by road works

- ensuring that mitigations are in place to promote the network hierarchy of users

- improving the information available on works, including advanced warning and duration

- increasing the planning and control of works to improve safety and reduce damage to the road

- Promote the use of innovation in the industry, for example intelligent temporary traffic signals

Where larger scheme works are planned such as major infrastructure projects, active travel, and growth initiatives the permit scheme requires forward planning notices to be applied for booking road space. These forward planning notices are published on public facing data sources using mapping to show all road and street works in progress and planned, allowing those who may need to book their own road space to work and/or navigate around large-scale projects, and therefore to better plan their activities.

Following notification of forward planning activities Network Co-ordination team will guide and support those planning such works in their development of Construction Traffic Management Plans (CTMP) that explore and use innovative approaches to Highway works to reduce traffic disruption.

The CTMP will set out the mitigation measures employed to reduce the impacts of the proposed works on the Oxfordshire Highway network and National Highways strategic road network in the county.

The CTMP will need to consider the following elements:

- Preferred routes for delivery vehicles and staff
- HGV traffic movement restrictions
- Local and strategic route traffic diversions
- Route signage
- Working hours
- Timing of deliveries
- The requirement for stewarding at accesses
- Vehicle wheel washing
- Highway condition survey
- Promotional material and communications
- Co-ordination/emergency contact
- Sustainable staff travel
- The completion of a construction method statement

Network Transport User Hierarchy

Oxfordshire County Council has considered the movement of traffic by user type and has set a transport user hierarchy that it considers will support the long-term goals and aspirations of the council. Generally, and subject to what is possible on an individual site, priority for the movement of traffic will be as follows in accordance with LTCP Policy 1:

- Walking and wheeling (including running, mobility aids, wheelchairs, mobility scooters and pushchairs)

- Cycling and riding (bicycles, non-standard cycles, e-bikes, cargo bikes, e-scooters, and horse riding)
- Public transport (bus, scheduled coach, rail, and taxis)
- Motorcycles
- Shared vehicles (car clubs and car-pooling)
- Other motorised modes (cars, vans, and lorries)

The transport user hierarchy will be used to support the most effective and efficient approach to the management of OCC's highway network and will be used alongside the road network hierarchy to empower decision and policy making. The road network hierarchy in OCC can be described as below:

- The Strategic Road Network (SRN)

Motorways and trunk roads collectively form the Strategic Road Network (SRN). These are managed by National Highways on behalf of the Secretary of State. The NMT works closely with National Highways to ensure a good understanding of conditions on the other authority's network with any disruption on the strategic and or local road network being managed, and mitigation efforts jointly implemented.

- The Local Road Network (LRN)

The Local Road Network is all the roads in the county under OCC's maintenance and control such as A, B, C classified roads and unclassified roads in towns, cities, and rural areas.

- The Major Road Network (MRN) - Major Road Network (dft.gov.uk)

In recognition of the role that the local road network plays in supporting the economy, the government brought in a middle tier of the country's busiest and most economically important local authority 'A' roads, sitting between the national strategic road network and the local road network. The primary aim of the MRN is to ensure that transition to and from the SRN is smooth, fit-for-purpose, and provides a seamless experience for road users making strategic journeys.

Typically, whole routes and individual roads tended to be labelled by the road network hierarchy and hence, afforded the same attributes, irrespective of the actual segmentation of a route in terms of its characteristics.

The network user hierarchy aims to provide greater clarity of use of a route and take account of the changing nature of the route along its path through the county to empower road space booking and mitigation efforts during necessary road and street works. Routes may pass through rural, urban, and industrial areas with associated properties, businesses and uses leading to changing characteristics on the course of a journey a traveller may make on this route.

The considerations which the NMT will use to identify and guide road space decision making will typically include but not be limited to:

- Traffic volume – be that pedestrian, cyclist, or motorised.
- Future use – active travel, changing priorities and travel choices must be considered.
- Schools, hospitals, shopping centres etc. – the priority afforded to works on a route or section of a route must be flexibly planned and managed.
- Public transport priority – route may be over capacity so priority must be given to the most effective methods of travel on the route.

- Tidal flows – commuter traffic entering or leaving an area, consideration of alternative diversion routes for traffic in the morning and evening rush hours.
- Out of hours working – planning and carrying out works at the times of least disruption to road users.
- Blockades – closing a route for a shorter period to enable works to happen more quickly.
- Extended works durations – reducing site activities that lead to delays in scheme completion, but which support LTCP objectives and policies and access to health, education, employment, social and retail facilities.

The NMT fully supports the traffic management aims and objectives of the transport user hierarchy and will develop processes and policies to ensure these are met wherever possible. Work promoters and those who book road space for their activities on the highway will be expected to show how they are responding to and addressing this user hierarchy in their road space permit applications and construction management plans they offer to the NMT.

The network transport user hierarchy will act to secure priority for the identified modes of travel in line with policy and which, in the main, also use road space more efficiently and effectively. It is, however recognised that there is only a finite amount of road space and therefore prioritisation to certain modes may at times have adverse effects on some users, such those using private motorised vehicles. This will require careful planning and monitoring to ensure that queueing traffic does not have an adverse effect on air quality.

8. MANAGING THE NETWORK – Planned Approaches

Network Co-ordination

Roadworks

Part 4 of the Traffic Management Act seeks to improve the existing regulatory framework within which utility companies are permitted to dig up local roads and extends the framework to cover the Highway Authority's own works, giving Councils additional powers to manage and co-ordinate works more effectively with the aim of minimising disruption.

There are four classes of permits:

- Major
- Standard
- Minor
- Immediate

Works promoters have to apply for permits based on the durations and disruption their activities are likely to cause with Network Co-ordination having set timelines for responses to be made – for either granting, refusing, or changing the application details. The timelines are set out in the below table.

Activity Type	Minimum application periods ahead of proposed start date		Minimum period before Permit expires for application for variation (including extension)	Response times for issuing a Permit or seeking further information or discussion		Response times for responding to applications for Permit variations
	Provisional Advance Authorisation	Application		Provisional Advance Authorisation	Application	
Major	3 months	10 days	2 days or 20% of the original duration whichever is the longer	1 calendar month	5 days	2 days
Standard	N/A	10 days		N/A	5 days	
Minor	N/A	3 days		N/A	2 days	
Immediate	N/A	2 hours after		N/A	2 days	

Local authorities can place an embargo (S58) on any further works taking place (with certain exceptions, such as emergencies) on a road on which major road works have just been carried out. The Act allows authorities to apply similar embargoes after major utility works and will allow the maximum length of the embargo to be changed through regulations. Oxfordshire County Council will operate an embargo system after all major works.

Street (Including Footway, Cycleway etc)		
	Traffic Sensitive or Reinstatement Category 0, 1 & 2	Reinstatement Category 3 & 4
1: Reconstructed	5 years	5 years
2: Resurfaced including level change	3 years	3 years
3: Other substantial road or street works	1 year	6 months
Combination of 1 or 2 plus 3	Higher of figures	Higher of figures
Customer connections	20 days	

Parity is an important principle in exercising the duty. Authorities must lead by example, applying the same standards and approaches to their own activities as to those of others. The council will therefore operate its Permit Scheme consistently, irrespective of the works promoter.

The Act allows for a more effective regime to be developed for inspecting the works carried out by utilities and the highway authority. The aim would be to target poor performance so as to improve the quality of works and reduce the amount of remedial works and repairs and the unnecessary disruption that they cause.

Events and Filming on the Highway

Oxfordshire County Council has established management processes for the co-ordination and control of planned events and filming creating a guidance document for those planning events in the county.   These procedures are designed to minimise their impact of events and filming on other highway users and ensure effective liaison with promoters of other known road works.

Every event that takes place on the highway within Oxfordshire is required to be registered with the highway's authority in order that the traffic management arrangements can be co-ordinated. This will ensure that the event can be held successfully and is not compromised by other planned work on the highway network.

Regular event meetings (Safety Advisory Group meetings) are organised at a district council level and involve local divisional highway officers, the emergency services, district council officers and the event organiser.

Safety Advisory Group meetings assist the event planning process to ensure that events take place safely and at a time and in a manner that has the minimum effect on network operations. In addition, the meetings enable the dissemination of accurate information regarding the events as early as possible to other organisations.

We are committed to supporting planned events but will balance the potential positive economic and social benefits against potential negative impacts on the road network – for example increased congestion and pollution levels. When helping to plan events, we will ensure that:

- arrangements are put in place to minimise their impact on the road network

- appropriate contingencies are prepared

- there is early communication with external organisations, to help co-ordination

- temporary amendments to our network management priorities are identified

- changes to public transport provision can be prepared

- publicity about the event is prepared

- appropriate levels of management are agreed and implemented.

After the event has finished, we will review lessons learnt from planning, managing, and implementing the event. This helps to ensure that we continue to improve the way that events are managed and minimise their impact on the road network.

Cross Boundary Working

Traffic moves freely across administrative boundaries, therefore, to meet our network management duty we work in co-ordination with neighbouring authorities. The organisations having administrative boundaries with Oxfordshire are Warwickshire, Northamptonshire, Buckinghamshire, Berkshire, Wiltshire, Swindon, and Gloucestershire.

This involves:

- Liaising & co-operating with National Highways.

- Co-ordinating planned works and events.

- Provision of abnormal and diversionary routes.

- Preparing emergency and contingency plans.

- Reactions to unplanned events.

Co-ordination, Collaboration & Communication

To ensure a consistent approach to street works across the region and indeed across the Country, OCC Network Management are members of Southeast Highways and Utility Companies (HAUC) group, members of Southeast Joint Authorities Group (SEJAG) and Permit Authorities Group (PAG).

These groups work together to ensure good working practices across the region and work together to promote enhanced processes and co-operation across the street works community.

Oxfordshire County Council hosts local HAUC quarterly co-ordination meetings with representatives of the utility companies. These meetings between highway authority staff and the utilities cover the works programmed to be carried out on the highway network and ensure that potential conflicts can be discussed in detail and dealt with before they arise. Agreed actions are recorded for all parties to follow up on.

OCC works closely with National Highways (NH) to manage joint networks in emergency situations and assists NH with works on their network. Agreed strategic diversion plans are agreed between both authorities and held on Resilience Direct.

There are specific plans for some emergency events developed with key stakeholders

Freight Routing

Oxfordshire relies on an efficient and reliable road freight network for our daily lives, between businesses, their supply chains, and their customers, to make Oxfordshire an attractive location for business and employment.

Heavy Goods Vehicles (HGVs) movements are concentrated on several main corridors, particularly the A34, A420, A40 and A41. There is also a higher proportion of HGV traffic on other routes including main roads around Banbury, Bicester, and Didcot. Locations for major logistics operations in the County are focused on easy access to the main road network, with large sites found in Didcot close to the A34, and Bicester and Banbury close to the M40. Transport trends and forecasts also indicate an increase in use of smaller, lighter goods vehicles on the road network.

Whilst movement of goods brings economic benefits, freight vehicles have negative effects on congestion, road safety, air quality and the environment with freight vehicles sometimes blocking roads through on-street loading activities. We must also appreciate that residents have concerns about the impact and potential danger caused by HGVs travelling through villages and small towns.

Network Co-ordination will therefore:

- Use data to understand patterns of freight movement, including the use of smaller vehicles, last-mile services (e.g. cargo-bike) and rail, assessing the difficulties faced by operators, and the impact on local communities and other road users.

- Inform freight operators of the best routes to use and routes/locations to be avoided where possible.

- Encourage use of the Strategic Road Network (SRN) through traffic management measures, working with National Highways on the A34 and M40 interfaces with the local network, and taking advantage of new technologies and best practice to manage freight movements – including traffic signal strategies, Variable Message Signs (VMS), sat nav communications, and greater use of the National Freight Gateway/Journey Planner.

- Deter use of inappropriate minor roads and movements through towns and villages and other environmentally sensitive areas (including Air Quality Management Areas), except where this is essential for local access. Working with colleagues in Trading Standards, Locality and Highways teams, we will seek to minimise damage to road surfaces and bridges by monitoring traffic flows and pollution levels, managing roadworks effectively, and assisting in the enforcement of weight, height, and width restrictions. This includes planning for provision of area-based restrictions in line with LTCP policies.

- Manage freight and logistics movements in partnership with public sector organisations and businesses – e.g. the transportation of abnormal loads over long distances.

Local Engagement – Stakeholders

The principal purpose of Network Co-ordination is to ensure that all activity that may offer disruption to road users is co-ordinated effectively and that their impact is considered and mitigated against, and that those whose daily lives will be affected are notified appropriately.

Our stakeholders are important to us, and we have therefore established links with some of our major organisations, allowing us to work with them and their workforces to ensure that highway works do not impact on the day to day running of their businesses.

Monthly meetings are held with Bicester Village (BV) to update them on roadworks, identify their high footfall timings, and to co-ordinate roadworks to ensure minimal impact on their opening times. However, we must also ensure that the road network is not congested due to Bicester Village generated trips. We work closely with other large organisations such as BMW, NHS Trust, Harwell Campus, and other science/innovation bodies.

Dialogue with bus and rail operators is continuous with regular and established bus liaison meetings to review current procedures for notifying bus operators of planned and urgent works/activities, upcoming roadworks/projects, and mitigation measures. These arrangements will be formalised through the new Enhanced Partnership arrangements which will be established to support the implementation of Bus Service Improvement Plan (BSIP) facilities and measures. Engagement is often required with bus operators as part of the planning process when negotiating with developers on specific schemes - for example when new bus services are required to serve a new housing or retail development.

Specific meetings with rail industry partners are organised on a project specific basis in order to review their impact on the wider road network, for example necessary highways work to enable wider schemes such as HS2 and East West Rail. The Group Manager, Network Co-ordination or a designated deputy will represent the Council in such discussions, feeding into and influencing the rail industry's detailed plans.

It is the responsibility of the Works Promoter to ensure that they have engaged with all relevant stakeholders in order minimise the impact of their works. Network Co-ordination encourages and supports all activity promoters to undertake the earliest possible engagement with their customers and stakeholders - including local public transport providers and road haulage associations as being essential to these communications. Forming a professional communication relationship based on sharing and trust is essential to the reduction of disruption and inconvenience for all.

The NMT uses a Customer and Stakeholder Engagement Plan (CSEP) to decide when and how to communicate with anyone affected by highway activities.

The planned activities are graded based on the type or works proposed and the likely disruption they will cause.

For planned works and events, the table below sets out the different levels of engagement expected of the Works Promoter and their timescales.

Action	Major Projects	Level 2	Level 1	Level 0
	Public transport Packages Major Infrastructure Improvements	Residential/busy urban areas/large rural areas Road closures or disruptive Traffic Management- Traffic sensitive A-roads town centre	Rural roads- Small rural residential areas Minor works on cul-de-sacs etc.	Areas with little or no affect to stakeholders
Contact Councillor	Yes	Yes	Yes	Optional
Signs	Yes	Yes	Yes	Optional
Letter drop	Yes	Yes	Optional	Optional

Business visit	Yes	Yes	Optional	No
Facebook / Twitter	Yes	Optional	Optional	No
Newsletter	Yes	Optional	No	No
Press release & radio	Yes	Optional	Optional	No
Webpage	Yes	Optional	No	No
Public meetings	Optional	Optional	No	No
Customer notice	Timescales outlined in communication plan	14 days	7 days	3 days

When unplanned activities cause disruption to the highway network the TCC will as far as it is reasonably practicable to do so implement the OCC Customer and Stakeholder Engagement Plan to ensure messaging is share widely and effectively.

The TCC will make use of roadside Variable Messaging Signs (VMS), real time (bus) information (RTI) signs and the Oxontime web site to deliver information to bus and rail passengers as well as making use of Twitter, Facebook, and WhatsApp to ensure digital sources of data sharing are maximised. Increasingly the team will utilise 'virtual VMS' systems such as in-vehicle satellite navigation and Mobility as a Service (MaaS) applications.

The TCC will also look to share information to local media outlets with verbal updates provided so these can be disseminated on local radio.

Monitoring Adherence to Permits & Licences

The Network Co-ordination team and Highway Officers ensure compliance with permits and licenses and will actively seek any transgressions. Fines can be imposed for non-compliance with permit conditions and overrunning sites (for both external and internal works) and retrospective charges imposed for activities that have not complied with license conditions.

Sample inspections are performed on live sites to ensure conditions on permits are met, and that the site is compliant with Traffic Signs Manual Chapter 8 Signing & Guarding guidance and safe both for the workforce and other highway users.

Officers undertake proactive inspection/intervention at random sites in addition to sample inspections. This can also include visits which have been activated by way of complaints received via FixMyStreet.

Parking

Enforcement

The management of parking is one of the most effective means of tackling congestion and its more serious consequences, e.g. increased air pollution, delay and unreliability of public

transport services, while recognising that the availability of parking can afford economic benefits through facilitating convenient access to retail, educational and social facilities.

As competing parking demands intensify and conflict, the need for skilled and effective on-street parking management based on clearly defined priorities increases. Our Parking Policy supports effective parking management by:

- Coordinating on/off-street parking enforcement management to ensure a comprehensive and complementary approach.

- Allocating parking permits/waivers with clear conditions of use based on transparent and consistent principles, which give priority in accordance with the defined hierarchy of parking enforcement; and

- Maximising the potential of the Councils' information technology system to support an effective and efficient parking management operation.

Conduent, our parking enforcement provider, has a proven track record in technology and innovation within this sector. On-street enforcement will be a mixture of on-foot patrols and mobile enforcement. Trials are currently underway for the use of scan bikes which read vehicle registration numbers to allow identification of vehicles that hold a valid permit. This allows a more focused response for patrols to identify vehicles parked in contravention. We will continue to enforce traffic and parking restrictions in Oxford, to improve the effectiveness of our infrastructure and prioritise sustainable modes of travel.

Bus Lane enforcement operations

Congestion is a major constraint across our road network and has a significant role to play in the delays experienced by all road users, but especially local bus services. Therefore, the purpose of bus priority measures is to improve journey reliability times from stop to stop, which makes local bus services more efficient and cost-effective. Enforcement of these measures is crucial to ensure robustness and continued success in improving journey times.

The policies for bus lane camera enforcement sit within our overarching Policy for Parking Management and will be regularly updated and reviewed to ensure they are fair and balanced in delivering our objectives.

We will ensure that sufficient investment and resources is provided to maintain existing enforcement operations, whist keeping up to date with new technologies and opportunities to improve the service.

Traffic Control Centre

Optimise

The network can run significantly below its maximum capacity due to a range of factors including poor driver behaviour, inefficient junction operation, traffic signal faults, illegal parking, or disruptive roadworks/incidents.

A key objective of the TCC is to ensure that the network operates as close to its' maximum capacity as possible. The following activities support this objective:

- **Fault management** - Ensuring all communications and hardware faults are promptly identified and repaired – VMS, Real Time Bus Information (RTI), CCTV, signals,

parking sensors etc. Working with the Traffic Signals, Data & Systems, and ICT teams to resolve faults through various maintenance arrangements.

- **Design** – influencing the design of new traffic signal junctions and road schemes, to ensure the Traffic Control Centre is capable of implementing strategies which minimise congestion and improve traffic flow.

- **Keeping the Network Clear** – using CCTV and other data sources to identify issues with illegal parking or roadworks that have exceeded their permitted working. These instances will then be reported to the Council's Parking Enforcement and/or Network Co-ordination teams, so that they can be resolved, and road space freed up.

- **Optimising traffic signal operation** – through a coordinated central form of control. A key element to the TCC's work in this area is linking the Urban Traffic Management & Control (UTMC) and Urban Traffic Control (signals) systems, so that plans can be activated in real time to influence traffic signal timings and to help clear congestion from links in the road network and maximise capacity.

Monitor & Actively Manage

When a disruption occurs on the network, queues build quickly, which then block back through upstream junctions, affecting other traffic movements and causing severe, widespread disruption.

Once a queue has built up, it can be extremely difficult to clear it at busy times. It is therefore important to quickly identify disruptions and then carry out interventions that will assist in managing the incident.

- **Active management** - the TCC therefore provides an active traffic control service on weekdays from 06:30 to 19:00 hours and on Saturdays from 9:30am to 5:30pm, with plans to extend this coverage to Sundays & Bank Holidays. Staff are available during these hours to identify and deal with any disruptions that arise. TCC staff disseminate accurate traffic information to the travelling public and a range of stakeholders. They also actively implement traffic signal and VMS strategies during any disruptions in order to minimise the traffic impact of the incident.

- **Real Time Network Monitoring** - the prompt identification of disruptions on the network is key to their effective management. To this end, the TCC is working with the iiHub team to develop modern, fit-for-purpose network monitoring systems and predictive intelligence, with real time visualisation capabilities.

- **Utilise CCTV** for the monitoring and management of the road network. The use of CCTV facilitates active traffic management, as staff can see disruptions as they occur and take the appropriate action, monitoring the effect of their interventions on the live network in real time and supplying accurate traffic information to the public. CCTV provides visibility of centrally controlled junctions and therefore enables TCC staff to efficiently manage these junctions through a range of strategy interventions and traffic signal optimisation.

  The TCC requires that each centrally controlled junction and key parts of the city's main roads have CCTV coverage. New junctions must be routinely equipped with CCTV, and pre-existing 'blind spots' should be equipped with CCTV as budgets becomes available.

- **Traffic monitoring -** it is important for the TCC to understand the current traffic conditions in real time across the Oxfordshire network, in terms of vehicle speeds and journey times between junctions. To this end, the TCC must be able to access and use average speed and journey time data for the city via mobile sources (phone or floating vehicle data) rather than fixed location ANPR cameras. TCC must then be able to visualise congestion on the network. This, along with traffic flow data should also feed into the Oxfordshire Mobility Model (future transport modelling system) for pinch point analysis and investment planning purposes.

Provide Accurate, Timely Traffic and Travel Information

When a planned or unplanned disruption occurs on the network, individuals and other stakeholders want information around what has happened. This is because we need them to make informed travel choices, such as re-routing or re-timing their journeys, or changing their transport mode.

Stakeholders need to plan how to run their services around the disruptions identified. There are a range of methods that can be used to disseminate information to the public or stakeholders, both before and during their journeys:

- **Car Park Guidance -** a leading cause of congestion in Oxford city centre on weekends and at Christmas is circulating traffic looking for parking, or queuing outside of the Westgate Centre car park, awaiting entry. The Westgate car parking guidance system incorporates dynamically updated roadside signage advertising the availability of parking spaces or alternative car parks around the city network. The Council utilises Red/Green/Blue (RGB) VMS signs to indicate to drivers the availability of spaces at our Park & Ride sites, in order to minimise congestion in Oxford itself. TCC will use car park occupancy data to inform VMS strategies, directing traffic to the most appropriate P&R location.

- **Real Time Messaging -** when an unplanned disruption occurs, it is important to be able to provide information about the issue directly to drivers (VMS) and bus users (RTI) on the move. Individuals are then able to make informed travel decisions, re-routing to avoid problems, which reduces queue lengths and delays and assists in keeping the network moving. Making individuals aware of the reason for the delays they are experiencing can also reduce frustration.

  Real time messaging signs are also very useful for providing individuals with advanced warning of planned disruptions, such as roadworks and events, and for promotion of sustainable travel choices and road safety messages. VMS are carefully positioned within the network to provide drivers with traffic and travel information at key decision points within the network, allowing them to divert to nearby Park & Ride sites. This is achieved through regular use of UTMC strategies. RTI signage can provide more network coverage, alerting bus users to service and stop disruptions, vehicle capacities and alternative routes/diversions.

  VMS and RTI signs are key tools for informing the public of disruptions on the network, and as such, the TCC will continue to support their installation and maintenance for the foreseeable future through use of available capital funding including BSIP allocations. However, on-street signage is expensive to install and maintain, so as connected vehicles become more commonplace, future in-vehicle messaging options will be explored.

The RTI website ('Oxontime') will also be used to supply disruptive messaging alerts to bus users, and bus companies will develop the capability to cancel and divert services on this website, their own mobile phone apps and physical RTI displays using the Oxontime data platform.

- **Media & Social Media -** as with on-street signage, providing information to individuals on the move is key to their being able to make more informed travel decisions, such as re-timing their journey, re-routing to avoid problems, or switching to another mode of transport. The effective publication of timely, accurate, traffic and travel information using a range of different media is therefore a key priority.

  The TCC therefore also supports the following digital methods of communication in order to provide traffic and travel information to the public:

  - Providing verbal traffic reports to Inrix media and BBC Oxford during each traffic peak, so the information can be disseminated on local radio.
  - Providing 'traffic tweets' in real time for planned and unplanned disruptions via the council's OxonTravel Twitter feed.
  - Using social media, VMS and RTI to manage traffic flows and congestion in the most efficient ways, drive modal shift and to promote road safety – e.g. through time-limited campaigns and traffic control strategies.
  - Providing a range of transport data to the general public in the form of an Open Data API, so that it can be used by other travel websites and travel apps.

Collaborate: Improve Working Relationships with Stakeholders.

There are a wide range of stakeholders who have an interest or involvement in Oxfordshire's road network, such as neighbouring highway authorities, Thames Valley Police, bus operators, local media, elected members, research institutions and other council departments. The TCC aims to support and develop these working relationships in the following ways:

- By providing a daily traffic bulletin for interested managers, elected members and officers in addition to regular incident and network status updates.
- By calling stakeholders as appropriate when a disruption occurs that is relevant to them
- By providing up to date traffic and travel information via Twitter (OxonTravel)
- By working to provide access to Oxfordshire traffic data in the form of Open Data API's, OCC web page journey time updates and Twitter feeds.
- By engaging with Go-Ahead, Stagecoach, and other bus operator personnel in their own control offices, to assist them in their day-to-day bus service operations.
- By offering traffic training interventions to interested parties.

The TCC will also seek to engage with neighbouring highway authorities in order to more effectively manage traffic issues that impact the network around Oxfordshire's highway network borders. Our approach is to manage congestion and direct traffic to the most appropriate roads across Oxfordshire and the wider region in accordance with operational processes and plans jointly agreed with the Thames Valley Local Resilience Forum (TVLRP) and with National Highways using the well-established Collaborative Traffic Management (CTM) toolkit.

Unplanned incidents such as major accidents which result in significant public welfare implications, or road closures due to severe weather conditions, are managed by

Oxfordshire County Council's Emergency Planning team, so the TCC will continue to work closely with them to mitigate the impact of major disruption events on the network.

9. <u>MANAGING THE NETWORK</u> – <u>Reactive Approaches</u>

Incidents on the highway network, such as accidents, unplanned road and street works, breakdowns, demonstrations, works that do not go as planned cannot be predicted but strategies can be in place.

The Traffic Control Centre will work with appropriate partners, such as the emergency services, statutory undertakers, bus operators, local newspaper and radio and National Highways to:

- minimise the impact of unplanned events.
- minimise response times.
- provide effective traffic management.
- keep routes clear for emergency services.
- make the incident area safe for road users.
- inform the travelling public of incidents and appropriate diversion routes.
- support the repair or removal of hazards.

The random nature and location of most of these incidents means that they can be difficult to deal with. However, we aim to manage these incidents as quickly and efficiently as possible, helping to contain and mitigate their negative impact on the road network. When managing incidents, we will continue to ensure that the actions we take are planned and effectively coordinated and managed.

We will do this by:

- working with our partners to develop and maintain contingency plans.
- ensuring local processes and procedures are followed when dealing with routine emergencies that happen on a day-to-day basis on the road network, such as road traffic collision's (RTCs), as well as emergency situations/events like flooding, excessive snow, etc.
- maintaining good communication with people who may be affected by an incident is a key part of our work to keep the network flowing efficiently.
- periodically review how we communicate, to ensure continued effectiveness, make best use of new technology etc. We also share information on major incidents with key partners and stakeholders, as appropriate.

As part of the Permit process, we have contact points with the Works Promoters to support dealing with unplanned emergencies on the network. As part of the response on key and traffic sensitive routes we will:

- Obtain relevant information from Works Promoter or Thames Valley Police.
- Communicate the issue with key stakeholders, OCC comms team and Works Promoters comms team and local radio.
- Raise the matter with senior officers and Cabinet member, county, and local members, contact public transport representatives.
- Advise major businesses we know that will be affected.
- Examine work on the network and remove non-emergency works to allow for greater flow of traffic on any escape routes (where possible).

- Deploy Civil Enforcement Officers to key points to ensure parking controls are working to avoid unnecessary delays.
- Activate any pre-planned contingency plans via the Urban Traffic Management Control systems to increase traffic signal green time on affected routes.
- Update local Vehicle Messaging Signs (VMS) and RTI signs with key information and advice.

On other routes we will:

- Obtain relevant information from Works Promoter or Thames Valley Police.
- Inform stakeholders via an email update.
- Advise major businesses we know that will be affected.
- Monitor existing works on the network and remove if necessary.
- Deploy Civil Enforcement Officers to key points to ensure parking controls are working to avoid unnecessary delays.
- Activate any pre-planned contingency plans via the Urban Traffic Management Control systems to increase traffic signal green time on affected routes.

10. DATA

Data is needed to help us make informed decisions. This evidence will help us to understand how the road network operates now, and how it may operate in the future. As with the LTCP our Network Management Plan will be based on robust evidence.

This evidence will be used for many purposes:

Network Co-ordination

- Reviewing our existing hierarchy plans for traffic sensitive streets. As part of our Network Management Duty the Council can designate certain streets as 'traffic-sensitive', which means on these roads we can better regulate the flow of traffic by managing when and how works happen. This includes consideration of a range of factors including the LTCP Policy 1 transport users' hierarchy.

- Permit/licence compliance reporting.

- Mapping of roadworks/events via one.network (Elgin) real-time traffic management tools – enhanced capabilities and links to Traffic Control Centre (UTMC common database).

- HIAMS & Fix My Street.

- Mapping of bus routes to understand the impact of roadworks/events upon local services - ESRI's ArcGIS system provides Oxfordshire's geospatial mapping for (mostly static) assets and data sets and both one.network and Yunex (UTMC provider) supply bus route mapping tools.

- Mapping of strategic/major road network diversion routes – linked to enhanced Traffic Control Centre visibility through the UTMC common database.

Parking

- A New API open-source data is available for parking restrictions – OCC is in process of digitising Traffic Regulation Orders (TRO's) in advance of it being made a requirement by government.

- Sensor data feeds (Smart Parking, Vivacity Labs, Clearview, WPS etc) –integration with Car Parking Guidance systems, predictive modelling of traffic flows and for Vehicle to Infrastructure communications – e.g. pushing the availability of car park spaces via sat nav systems.

Traffic Control

The Council produces large volumes of data as a by-product of the systems it manages – e.g. traffic signals, traffic flow/speed/journey times and specialised junction data.

The data provides a rich source of intelligence, both in real time and for off-line analysis, and a key objective for the TCC is to maximise the usage of this data for scenario planning, to inform the development of strategies, and for incident response.

- Data & Intelligence: Data Storage & Analysis – working with Data & Systems teams to facilitate the maximisation of data usage within the TCC, including asset mapping, real time analysis and improved reporting capabilities.
- Data & Intelligence: Real Time Data Visualisation - to assist the TCC in using the data available in real time, for network monitoring activities, the iiHub team is working with innovators to develop visualisation tools which can be used to inform the creation and amendment of strategic and major road network diversion plans.
- Data & Intelligence: Open Data – TCC operates within an open data framework, supporting the integration of physical, digital, and artificial intelligence systems in the built environment to increase efficiencies, reduce costs, and enhance quality of life for Oxfordshire residents and communities.

11. <u>INFRASTRUCTURE MAINTENANCE AND INVESTMENT</u>

As part of our ongoing commitment to manage the network we are currently investing in services and systems to bring our services up to date. These include:

- Further investment in the modules which allow the Council to visualise works on the network and which help us to identify clashes and allow for early mitigation in the works planning stage, accessible to both the County Council and external parties such as bus operators.

- Developing the UTMC and RTI software systems to better integrate the flow of information and allow for automated decision making at key sites to deal with traffic flow and unplanned events.

- Upgrading traffic signals to allow for live interventions via UTMC for pre-planned strategies and ensuring that all new traffic signals are compliant with this approach.

- Upgrading physical on-street assets such as CCTV, VMS and RTI signage which allows the TCC to maintain better visibility of the network and to keep the public updated on traffic conditions.

- Digitising the Traffic Regulation Order data to a map-based system to allow for clearer visibility, easier implementation of Order changes.

- Supporting the development of Street Manager (DfT) to enable greater use of data for reporting and performance management of Works Promoters.

- Upgrading handheld devices to provide greater efficiency in parking enforcement.

- Exploring further opportunities to improve cash collection from pay and display machines and to deliver streamline enforcement/payment mechanisms through use of mobile vehicles and virtual permits.

- To encourage the uptake of electric cars, we will focus on support for charging infrastructure and other incentives which do not run the risk of increasing congestion.

- Ensuring that on-highway development provides for live data to support and supplement existing services via CCTV feeds, traffic, and clean air data.

12. <u>AMBITIONS</u>

Over the life of the NMP we will:

- Manage the network in accordance with the Traffic Management Act 2004 and in accordance with our wider transport policy framework as set out in our new LTCP.
- Ensure that our services match the needs of the network transport users hierarchy.
- Upgrade systems to take advantage of the best technology available to provide enhancements to the management and flow of traffic.
- Plan and implement traffic management strategies to deal with planned and unplanned traffic events.
- Improve and enhance communications with stakeholders to ensure that accurate and useful traffic and travel information is relayed to highway users.
- Work with local communities to improve parking management, ensuring that the right restrictions are in the right places, suitable parking is available to support local communities and that active and public transport are promoted and enhanced.
- Enforce restrictions, bus gates and resident parking in a consistent manner across the County.
- Manage and coordinate highway works to maximise the opportunities for Works Promoters whilst minimising and mitigating against congestion in accordance with the hierarchy for priority works.
- Challenge poor practice and improve the performance of those working on the highway.
- Apply for and implement additional civil enforcement powers as they become available to the authority.
- Undertake a feasibility study for Lane Rental in Oxfordshire and implement, subject to the requirements of Department for Transport and needs on the County.
- Create greater efficiencies in the service via automation and realigning services to priorities.
- Explore the feasibility for 7 day working to align services with user expectations.
- Implement Traffic Management Act 2004 – Part 6 powers inclusive of statutory traffic management guidance which promotes enhanced bus reliability and encouragement of safer cycling as an integral part of our Network Management Duty.