Traffic Filters – Strategic Assessment

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Report
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Traffic Filters – Strategic Assessment

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1 Introduction

1.1 This report provides a strategic assessment of the proposed Traffic Filters scheme in Oxford. The assessment is based on proposals consulted on between 5ᵗʰ September and the 13ᵗʰ October.

Purpose of Report

1.2 The purpose of this report is to provide a strategic assessment of the traffic filters proposal, identifying the objectives and policy outcomes that Oxfordshire County Council wants to achieve and the role that traffic filters plan in achieving those objectives and policy outcomes.

1.3 The report provides further detail of the expected benefits of traffic filters to users of different travel modes, in terms of air quality and impacts on goods and freight.

Overview of Proposals

1.4 Oxfordshire County Council consulted on the use of an Experimental Traffic Regulation Order (ETRO) to trial the use of six traffic filters in the City of Oxford. Traffic filters on key routes across Oxford are intended to reduce traffic levels, improve bus services and journey times, reduce walking and cycling accidents and improve air quality across the city. When they are operating, private cars will not be allowed through the filters without a permit.

1.5 The Traffic Filters scheme is one of several schemes being promoted by Oxfordshire County Council Other schemes include aworkplace parking levy and zero emission zone which will be subject to separate consultations and decision-making processes.

Structure of this report

1.6 Following this introduction:

- Section two provides a description of the proposed traffic filter scheme as consulted on in September/October 2022;
- Section three sets out the objectives of the traffic filters and how these are linked to wider policy objectives;
- Section four provides a summary of expected impacts and benefits; and
- Sections five to ten provide a summary assessment of the traffic filter proposals against the key policy themes of economy, health, environment, healthy place shaping, connectivity and inclusivity.

2   Traffic Filter Scheme Description (as consulted on in September/October 2022)

2.1   Traffic filters are designed to reduce traffic, make bus journeys faster, and make walking and cycling more convenient and safer. When they are operating, private cars will not be allowed through certain sections of roads without a permit. All other vehicles including buses, taxis, motorbikes, vans, mopeds and HGVs will be allowed at all times. Traffic signs identify the location of each traffic filter, including operational hours and vehicles that are exempt to travel through.

2.2   Automatic number plate recognition (ANPR) cameras will be installed to monitor vehicles going through the traffic filters. Traffic signs will identify the location of each traffic filter, including operational hours and vehicles that are exempt to travel through. Any driver of a vehicle that goes through the traffic filter and is not exempt or using a permit, will be charged a penalty (currently £70). The traffic filters will operate 7 days a week from 7am to 7pm, apart from traffic filters on Marston Ferry Road and Hollow Way which will not operate on Sundays.

2.3   The proposals include six traffic filters. Three of these will be located in the city centre on St Cross Road, Thames Street and Hythe Bridge Street. The remaining three filters will be located on: St Clements, Marston Ferry Road and Hollow Way.

2.4   The proposed filter locations are shown in Figure 2-1.

Figure 2-1: Proposed traffic filter locations
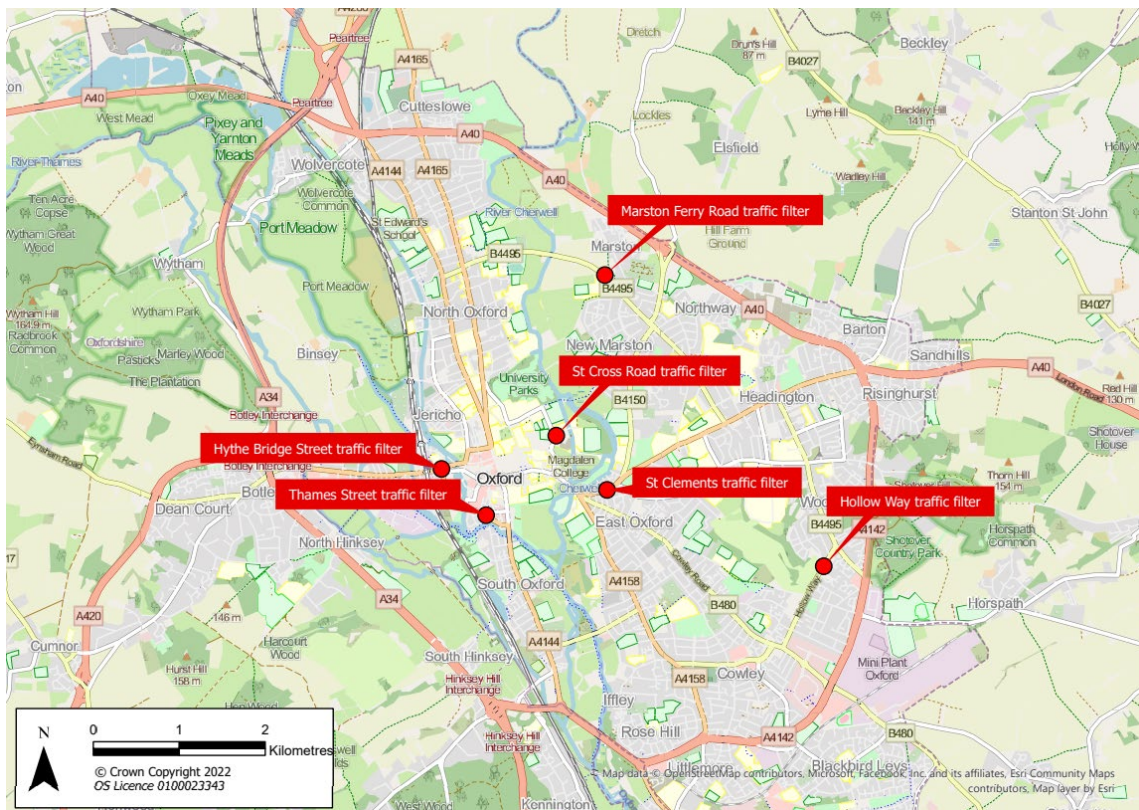
Exemptions

For the trial, it is currently proposed the following vehicles will be exempt from the traffic filters. This means they can travel freely, at all times and without applying for a permit.

- Buses
- Coaches
- Taxis
- Private hire vehicles
- Mopeds
- Motorbikes
- Vans (excluding people carriers)
- Heavy goods vehicles (HGVs)
- Special vehicles such as emergency services

Permits

2.5   Permits for private cars will be available for the following groups.

- Blue badge holders
- Professional health or care workers
- Non-professional carers (for operational journeys, not commuting)
- Cars used as goods vehicles by businesses based in the permit area

2.6   Residents living in the permit area which includes Oxford City Council's administrative area, North Hinksey Parish, South Hinksey Parish, Cumnor Parish east of the A420, including Botley, Dean Court, Cumnor Hill, Chawley and parts of Cumnor. Residents in these areas will be able to apply for a permit to drive through the traffic filters for up to 100 days per year, with a maximum of three permits per household and one permit per person. The proposed permit area is shown in Figure 2-2.

Figure 2-2: Proposed permit area
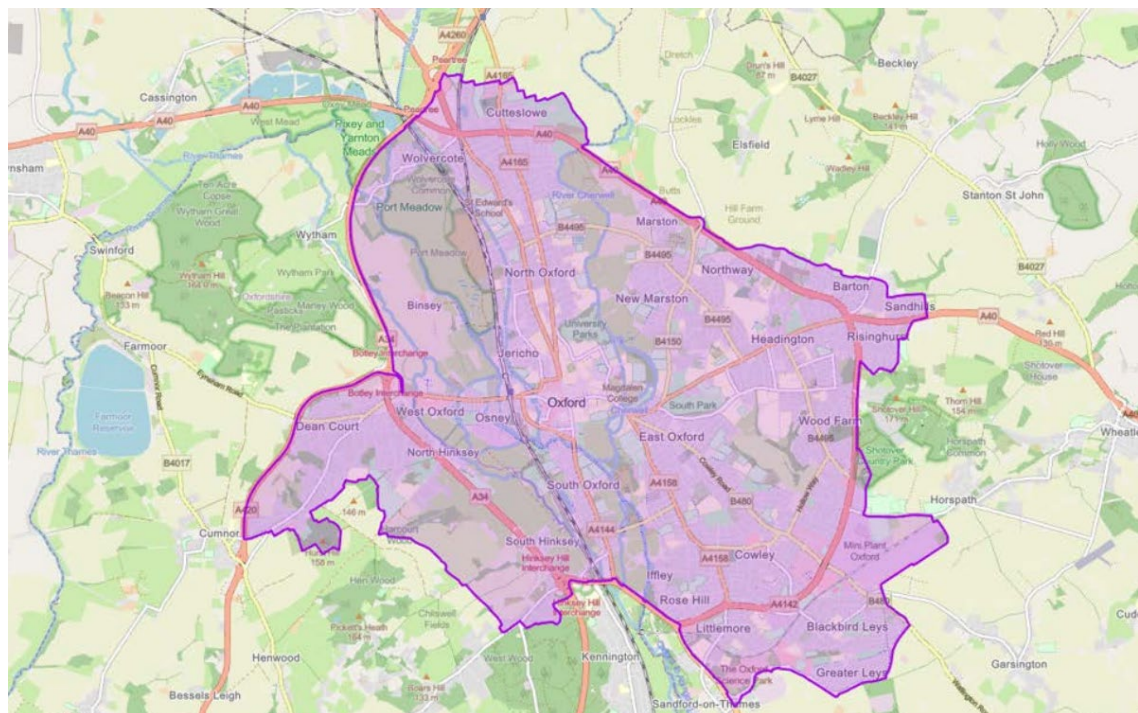
3 Policy Context and Traffic Filter Objectives

Local Transport and Connectivity Plan (LTCP)

3.1   In July 2022 Oxfordshire adopted its new Local Transport Plan, setting out its long-term county-wide transport strategy. The Local Transport and Connectivity Plan (LTCP) sets out the County's long-term vision for transport in the county and the policies required to deliver this. The LTCP reaffirms the centrality of traffic filters as a key policy in delivering the transport and wider objectives of Oxfordshire.

Vision, Key Themes and Targets of LTCP

Vision

3.2   The vision outlines a clear long-term ambition for transport in the county and underpins the policies in the LTCP.

*"Our Local Transport and Connectivity Plan vision is for an **inclusive and safe net-zero Oxfordshire transport system that enables all parts of the county to thrive**.*

*It will **tackle inequality, be better for health, wellbeing and social inclusivity and have zero road fatalities or life-changing injuries**. It will also **enhance our natural and historic environment** and enable the county to be one of the world's leading innovation economies.*

*Our plan sets out to achieve this by **reducing the need to travel and private car use through making walking, cycling, public and shared transport the natural first choice**."*

Key Themes

3.3   In support of the draft vision, six key themes have been identified. These are the specific areas OCC is seeking to transform through implementation of the vision, and describes the outcomes that OCC hopes to deliver for each key theme.

- **Environment** - Outcome: Sustainable communities that are resilient to climate change, enhance the natural and historic environment, improve biodiversity, reduce greenhouse gas emissions and are supported by our net-zero transport network.
- **Health** - Outcome: Improved health and wellbeing and reduced health inequalities, enabled through active and healthy lifestyles, improved road safety and inclusive communities.
- **Healthy place shaping** - Outcome: Sustainable, well designed, thriving communities where healthy behaviours are the norm and which provide a sense of belonging, identity and community.
- **Productivity -** Outcome: A world leading business base that is sustainable, has created new jobs, products and careers for all communities and is supported by an effective, net-zero transport network.

- **Connectivity** - Outcome: Communities are digitally connected, innovative technologies are supported and there is improved connectivity and mobility across the county, enabling greater choice and seamless interchange between sustainable modes.
- **Inclusivity** - Outcome: Barriers to access are removed and all communities are supported by our inclusive transport system to play a full role in society and have independence, choice and control.

Challenges

3.4   The key themes respond to key challenges identified within the LCTP, as summarised in Table 2-1.

Table 2-1: LTCP Challenges

LCTP Challenge	Description
Decarbonisation	Decarbonisation is a key overriding challenge that the LTCP seeks to address. In order to limit global warming to well below 2°C and pursue efforts to limit warming to 1.5°C, the UK government has made a legal commitment to deliver net-zero emissions by 2050. Transport is responsible for the largest proportion of greenhouse gas emissions in the county (36%). **Therefore, there is an urgent need to decarbonise all forms of transport in the county. LTCP states: "we must increase the share of trips taken by walking, cycling, public and shared transport and support uptake of zero-emission vehicles."**
The private car	There has been a huge rise in car use across the UK since 1952. This trend is reflected within Oxfordshire with a 36% increase in vehicle miles since 1993. In 2019, total vehicle miles driven in Oxfordshire passed 4 billion for the first time. This is having negative impacts for example, congestion is disrupting journeys and accommodating and managing vehicles in Oxfordshire's towns and villages has created environments that have become less welcoming places for people. **Encouraging a change in behaviour to tackle private car use will be a significant challenge.**
Future growth	Current forecasts are for over 85,000 new jobs and 100,000 new homes in the county between 2011 and 2031. Such growth will have a significant impact on the county's transport network, with more people and goods needing to use it. **Given the scale of growth, more radical solutions are needed to transform transport in Oxfordshire.**
Connectivity	Current forecasts are for over 85,000 new jobs and 100,000 new homes in the county between 2011 and 2031. Such growth will have a significant impact on the transport network, with more people and goods needing to use it. **Given the scale of growth, more radical solutions are needed to transform transport in Oxfordshire.** Another key area is the **need to improve walking and cycling connectivity** to enable more journeys by these modes. There is also a **need to better manage movement of freight and goods**, both in rural and more urban areas. There is also a **need to improve other forms of connectivity such as digital connectivity**. This will help reduce the need to travel and provide residents with the ability to work, shop and access services such as GP appointments from home
Inclusivity	Different communities experience transport differently and some communities are excluded from transport because of affordability,

LCTP Challenge	Description
	accessibility or geography. **It is important to recognise and remove these barriers to create an accessible and fair transport system for all residents.** The accessibility of the transport system is a particularly key issue for disabled people. There are estimated to be 131,400 people with a disability in Oxfordshire, 19% of the population. LTCP notes that it is important to address the barriers faced by disabled people and use inclusive design to ensure the transport system is accessible to all. The cost of transport is also a key determining factor affecting its use. The cost of living has been increasing across the UK since early 2021 and in April 2022, inflation reached its highest recorded level. This is affecting the affordability of goods and services, including transport, for households. There is a need for us to support measures to address these issues and improve the affordability of transport.
Wider challenges	Transport is also critical to addressing wider challenges, notably public health, inequalities, air quality, and safety.

Headline targets

3.5   The headline targets of the LTCP are:

- By 2030
    – To replace or remove 1 out of every 4 current car trips in Oxfordshire
    – Increase the number of cycle trips in Oxfordshire from 600,000 to 1 million cycle trips per week
    – Reduce road fatalities or life changing injuries by 50%
- By 2040
    – Deliver a net-zero transport network
    – Replace or remove an additional 1 out of 3 car trips in Oxfordshire
- By 2050
    – Deliver a transport network that contributes to a climate positive future
    – Have zero, or as close as possible, road fatalities or life-changing injuries

3.6   These targets focus on two key inter-related areas. First, to deliver the vision of a zero-carbon transport network and second, to substantially reduce the number of car trips in Oxfordshire that is necessary to support the transition to a zero-carbon network and to address the key challenges identified in the LCTP. To deliver the LCTP vision requires the key transport challenges (summarised in Table 2-1:) to be addressed.

LTCP Policy Priorities and the role of Traffic Filters

3.7   The traffic filter proposals have been developed as one of a number of policies within the LTCP to delivers the long-term LTCP policy priorities. For each of the policy priority areas within the LTCP the LTCP policies are 'mapped' to the six key 'themes / outcomes', as shown in Table 2-2 (for those policies that are of direct relevance to the traffic filter proposals). The table summarises how the traffic filters scheme aligns with each policy and therefore where it is intended to support across the key outcomes.

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Table 2-2 LTP Policy Priorities and Mapping to Traffic Filter Proposals

Objective	Policy priority	Environ-ment	Health	Place Shaping	Product-ivity	Connec-tivity	Inclusi-vity	Decarbo-nisation	Alignment with Traffic Filters (TFs)
Walking and cycling	Transport user hierarchy	✓	✓	✓	✓	✓	✓	✓	Directly delivered through TFs
Walking and cycling	Cycling / walking network	✓	✓	✓	✓	✓	✓	✓	Enabled by TFs
Walking and cycling	LCWIPs	✓	✓	✓	✓	✓	✓	✓	Complementary with TFs
Walking and cycling	Active Travel Network	✓	✓	✓	✓	✓	✓	✓	Enabled / Fully Consistent
Healthy place shaping	Healthy Streets Approach	✓	✓	✓			✓	✓	Enabled by TFs
Healthy place shaping	Low Traffic Neighbourhoods	✓	✓	✓	✓	✓	✓	✓	Fully consistent
Healthy place shaping	20-minute neighbourhoods	✓	✓	✓	✓	✓	✓	✓	Fully consistent
Healthy place shaping	School Streets	✓	✓	✓	✓	✓	✓	✓	Fully consistent
Road safety	Vision Zero		✓	✓	✓		✓	✓	Directly delivered through TFs
Road safety	20mph zones		✓	✓	✓		✓	✓	Fully Consistent
Public transport	Bus strategy	✓	✓	✓	✓	✓	✓	✓	Directly supports strategy
Public transport	Community transport		✓	✓		✓	✓		Fully consistent
Public transport	Park and Ride	✓	✓	✓	✓	✓	✓	✓	Fully consistent/ supports
Public transport	Rail strategy	✓			✓	✓	✓	✓	Fully consistent
Public transport	Multi-modal travel	✓	✓		✓	✓	✓	✓	Fully consistent
Public transport	Mobility Hubs	✓	✓	✓		✓	✓	✓	Fully consistent
Environment, carbon & air quality	Zero Emission Zones	✓	✓	✓			✓	✓	Complementary with TFs
Environment, carbon and air quality	Zero-emission vehicles	✓	✓				✓	✓	Directly enabled by TFs

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Objective	Policy priority	Environ-ment	Health	Place Shaping	Product-ivity	Connec-tivity	Inclusi-vity	Decarbo nisation	Alignment with Traffic Filters (TFs)
Environment, carbon and air quality	Green Infrastructure	✓	✓	✓			✓	✓	Enabled / Fully Consistent
Network and congestion management	Network management	✓			✓	✓		✓	Fully Consistent
Network and congestion management	Asset management			✓	✓		✓		Fully Consistent
Network and congestion management	Parking management	✓	✓	✓					Complementary to TFs
Network and congestion management	Parking enforcement	✓	✓	✓			✓		Complementary to TFs
Network and congestion management	Demand management	✓	✓	✓				✓	Directly delivered by TFs
Freight and logistics	Local movement	✓	✓	✓	✓			✓	Directly delivered/ enabled by TFs
Freight and logistics	Last mile movement	✓	✓	✓	✓			✓	Directly delivered/ enabled by TFs

Source: LTCP

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Central Oxfordshire Travel Plan

The emerging Central Oxfordshire Travel Plan (COTP) is being developed as part of the LTCP. A consultation on the draft COTP was carried out from August to October 2022, with a decision on the final plan expected in November 2022.

The key challenges for Central Oxfordshire are:

- **Climate and emissions:** Exceedance of legal emission levels and the need to rapidly reduce carbon emissions from all transport related activities.
- **Housing, jobs, and regeneration**: Over the period 2011 to 2031, 100,000 new homes will be built in Oxfordshire, with at least 15,000 required to meet Oxford City's unmet housing need.
- **Attractive sustainable travel**: Levels of congestion across the area cause unreliable journey times for many people. Based on current trends, increased demand for movement in the area will exacerbate congestion in future years. Space efficient travel options like public transport and active travel, can help address this challenge. At present, sustainable travel options in the area have issues including:
  – Time and reliability - Average bus speeds in Oxford have been declining on key routes to and from the city centre and employment sites, with only 8mph achieved between the JR hospital and city centre via Cowley Centre during weekday peaks.
  – Safety – The Oxfordshire Cycle Survey 2019 identified 'Traffic Safety' as the single biggest issue for people cycling in Oxford
- **Equality**: The area includes some of the most deprived areas in the county.
- **Health**: Physical inactivity and obesity remains one of the area's most significant and growing health issues.

Implementation of traffic filters is one of three major transport proposals (alongside a workplace parking levy and zero emission zone) for Oxford City within the draft COTP, which aims to achieve

- A flagship comprehensive zero-emission bus network, able to travel at the speed limit 24 hours a day, 7 days a week
- A comprehensive, safe cycle network, to rival the best in Europe.
- Beautifully designed streets and public spaces, with clean air.
- A reduced impact of private vehicles where roads are congestion-free for residents, visitors, and businesses to make essential journeys in zero-emission vehicles.
- Carbon neutral transport for a carbon neutral city. Prioritising measures and approaches that utilise minimal resources.
- A travel hierarchy prioritising sustainable travel and promoting 20-minute neighbourhoods where everything people need for their daily lives can be found within a 20-minute walk.
- Improved safety realised through a Vision Zero approach to transport safety across the area
- An inclusive transport network that improves accessibility for all of our residents

Development of Objectives

3.8   The LTCP provides the current policy context within which the traffic filters are being developed. Specific traffic filters objectives have been developed that are based on and 'nested' under the key outcome-related themes of environment, health, place-shaping, productivity (economy), connectivity and inclusivity.

3.9   The objectives are also informed by:

- The challenges (identified within the LTCP, and those directly related to Oxford city) that traffic filters seek to address.

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- Other current local policies where applicable e.g. Air Quality Action Plan, OXLEP Economic Strategy, Climate Impact Assessment, Modal Strategies, which provide more specific context around challenges, targets and priorities.

3.10 The traffic filters objectives have been developed and agreed with OCC as the basis for the assessment of traffic filters performance. The traffic filters objectives are set out in Table 2-3.

3.11 Two further versions of this table are provided in this document:

- In section 5, showing a summary of performance of the traffic filter scheme against each of the objectives
- In Appendix A, showing the targets and metrics to measure each of these objectives.

Table 2-3 Traffic Filters Scheme Objectives

Theme	LTP outcome	Traffic filters objective
Productivity	A world leading business base that is sustainable, has created new jobs, products and careers for all communities and is supported by an effective, net-zero transport network.	- Support sustainable housing and jobs through effective use of all available transport capacity through innovative management of the network - Support transition to low carbon economic growth through accelerating the transition to a zero-carbon transport network. - Tackle post-COVID decline in bus network and support investment in strategic public transport networks - Support economic growth and vitality across the county
Health	Improved health and wellbeing and reduced health inequalities, enabled through active and healthy lifestyles, improved road safety and inclusive communities.	- Improve local air quality through the reduction of transport emissions - Improve public health and wellbeing by increasing levels of walking and cycling - Improve road safety for all users, and in particular vulnerable users.
Environment	Sustainable communities that are resilient to climate change, enhance the natural and historic environment, improve biodiversity, reduce greenhouse gas emissions and are supported by our net-zero transport network.	- Reduce carbon and tackle climate change - Reduce traffic noise
Healthy Place Shaping	Sustainable, well designed, thriving communities where healthy behaviours are the norm and which provide a sense of belonging, identity and community.	Support Health Place Shaping by creating opportunities for pedestrianisation and improving public spaces
Connectivity	Communities are digitally connected, innovative technologies are supported and there is improved connectivity and mobility across the county, enabling greater	- Enhance connectivity by: – Improving walking and cycling connectivity to enable more journeys by these modes

Theme	LTP outcome	Traffic filters objective
	choice and seamless interchange between sustainable modes.	– Enabling better management freight and goods movement. - Improving other forms of connectivity such as digital / full fibre connectivity
Inclusivity	Barriers to access are removed and all communities are supported by our inclusive transport system to play a full role in society and have independence, choice and control.	- To improve local journeys for people in Protected Characteristic Groups - Create economic opportunities for all, through enabling inclusive access to jobs, education, training and services

4 Summary of impacts and benefits

Introduction

4.1 The Traffic Filter proposals as consulted on have been assessed through a range of supporting analysis. The assessment of impacts and benefits, and the assessment against strategic objectives, draws on this supporting evidence. This analysis is summarised in Table 4-1.

Table 4-1 Overview of Analytical and Assessment Workstreams

Workstream / Analysis	Description	Reporting
Transport modelling and analysis	Estimation of impacts on traffic filters on transport demand, mode share and traffic. Outputs from the transport modelling have informed other assessments, including Air Quality, Carbon, Road Safety.	• Cabinet report background paper: Local Model Validation Report & Traffic & Transport Forecasting Report
Air Quality and Carbon Modelling	Assessment of impact of traffic filters on Air Quality and Carbon based on change in traffic levels.	• Cabinet report background paper: Air Quality Assessment
Road Safety Impact assessment	Assessment of impact of traffic filters on overall toad collisions and casualties.	• Cabinet report background paper: Road Safety Assessment
Equalities Impacts Analysis	Qualitative assessment of potential impacts of traffic filters on Protected Characteristic Groups.	• Cabinet report annex: Summary EqIA • Cabinet report background paper: Full EqIA
Business Impacts Report	Qualitative assessment of potential of impacts of traffic filters on businesses – looking at type, size and location of business.	• Cabinet report background paper: Business impact assessment
Habitats Regulation Assessment	Assessment of impact of traffic filters on the Oxford Meadow SAC (Special Areas of Conservation)	Cabinet report background paper: HRA Stage 1 (Screening) & Stage 2 (Assessment) Reports

4.2 This report draws on and summarises the findings of these assessments to support the assessment against strategic objectives.

Transport Demand and Traffic Impacts

Mode Shift

4.3 The LCTP has several targets relating to achieving modal shift from car and increasing demand for public transport and active modes. Specifically:

• To replace or remove 1 out of every 4 current car trips in Oxfordshire by 2030, and 1 out of 3 by 2040 (LTCP)
• Increase the number of cycle trips in Oxfordshire from 600,000 to 1 million cycle trips per week

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4.4   The transport modelling and analysis workstream supports estimates of modal shift as a result of traffic filters. The mode share estimates are based on a comparison of a 2024 scenario without traffic filters (termed the Do Minimum) compared to a 2024 scenario that includes the proposed traffic filters and represents the proposed exemptions.

4.5   The transport modelling suggests that:

- For trips within the city (the Oxford City administrative area, most of which is within the ring road), the traffic filters would result in a reduction in car trips of around 20%.
- The equivalent reduction in car trips, taking account of trips to, from and within the city is around 9%.

4.6   There are corresponding increases other modes, within bus, P&R, rail, walking and cycling all forecast to increase. The impacts and benefits related to each of these modes is described later in this Chapter.

Table 4-2 Sectorised demand by mode (12-hour period, 2024 DM vs TF1

	Within City	To / From City	Combined	
Car demand and mode share	**Within City**	**To / From City**	**Combined**	
Change in Car trips	**-24,600**	**-1,700**	**-26,300**	
Change in car mode share	-20.0%	-1.0%	-9.1%	
Change other modes	**Within City**	**To / From City**	**Combined**	**% of former car demand to:**
Bus	1,900	500	2,400	9%
Rail	0	900	900	3%
P&R	100	600	700	3%
Walk and cycle	17,300	2,700	19,900	76%
Other responses	5,400	-3,000	2,400	9%
Sub-total	**24,700**	**1,700**	**26,300**	**100%**

Note: Difference in totals due to rounding.

Traffic Reduction and Redistribution

4.7   Traffic filters are specifically focused on trying to reduce the traffic volumes within the city centre and inner sections of the city. These sections of this city are those where nearly all bus services operate and where there are the highest volume of cyclists and pedestrians. The impact of vehicular traffic is that these area suffer from serious congestion, poor air quality and high collision rates.

4.8   Traffic filters are intended to be part of a wider LCTP strategy to re-prioritise limited road capacity to more sustainable modes, improving conditions for current bus and active mode users and encouraging modal shift from car.

4.9   The estimated reduction in traffic across the city centre cordon and inner cordon boundary is large, with peak reductions of over 40% across the city centre and around 35% for inner

cordons (shown in Table 4-3). The reduction in the inter-peak is slightly lower but remains large (38% and 26% reductions respectively).

4.10   The reductions in all traffic are driven by an even greater reduction in car traffic (as all other vehicles are exempt from the filters). The peak reduction in car traffic is around 50% across the city centre cordon and 40% in the inner cordon.

Table 4-3 Change in vehicular demand by location and time period

All vehicle trips (Car, LGV and HGV)	AM Peak	Inter-Peak	PM Peak
City Centre cordon – traffic flows	-41%	-38%	-44%
Inner cordon boundary – traffic flows	-35%	-26%	-36%
Outer cordon boundary – traffic flows	-5%	-1%	0%
Car trips only	**AM Peak**	**Inter-Peak**	**PM Peak**
City Centre cordon – traffic flows	-51%	-54%	-50%
Inner cordon boundary – traffic flows	-43%	-37%	-40%
Outer cordon boundary – traffic flows	-5%	-1%	-1%
Oxford – all trips within the city	-20%	-19%	-21%
Oxford – all trips to / from / within the city		12%	

4.11   The changes in traffic flow on the outer cordon boundary are modest, with a 5% reduction in the AM peak and a broadly neutral impact in other time periods.

4.12   This reflects the redistributive nature of the traffic filter proposals on car trips specifically and therefore reflected in change in total traffic flows. In broad terms traffic filters are estimated to lead to:

- A 20% reduction in overall *car trips*.
- A reduction of 50% in *car traffic* across the city centre cordon, and 40% on the inner cordon.
- The reduction in the car traffic in the city centre reflects two main responses:
    – First, there would be some change in behaviour by car drivers who will change mode (to bus, rail, Park and Ride, walk or cycle). These changes are included in the modelling.
    – Changes in travel time (e.g. to outside traffic filter operational hours, or to consolidate car trips into days in which they choose to use a 'day pass') and location (away from destinations that become less accessible, in relative terms, as a result of filters). These further changes are not included in the modelling.
    – Second, many car drivers would choose to continue to drive (to the same location and the same time) but would be required to re-route typically via the ring road.
- The effect in the outer cordon is that the impact of the overall reduction in car trips is counter-balanced by the increase in re-routed car trips, such that the overall impact on traffic levels is broadly neutral across this cordon.

4.13   The percentage change in traffic flows in the morning peak is shown in Figure 4-1.

Figure 4-1 Percentage Change in AM Peak Hour Traffic Flows - with Traffic Filters, 2024
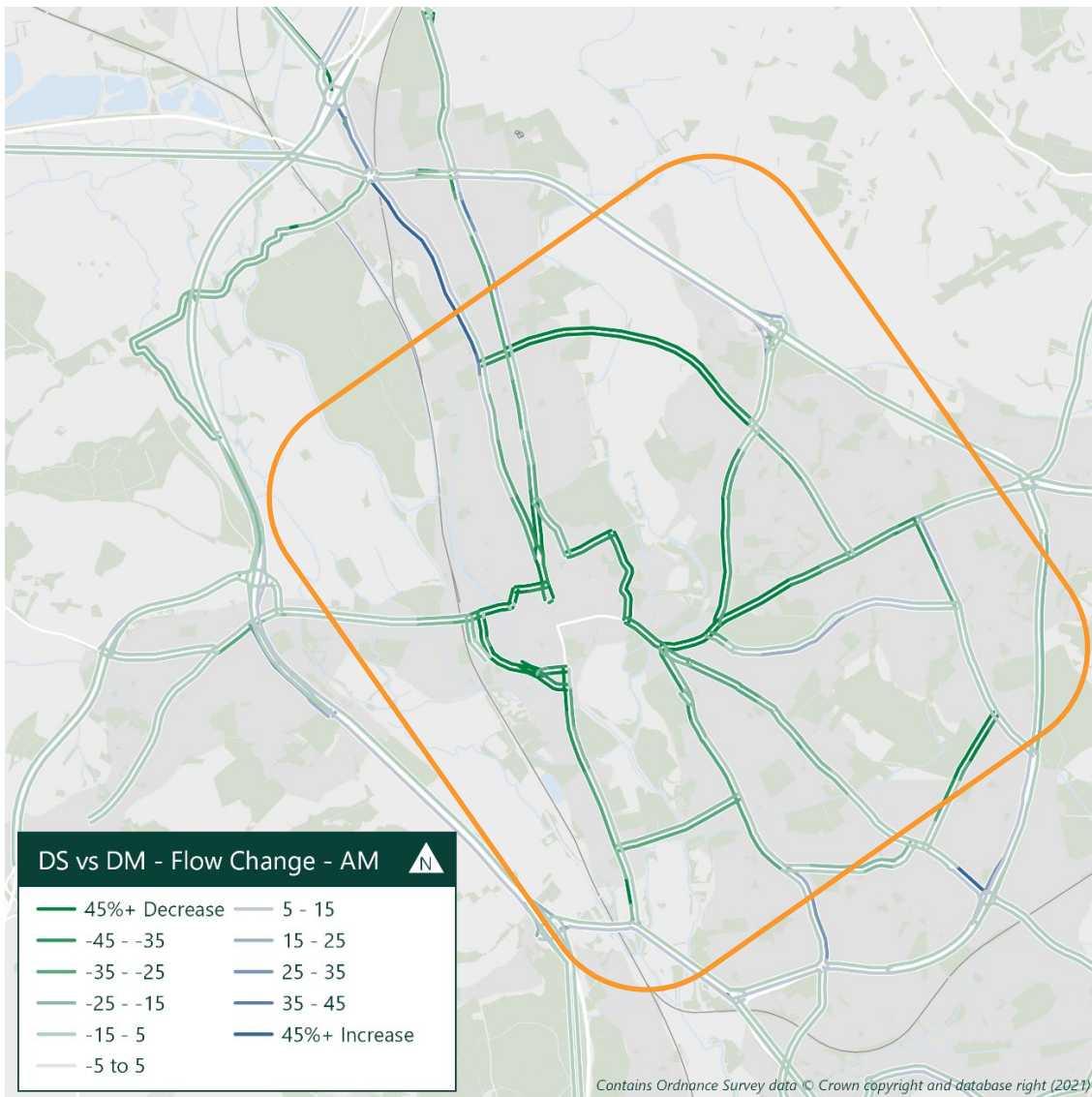
4.14 The figure shows that there are generally large-scale traffic reductions in the central and inner areas of the city, where traffic filters restrict car traffic (without permits) – broadly within the area bounded by the orange box. For roads outside of this 'inner' area there are a number of links that suggest traffic increases and some decreases. The scale of these changes (increase of decrease) are generally lower that the large—scale decreases in the central area, and at the aggregate level are broadly neutral.

4.15 Note that the forecasts of increased traffic on the A4144 Woodstock Road (as shown by the blue line in the figure that follow) are taken from the Strategic Model. Further analysis of detailed lane allocations at the entry to the Wolvercote roundabout (which the Strategic Model cannot represent), and existing delays, has shown that there is insufficient capacity to achieve these increased traffic forecasts. The proposed northbound bus lane on Woodstock Rd will protect buses from any increases in delay on this section.

Benefits and Impacts by Mode / User - Overview

4.16 The central aim of traffic filters is to reduce overall traffic volumes within the city centre, the key radial routes approaching the city centre and key orbital bus routes, specifically on the Eastern Arc. The reduction in traffic volumes is required to support improved journey times

and reliability for buses, to create an improved environment for pedestrians and cyclists thought reducing conflict with traffic, and to enhance air quality for the benefit of all users.

4.17   The vehicle 'user class' exemptions as part of the scheme mean that only private cars are not allowed to use traffic filters, unless that are within a general exemption category (e.g. blue badge users) or have a specific permit (e.g. using a resident day pass).

4.18   For those users classes that can use traffic filters, the reduction in car traffic, would mean that trips made within the city would generally be less congested and hence faster and more reliable than without the filters.

4.19   The overall impact by mode and trip purpose is summarised in Table 4-1.

Table 4-4 Impact by Transport User

	Business trips	Commuting trips	Leisure trips
Cars	positive (exempt if transporting goods)	negative (for non-exempt trips to and across city)	negative (for non-exempt trips to and across city)
Bus users	positive	positive	positive
Cyclists	positive	positive	positive
Pedestrians	positive	positive	positive
LGVs / HGVs	positive (exempt)	positive (exempt)	positive (exempt)
Taxis	positive (exempt)	positive (exempt)	positive (exempt)
Motorcyclists	positive (exempt)	positive (exempt)	positive (exempt)
Motorcyclists	positive (exempt)	positive (exempt)	positive (exempt)

4.20   We have made an indicative assessment of the proportion of person trips that are likely to be affected – either benefitting or dis-benefitting based on their current mode of travel.

4.21   This is based on the highway vehicular demand and public transport demand based on the Oxfordshire Strategic Model, which represents all trips by vehicle class and public transport mode. Walking and cycling trips have been estimated using 2011 census travel[1] to work mode share information. The datasets have been combined to estimate the overall share of 12-hour person trips by each mode.

4.22   A summary of the results is shown in Table 4-5 which summarises all modes as percentage of trips within Oxford and with at least an origin or destination in the city.

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[1] Commuting by mode of travel, 2011 Briefing prepared by Oxfordshire County Council Research and Intelligence Team, the District Data Analysis Service, and Oxford City Council, available at **https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwiC_a6Ct9X6A hVJUcAKHU9_DIAQFnoECBIQAQ&url=https%3A%2F%2Fwww.oxford.gov.uk%2Fdownload%2Fdownlo ads%2Fid%2F1115%2Ftravel_to_work_by_mode_of_travel_all_oxfordshire_districts_2011.pdf&usg=A OvVaw1Ll0XJikm5W-4dSDOrOgbM**

Table 4-5 Summary of trip mode share in Oxford – 12-hour period

Trips by mode	As % of all trips within city	As % of all to/from/within trips
Cars[2] – unaffected	22.0%	38.4%
Cars – affected	10.5%	6.1%
LGV / HGV	5.5%	8.0%
Bus	13.2%	12.7%
Rail	0.0%	2.2%
Walking	23.6%	15.2%
Cycling	23.8%	16.0%
Motorcycle and other	1.3%	1.4%
Total	100%	100%

4.23   The impacts on different modes and users is considered in more detail below.

Benefits for Walking and Cycling

4.24   Oxford has among the highest cycle mode shares of any UK city. In 2011 the cycle mode share of journeys to work *within the district* was 23.8%, similar to the level for waking (23.6%). Its size, demographic profile and topography of the city and its near hinterland influence this high cycle mode share.

4.25   The county has an objective to increase cycle usage by 67%, to support its wider objectives around supporting healthier lifestyles, road safety and its transport objectives to facilitate more efficient management of the network by encouraging more people to travel by sustainable modes which make more effective use of limited road capacity.

4.26   However, traffic in the city and in particular the city centre and inner radials make cycling less comfortable for current cyclists and serve as a deterrent to use for many others – in particular more vulnerable users – for whom cycling would otherwise be a viable and attractive option.

4.27   The benefits from traffic filters for cycling are a transformation in the attractiveness and quality of cycling in Oxford, through significant reductions in traffic, reduced collision risk (and increases perception of safety) and improved air quality. This will benefit existing cycle users, which represent around a quarter of all commuting trips within the city.

4.28   The Traffic Filters will have a similar effect on the attractiveness of walking, whereby peoples experience of Oxford's historic and attractive city centre environment, and those of local/ district centres, is undermined by the impact of traffic and pollution. Walking instead of driving will also be a viable behavioural response to traffic filters, though typically for shorter-distance trips than cycling. The benefits from traffic filters for walking are a transformation in the attractiveness and quality of the urban environment for pedestrians in Oxford. The proportion of people who walk to work as their 'main mode' is around a quarter, but the benefits will accrue to all residents of and visitors to the city centre.

4.29   The impact of traffic filters on cycling and walking have been modelled through the methodology based on Department for Transport guidance and through this it is estimated that traffic filters could result in an increased combined cycle and walk demand of around 10%

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[2] 'Cars' here include car and taxi

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Benefits for Bus and Park & Ride

Journey Times and Journey Time Reliability

4.30   Overall, the journey time reduction within the inner sections of the city (denoted broadly by are area within the orange outline in Figure 4-1), where traffic flows reduce significantly, is expected to be around 15% in the AM and PM peak periods, and around half that level in the inter-peak (when congestion levels are typically lower). This equates to an average journey time reduction of around 10% over the day, as a result of traffic filters[3] within this area.

4.31   Congestion in the city adversely affects not only the 'average' journey time but also increases journey time variability and unreliability. Poor journey time reliability means that bus users must 'factor in' additional time to ensure, for example, they arrive at their destination by a certain time (or risk lateness), and also affect bus operations (e.g. the ability to regulate service frequency) and operating costs. The level of 'un-needed dwell' (additional bus operating hours to allow for recovery time – and a proxy for the level of unreliability) is considerably higher in Oxford than other comparable areas and caused in large part by the variable impact congestion has on bus reliability approaching and within the city centre[4].

New Bus Services

4.32   It is proposed that the traffic filters will be accompanied, from the outset, by new bus services. The improvement in bus journey times and journey time reliability as a result of traffic filters will means that current bus services would be able to be operated more efficiently and with less resources (i.e. fewer vehicles and drivers etc.). This 'saving' in resource would allow the vehicles that are freed-up as a result of filters to be redeployed on other services.

4.33   Oxfordshire County Council is committed to service improvements being delivered at the outset i.e. being introduced from 'day 1' such that new services would operate from the point when the trial traffic filters were implemented.

4.34   Two new services are proposed:

- **New 'Eastern Arc' Service –** A frequent service connecting the following destinations: Oxford Parkway, Summertown, John Radcliffe hospital, Oxford Brookes University, Cowley Centre, Redbridge P&R.
- **A west <> north through service** - Connecting existing services 4 and 6 will create frequent a west-north through service between Cumnor / Botley and Wolvercote via Botley Road, city centre and Woodstock Road. This will provide direct cross-city services for movements that currently require interchange between services.

4.35   Indicative routeing for the proposed services are shown in Figure 4-2 and Figure 4-3.

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[3] The estimated reduction in journey time has been informed by analysis undertaken by Steer, examining the change in observed journey times between corresponding pre (Feb 2020) and mid-pandemic (Feb 2021) months. The level of observed traffic reduction, based on OCC traffic count data, between the February 2020 and 2021 was of a similar in order of magnitude compared with estimated traffic reductions from the transport modelling. While the cause of the reduced traffic is clearly different (the observed being a result of Government restrictions, whereas the forecast impacts result from the traffic filters), the similar scale of traffic reduction provides a reasonable basis upon which infer the expected impacts on bus journey times.

[4] Source: Bus Operators

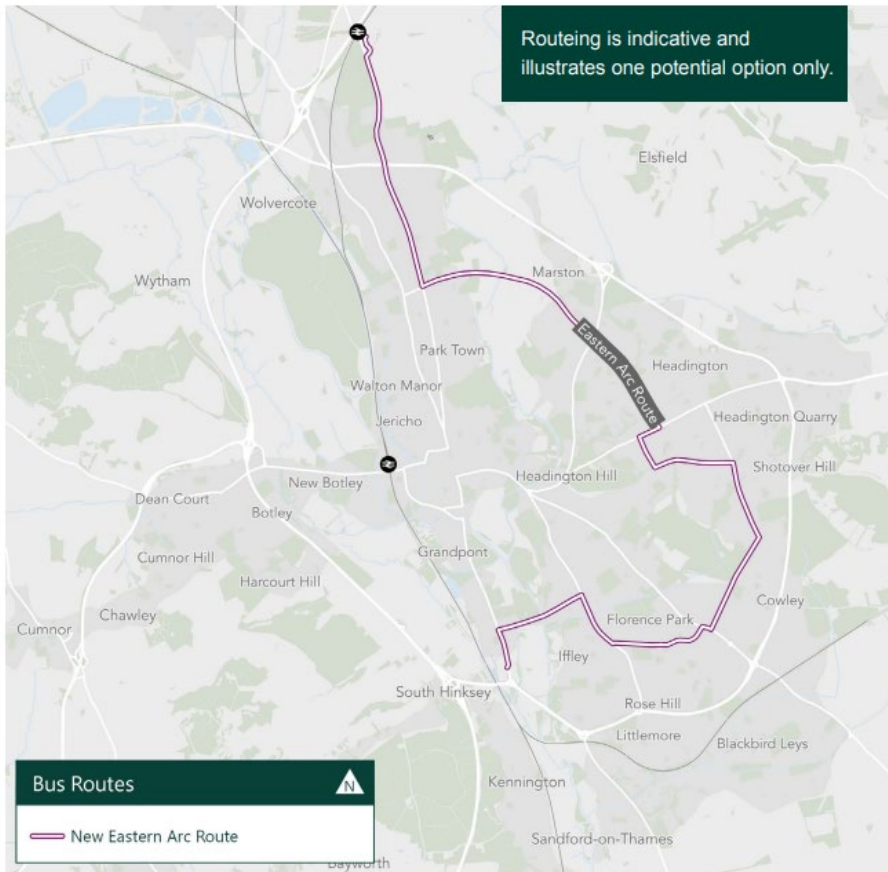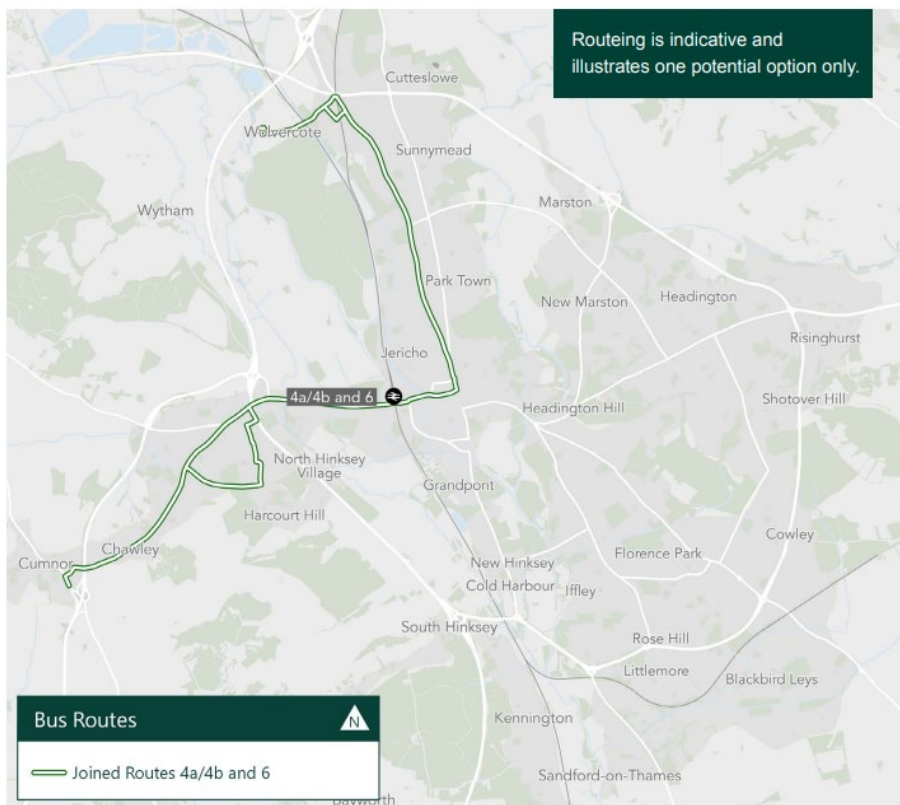**Figure 4-2 New 'Eastern Arc' Service**

Figure 4-3 New west-north through service

4.36   The routes above are indicative routes and illustrates one potential option only. OCC and Operators are developing an Eastern Arc Delivery Plan which will confirm proposals for bus service improvements to be introduced alongside traffic filters.

New Zero-Emission Buses

4.37   In March 2022 the Department for Transport announced that Oxfordshire had been successful within its bid for £35m DfT funding.

4.38   In January 2022 Oxfordshire submitted a Zero Emission Buses Regional Area (ZEBRA) bid to the Department for Transport. OCC's ZEBRA Bid sought £32.8m DfT funding towards the purchase of a 159 zero-emission buses and associated supporting infrastructure (e.g. grid connections and charging) that would mean that all routes wholly within the Oxford SmartZone area would be operated by fully electric, zero-emission vehicles. In March 2022 DfT approved funding for ZEBRA.

4.39   The bus operator contribution to the overall cost, amounting to over half of the total cost of delivering 159 zero-emission buses, was contingent upon OCC and operators working in partnership to improve bus journey times within the SmartZone area by 10%; a commitment that reflected in the draft Enhanced Partnership Agreement which is due to be finalised, after going through statutory process, by early 2023.

4.40   Traffic filters represent the OCC intervention that would do most to help achieve the journey time savings. Without commitment to the trial filters the operators would not commit to the purchase of the 159 zero-emission vehicles in late 2022. The introduction of new zero-emission buses are therefore, in effect, dependent upon the introduction of the trial filters.

Figure 4-4 Zero Emission Bus

Image: Oxfordshire County Council

Improved Bus Accessibility

4.41   The reduction in bus journey times and new proposed services will both serve to improve overall bus accessibility. Steer has undertaken bus accessibility analysis based on current timetable information adapted to reflect the change in bus catchments based on a combination of reduced peak journey times and the proposed new Eastern Arc service and Botley to Wolvercote 'through' service.

4.42   The output of the bus accessibility:

- Shows the geographic catchments than can be reached within different journey time thresholds e.g. within 30, 45 and 60 minutes, in both the 'Do Minimum' and 'with traffic filters' case.
- Relates the respective catchments to the population within each catchment (by journey time threshold).
- Is used to identify the additional number of residents who, as a result of traffic filters, would be able to reach given locations within 30, 45 and 60 minutes.

4.43   Bus accessibility analysis suggests that, as a result of the journey time and service enhancements there would be a large increase on the number of residents who can access key locations. For example there would be an of over 28,000 residents within a half an hours journey time of Cowley, 55,000 within half an hour of the Eastern Arc (John Radcliffe Hospital West Wing) and 37,000 within half an hour of Botley. The equivalent increases within 45 minutes are 48,000, 49,000 and 62,000 respectively.

4.44   These are summarised in Figure 4-5 to Figure 4-7.

Figure 4-5 Accessibility Analysis: Cowley (Templars Square Shopping Centre)
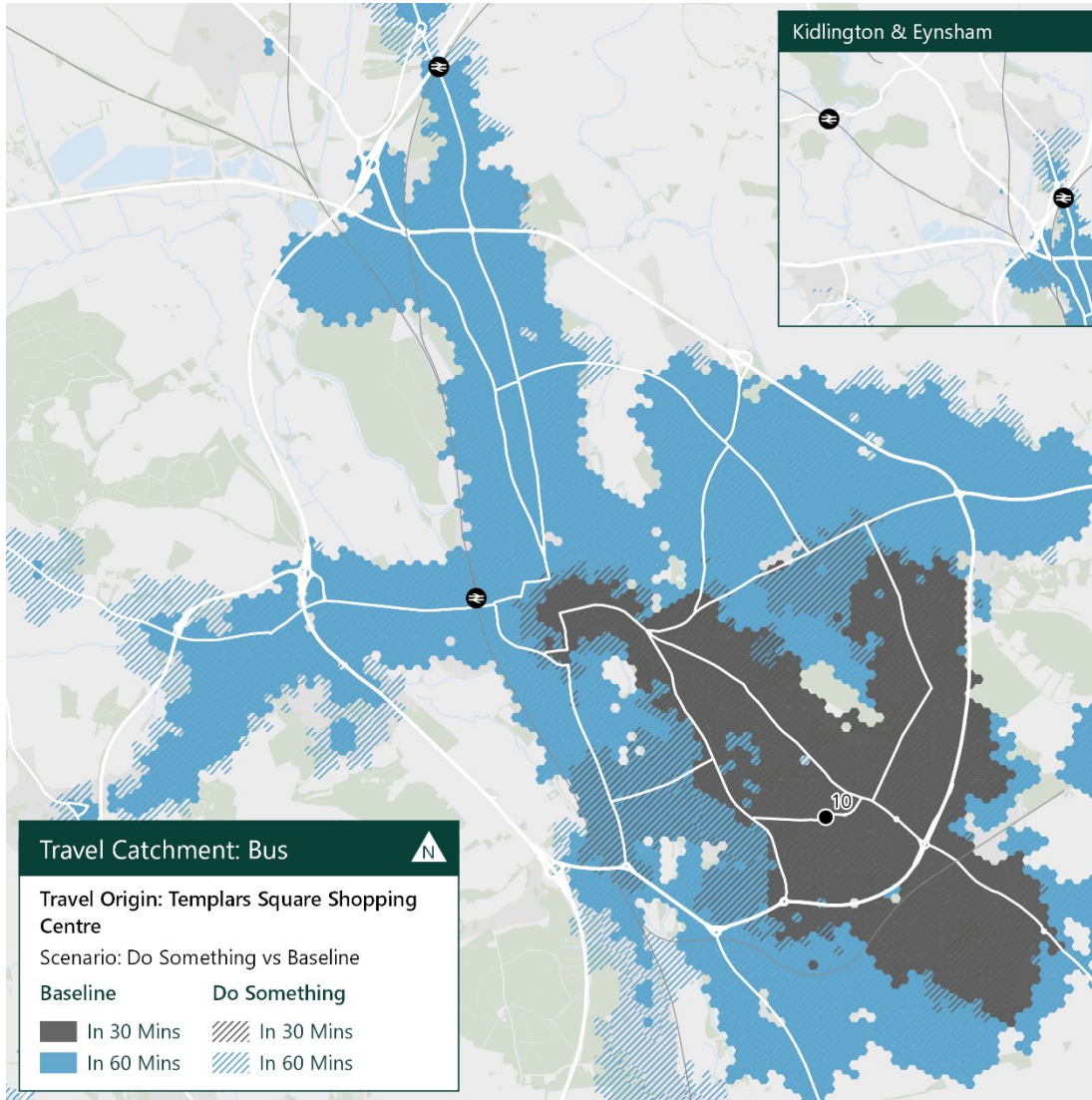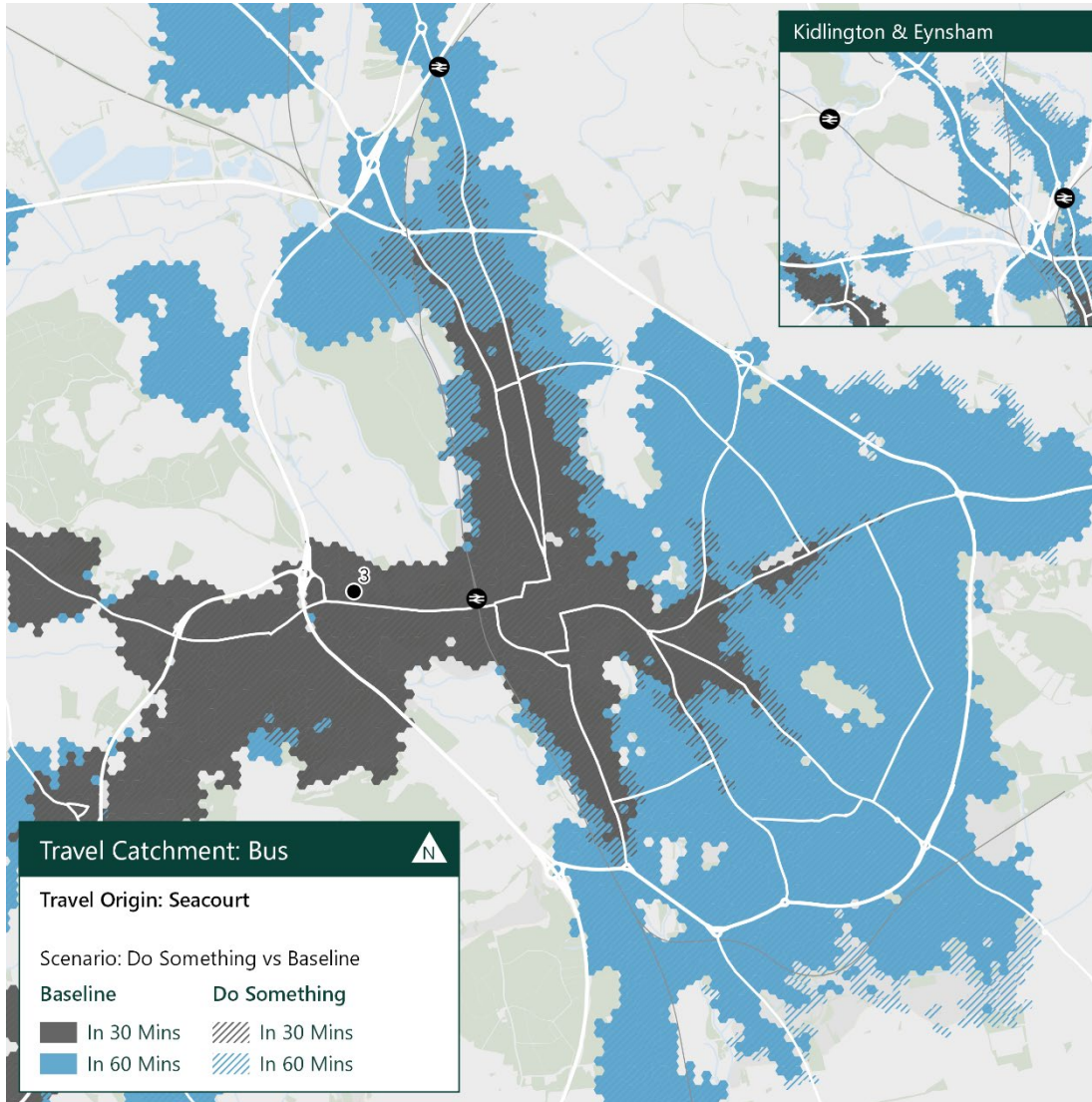

- The map shows in dark grey the areas which are accessible by bus within a 30 minute journey time in the "baseline" scenario (i.e. without traffic filters). The areas shaded with grey lines are those which will be accessible within a 30 minute journey time in the "Do Something" scenario (i.e. with traffic filters).
- The areas which are accessible by bus within a 60 minute journey time in the "baseline" scenario are in blue. The areas shaded with blue lines are those which will be accessible within a 60 minute journey time in the "Do Something" scenario (i.e. with traffic filters).
- The key results from the analysis for Templars Square shopping centre are:
  - +28,000 residents within 30 minutes
  - +48,000 residents within 45 minutes
  - +49,000 residents within 60 minutes
- Journey time estimates include walking to and from stops

Figure 4-6 Accessibility Analysis: Eastern Arc (John Radcliffe Hospital West Wing)
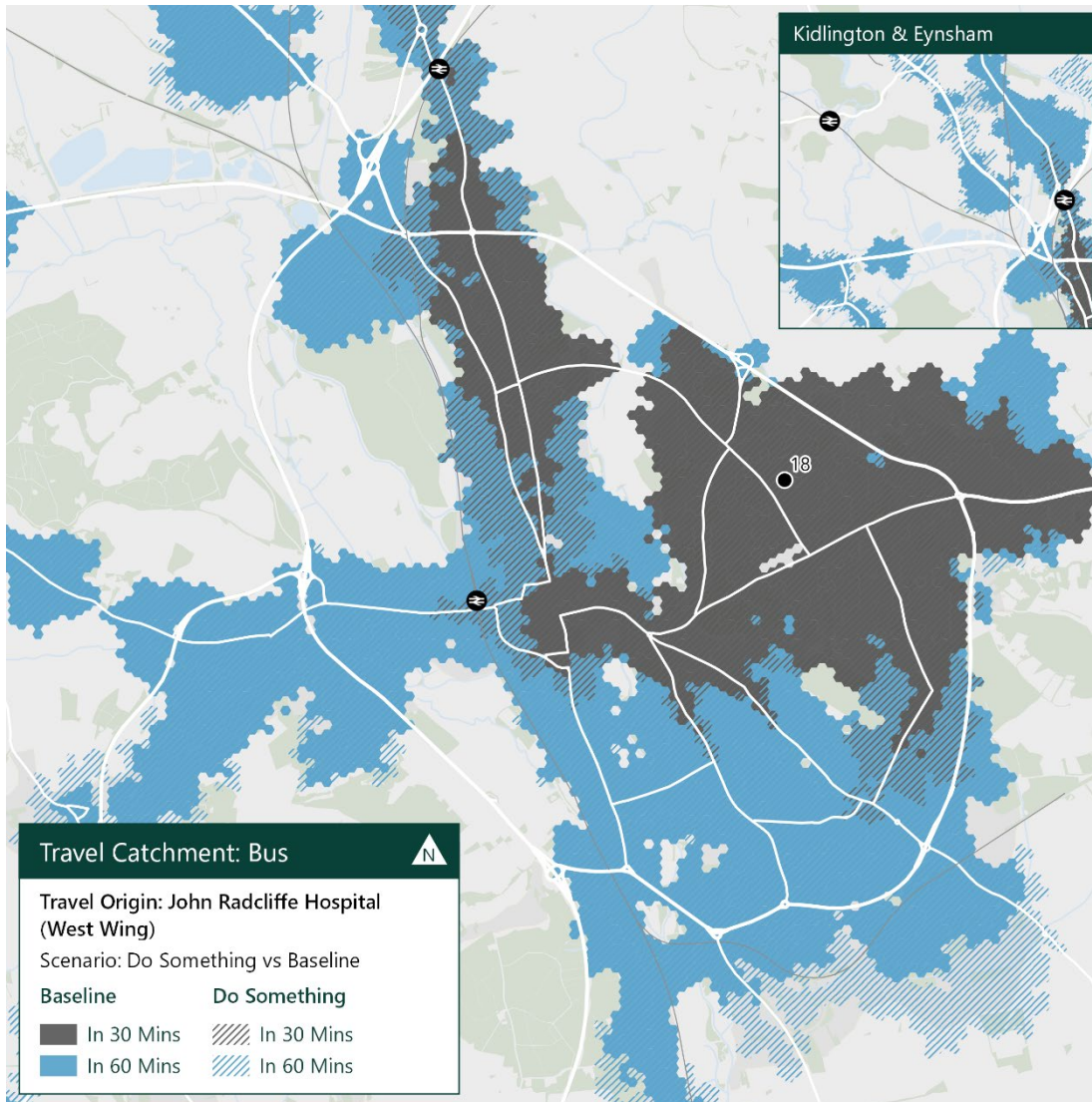
- The map shows in dark grey the areas which are accessible by bus within a 30 minute journey time in the "baseline" scenario (i.e. without traffic filters). The areas shaded with grey lines are those which will be accessible within a 30 minute journey time in the "Do Something" scenario (i.e. with traffic filters).
- The areas which are accessible by bus within a 60 minute journey time in the "baseline" scenario are in blue. The areas shaded with blue lines are those which will be accessible within a 60 minute journey time in the "Do Something" scenario (i.e. with traffic filters).
- The key results from the analysis for John Radcliffe Hospital (West Wing) are:
  - +55,000 residents within 30 minutes
  - +49,000 residents within 45 minutes
  - +58,000 residents within 60 minutes
- Journey time estimates include walking to and from stops

Figure 4-7 Accessibility Analysis: Botley (Seacourt)

- The map shows in dark grey the areas which are accessible by bus within a 30 minute journey time in the "baseline" scenario (i.e. without traffic filters). The areas shaded with grey lines are those which will be accessible within a 30 minute journey time in the "Do Something" scenario (i.e. with traffic filters).
- The areas which are accessible by bus within a 60 minute journey time in the "baseline" scenario are in blue. The areas shaded with blue lines are those which will be accessible within a 60 minute journey time in the "Do Something" scenario (i.e. with traffic filters).
- The key results from the analysis for Botley (Seacourt) are:
  – +37,000 residents within 30 minutes
  – +62,000 residents within 45 minutes
  – +40,000 residents within 60 minutes
- Journey time estimates include walking to and from stops

Park & Ride

4.45   Park and Ride has a vital role to play in providing a viable and attractive alternative to car users, for whom accessing the city centre and other parts of the city may require longer routing with traffic filters in place.

4.46   The improvements in bus journey time and reliability will accrue to P&R users, while the new Eastern Arc service would operate between Oxford Parkway (to the north of the city) and Redbridge (to the south), providing enhanced access to key employment location along the Eastern Arc axis.

Impact on Bus & P&R Demand

4.47   Overall P&R and bus demand would be expected to increase as result of traffic filters, reflecting the improvement in journey times and service improvements this will deliver (where the modelled increase is around 3% for bus and 6% for P&R). The benefits from improved bus reliability and new zero-emission buses replacing the existing fleet of services which are not explicitly modelled by will also serve to increase bus patronage, so the modelled estimate of demand is likely to be an under-estimate.

Impacts on Rail

4.48   The is no difference in the rail network as a result of traffic filters. However, traffic filters will have a positive impact on rail demand, as some people who previously travelled by car trips (those unable to travel through filters for specific movement) will be attracted to rail.

4.49   While the rail leg of any journey will be unaffected by the traffic filters, any 'leg' of a trip undertaken by bus, walk or cycle will be more attractive as a result of the reduction in traffic levels in the city centre and inner parts of the city. The traffic filters will therefore serve to make rail more attractive overall and is forecast to increase rail demand to/ from Oxford by around 900 trips per day.

Impacts on Private Car

4.50   It is estimated that traffic filters will adversely affect around 10.5% of total trips within the city. This reflects the proportion of car trips affected by the traffic filter as a share of total all-mode trips within the city. The figure reflects:

- The overall car mode share, which less than a third (32.5% as per

- Table 4-5) of total person trips.
- The proportion of car trips that are travelling between sectors of the city, that would or may require re-routeing as a result of traffic filters.
- Of these, the use of a resident day pass would allow car users through the permits for a 100 days per year, equivalent to two days per week. We estimate around 40% of trips would therefore pass through the filters and not be required to re-route.
- There are a range of other permits / exemptions for specific types of trips, who would also not be affected by filters.

4.51   The proportion of car trips affected considering trips to/ from and within the city is lower, at around 6% of the total. This reflects the fact that most trips from outside the city travel to the city are not affected by the filters.

4.52   The 'affected' trips reflects the proportion of existing or 'do minimum' trips for whom the traffic filters would require either re-routeing of their existing car trips or a change in behaviour, most notably mode shift. The re-routeing response would, for the individual trip, represent a dis-benefit in the form of a longer journey. The alternative modes – bus, cycling or walking – would all be a more attractive option with traffic filters than under the existing or 'do minimum' scenario.

Impact on Commercial Vehicles and Taxis / Private Hire

4.53   Commercial vehicles and taxis / private hire vehicles will be exempt from the filters. For commercial vehicles the reduction in traffic levels and associated congestion will mean that journey times within the city will typically be shorter and more reliable.

5 Strategic assessment - overview

5.1 The following sections of this report provide an assessment of the strategic fit of the traffic filter proposals against the key policy themes of economy (Section 6), health (Section 7), environment (Section 8), healthy place shaping (Section 9), and connectivity and inclusivity (Section 10).

5.2 Table 5-1 in this section provides an overview of that assessment.

5.3 In the Table, the objectives are aligned to LTCP outcome themes. Those outcome themes are:

1. **Productivity theme: a world leading business base** that is sustainable, has created new jobs, products and careers for all communities and is supported by an effective, net-zero transport network.

2. **Health theme: improved health and wellbeing** and reduced health inequalities, enabled through active and healthy lifestyles, improved road safety and inclusive communities.

3. **Environment theme: sustainable communities that are resilient to climate change**, enhance the natural and historic environment, improve biodiversity, reduce greenhouse gas emissions and are supported by our net-zero transport network.

4. **Healthy place-shaping theme: sustainable, well designed, thriving communities where healthy behaviours are the norm** and which provide a sense of belonging, identity and community.

5. **Connectivity theme: communities are digitally connected**, innovative technologies are supported and there is improved connectivity and mobility across the county, enabling greater choice and seamless interchange between sustainable modes.

6. **Inclusivity theme: barriers to access are removed** and all communities are supported by our inclusive transport system to play a full role in society and have independence, choice and control.

Table 5-1 Traffic Filters Scheme Objectives

Theme	LTP outcome	Traffic filters objective	Performance against objective	How traffic filters contribute
Productivity	A world leading business base	Support sustainable housing and jobs through effective use of all available transport capacity through innovative management of the network	Strong positive	✔ Reduce traffic within the city ✔ Support reallocation of road space to other modes ✔ Improve bus journey times
Productivity	A world leading business base	Support transition to low carbon economic growth through accelerating the transition to a zero-carbon transport network.	Moderate positive	✔ Enable mode shift from car to more sustainable modes ✔ Enable investment in 159 zero emission buses ✔ Facilitate place shaping enabling design of streets prioritising people over vehicles
Productivity	A world leading business base	Tackle post-COVID decline in bus network and support investment in strategic public transport networks	Strong positive	✔ Improve bus journey times, increasing the productivity of bus services which will make them more viable ✔ Reduce journey times making buses more attractive, increasing bus demand, increasing viability of services
Productivity	A world leading business base	Support economic growth and vitality across the county	Moderate positive	✔ Support desired outcomes of improved quality of life, health and place that are key to making Oxford a more attractive place to live, work and invest ✔ Support the overall vision to deliver economic success in a way that is low-carbon, inclusive and sustainable. ✘ Filters would increase flows on the ring road and A34, affecting journey times for business and freight.
Health	Improved health and wellbeing	Improve local air quality through the reduction of transport emissions	Strong positive	✔ Reduce traffic flows in areas where air quality is poor and there are high volumes of

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Theme	LTP outcome	Traffic filters objective	Performance against objective	How traffic filters contribute
				vulnerable users whose health is adversely affected ✓ Air quality modelling assessment estimates significant reductions in Nitrogen Oxide, PM10 and PM2. The modelling forecasts that the scheme will not result in any exceedances of national air quality objectives
Health	Improved health and wellbeing	Improve public health and wellbeing by increasing levels of walking and cycling	Strong positive	✓ Remove traffic, creating a more attractive environment for walking and cycling ✓ Removing traffic creates space for further improvements in walking and cycling infrastructure
Health	Improved health and wellbeing	Improve road safety for all users, and in particular vulnerable users.	Strong positive	✓ Reduce traffic, resulting in fewer collisions ✓ Estimated to reduce total collisions and casualties by around 13%
Environment	Sustainable communities that are resilient to climate change	Reduce carbon and tackle climate change	Strong positive	✓ Enable investment in 159 zero emission buses, saving 7,500 tonnes of carbon per year ✓ Support mode shift to more sustainable modes of transport with lower carbon emissions
Environment	Sustainable communities that are resilient to climate change	Mitigate and wherever possible enhance the impacts of transport on the local built, historic and natural environment	Moderate positive	✓ Reduced traffic in historic city centre streets is expected to have a positive impact on the heritage assets and associated public engagement. ✗ Increased traffic on the ring road will affect some heritage assets and increase NOx emissions and acid deposition close to the Oxford Meadows Special Area of Conservation.

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Theme	LTP outcome	Traffic filters objective	Performance against objective	How traffic filters contribute
Healthy place-shaping	Sustainable, well designed, thriving communities.	Support Health Place Shaping by creating opportunities for pedestrianisation and improving public spaces	Strong positive	✓ Reduce traffic, creating opportunities for pedestrianisation and improving public spaces ✓ Support achievement of "healthy streets" indicators relating to clean air, making roads easier to cross, improving safety, enabling walking and cycling and creating places where everyone is welcome and people feel relaxed
Connectivity	Communities are digitally connected, and there is improved connectivity and mobility	Enhance connectivity by: • Improving walking and cycling connectivity to enable more journeys by these modes • Enabling better management freight and goods movement. • Improving other forms of connectivity such as digital / full fibre connectivity	Strong positive	✓ Increase walking and cycling connectivity by reducing traffic in areas of high pedestrian and cycle movement ✓ Make local goods and freight movements to and within the city more efficient, through filter exemption for goods vehicles ✓ No direct impact on digital connectivity
Inclusivity	Barriers to access are removed	• To improve local journeys for people in Protected Characteristic Groups • Create economic opportunities for all, through enabling inclusive access to jobs, education, training and services	Positive	✓ Improved journeys for Blue Badge holders and support/care workers through filter exemptions ✓ Benefit those who currently use buses, including some disabled people, women (who are more likely to use public transport than men), and 'Black/African/Caribbean/Black British' residents who have the highest public transport mode share by ethnic group in Oxford

6   Assessment - Economy

Traffic filter objective: Support sustainable housing and jobs through effective use of all available transport capacity through innovative management of the network

Key challenges

- Oxfordshire's growth in jobs and housing has historically been accompanied by a significant increase in private car use. Oxfordshire has seen a 36% increase in vehicle miles since 1993, and in 2019 the total vehicle miles driven in Oxfordshire passed 4 billion for the first time[5].
- The increase in car use has resulted negative impacts on congestion, air quality and the environment – these impacts affect all transport users, residents and visitors.
- Oxfordshire has forecast plans for 100,000 new homes and 85,000 new jobs to be created across Oxfordshire by 2031 (from a 2011 base)[6].
- Growth cannot be accommodated sustainably, and without adversely impacting all transport users, unless there is a fundamental shift in the way people travel.

The role of traffic filters

- The National Infrastructure Committee's Getting Cities Moving' report (June 2022)[7] stated that people moving in cities is a "good thing" but congestion is the fundamental limitation so the aim should be to shift demand from cars to forms of transport that can move people around more efficiently, maintaining productivity benefits that flow from employment density without increasing congestion.
- Traffic filters are key to re-orientating the way in which people travel within Oxford - encouraging by efficient movement overall by encouraging increased travel by public transport, cycling and walking (which make efficient use of road capacity) and less travel by car.
- Traffic Filters will improve public transport and active travel and discourage private car journeys.
- Traffic filters redistribute some traffic onto the ring road. There is forecast to be a change in flows on the ring road section of the A34 of up to 5% (less on most sections) in the peak periods. This increased flow will affect journey times on some sections of the ring road at certain times.

Assessment

Traffic Filters will support sustainable capacity and growth though:
- Reducing car traffic within the city by 50% in the city centre and up to 40% in key redials.
- Supporting the re-allocation of road space towards sustainable modes – improving the quality and attractiveness of journeys by bus, cycle and waking.
- Improving public transport connectivity by improving bus journey times across the city, benefiting all bus and P&R users.

Increased traffic flow on the ring road will affect journey times on some sections at certain times.

Overall, TFs are assessed as making a moderate positive contribution to the objective of supporting sustainable housing and jobs through effective use of all available transport capacity through innovative management of the network.

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[5] Oxfordshire Local Transport and Connectivity Plan, 2022 (p22)

[6] Ibid

[7] https://nic.org.uk/app/uploads/NIC-Getting-Cities-Moving-June-2022.pdf

Traffic filter objective: Support the transition to low carbon economic growth through accelerating the transition to a zero-carbon transport network
Key challenges
- The need for a fundamental shift towards low carbon economic growth cuts across national and local policy priorities around economic development, spatial planning and transport planning.   - The Local Transport Plan Vision is for a "zero-carbon Oxfordshire transport system" and that the transport system will "enable the county to be one of the world's leading innovation economies, whilst supporting clean growth, tackling inequality and protecting our natural and historic environment".   - The shift towards 'clean growth' is one the 'grand challenges' identified in the Oxfordshire Local Industrial Strategy.
The role of traffic filters
There are several ways in which traffic filters support the transition towards a low carbon economy: - Encouraging modal shift from car towards sustainable growth: Reducing carbon by discouraging unnecessary individual private vehicle use through making walking, cycling, public and shared transport the natural first choice. Traffic filters are estimated to result in a mode shift from car of around 20% for trips within the city.   - Decarbonising transport. The introduction of traffic filters will deliver significant improvements in bus journey times and reliability. These improvement are a pre-requisite to support investment in the delivery of 159 zero-emission buses, that would operate on all routes wholly within the SmartZone area.   - Reducing the need to travel through more sustainable land use and 'place shaping' that aims to create sustainable, well designed, thriving communities. Designing streets that prioritise people over motor vehicles will create places where people feel welcome, safe and choose to walk and cycle.
Assessment
Overall, Traffic Filters are forecast to lead to a 6% decrease in annual CO_2 emissions associated with road transport in the city following implementation, based on air quality modelling. In the longer-term traffic filters will contribute to the 'place shaping' objectives that seek to reduce the overall need for travel, and specifically the need to travel by car. Overall, traffic filters will make a moderate positive contribution to this objective.

Traffic filter objective: Tackling the post-COVID decline in bus network
Key challenges
- Prior to the Pandemic Oxfordshire had a successful commercial bus network with the highest per-capita usage of local services of any shire county in England, underpinned by significant use of bus for journeys to, from and within Oxford City.   - A successful bus network and services fundamentally underpin the success of the overall economy, supporting each of the objectives above around sustainable growth, the transition to a low-cardon economy and tackling inequality.   - However, commercial viability of the Oxfordshire bus network threatened by two key issues.   - Frist, worsening traffic congestion and its impact on bus journey times and journey time reliability. This issue pre-dated the Pandemic and resulted in declining bus patronage between 2013/14 and 2019, despite a backdrop of buoyant economic growth.   - Second, the impact of COVID-19 on bus demand, whereby overall levels of bus use remain below their pre-pandemic levels. Bus demand remains around 85% of its pre-COVID levels.   - These factors combine to threaten the viability of the commercial bus network. Commercial bus services across England declined by 22% in the first year of the pandemic[8]. Oxford has seen some service rationalisation, but not at the level seen nationally. Oxfordshire County Council, as part of its bus 'Sustainability Review' is financially supporting the current bus network up until mid-2024.   - The outlook beyond this remains uncertain, especially in the absence of measures to enhance bus performance. There is risk of a further decline of the bus network unless the fundamental issues – slow and unreliable journey times affecting bus operating costs, and lower demand affecting revenues – are not addressed.
The role of traffic filters
Traffic Filters will directly address the key challenges outlined through: - By improving bus journey times and reliability. Traffic filters will deliver peak journey time reductions estimated at around 15% within the central areas of the city and around 10% across the day.   - By increasing bus demand. Bus demand will increase as a result of buses becoming more attractive to existing and new users as a result of: - Improved bus journey times from the outset   - New bus services including through services and 'Eastern Arc' service   - New zero-emission vehicles, the purchase of which is enabled by the traffic filters.   - The combination of increased bus productivity (lower costs) and increased demand will support the return to a commercially viable bus network which will help ensure the maintenance of the current network and support future expansion and growth.
Assessment
Traffic filters have a fundamental role in tackling the post-COVID decline in the bus network and creating the conditions for the bus network to develop in the medium-term, supporting planned growth. The need to maintain and develop Oxford and Oxfordshire's bus network is central to the achievement of its economic, social and environmental goals and outcomes. Overall, traffic filters will make a **strong positive** contribution to this objective.

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[8] Campaign for Better Transport, March 2022.
https://bettertransport.org.uk/sites/default/files/research-files/Funding_local_bus_services_in_England_June_2022.pdf

Traffic filter objective: Support economic growth and vitality

Key challenges

- Oxfordshire has a successful and diverse economy. The Oxfordshire economy contributed over £20 billion in GVA in 2017 and, as of 2019, has shown an average year on year growth of just under 4% per annum since 2006, compared to a UK average growth of 1.4%.
- Oxfordshire is a strategically important part of the national economy and has both the ambition and the potential to grow further. The vision statement in the Oxfordshire Local Industrial Strategy further emphasises Oxfordshire's ambition, stating a goal of being "one of the top three global innovation ecosystems by 2040".
- The LTCP objective under 'productivity' is for Oxfordshire to be "A world leading business base that is sustainable, has created new jobs, products and careers for all communities and is supported by an effective, net-zero transport network".
- Transport has a fundamental role to play in supporting the growth and success of the Oxfordshire economy and, critically, ensuring that growth takes place in a manner that is sustainable, inclusive and low carbon, and hence contributes to wider policy outcomes – enhancing quality of life (health and place), reducing carbon and protecting the natural and historic environment.

The role of traffic filters

- Assessing the overall impact of Traffic Filters on the economy of Oxford is not straightforward given the complex range of factors that contribute to Oxford's current and future economic performance, and the range of impacts that TFs have on different modes, trip purposes and movements.
- Moreover, while impacts on 'trips' can be assessed in terms of economic impacts (whereby an increase in travel time is assessed as an economic disbenefit), traffic filters also aim to support the delivery of other outcomes - such as improved quality of life, health and place - that are key to making Oxford a more attractive place to live, work and invest, but which are not possible to place an economic value on.
- The impact on different trips (by mode and trip purpose) is summarised in Table 4-2. The table illustrates that all modal users, with the exception of car drivers (those not transporting goods or exempt) will benefit from traffic filters. Overall, around 90% of journeys made in Oxford (by all modes of transport) are either unaffected by the traffic filters or will benefit from them.
- All business trips within the city should benefit from the proposals due to exemptions for commercial vehicles. Business trips have a direct impact on business productivity, as time spent travelling in the course of business would otherwise be used productively for business purposes. There is some re-routing of traffic to the ring road which would affect journey times on some sections at some times, affecting business trips.
- There may be a moderate labour market impact (specifically recruitment and retention) for some sectors (including those with existing recruitment and retention challenges such as schools and hospitals) as a result of longer journey times for car journeys which may influence the decisions of staff about work location.
- It is expected that there will be a positive impact on consumer services businesses in the city centre where most customers travel by non-car modes and will benefit from improved journeys. For consumer services businesses in district centres, the availability of resident permits and likely low levels of car use for access combine to minimise the potential impact on customer demand. There is a possible negative impact on businesses who rely on customers travelling more than two days a week by car, but it can be expected that this is a small minority.

Assessment

- Overall therefore, traffic filters will benefit the majority of modal users travelling for leisure and commuting purposes, and benefit business trips undertaken on all modes.
- In addition, traffic filters will deliver a range of benefits that aim to improve the overall quality of life for residents in the form of reduced air pollution and improved health and enhanced place and urban environment and support the overall Vision to deliver economic success in a way that is low-carbon, inclusive and sustainable.
- Overall, traffic filters will make a **strong positive** contribution to this objective.

7 Assessment - Health

Traffic filter objective: Improve local air quality through the reduction of transport emissions	
Key challenges	

- Improving air quality is a priority for Government. The Clean Air Strategy 2019 asserts that "Air pollution is the top environmental risk to human health in the UK" and "is the largest environmental health risk in the UK. It shortens lives and contributes to chronic illness."
- The major threat to clean air is now posed by traffic emissions. Petrol and diesel-engine motor vehicles emit a wide variety of pollutants, principally carbon monoxide (CO), oxides of nitrogen (NOx), volatile organic compounds (VOCs) and particulate matter (PM10), which have an increasing impact on urban air quality (source: DEFRA[9]).
- In Oxford the transport sector is more pronounced for NOx (where it contributes 68% of total emissions), but it plays a significant role in PM10 emissions. Transport also accounts for 21% of PM2.5 emissions (which can be more pernicious due to comprising smaller particles that can travel deeper into organ tissue) in Oxford.
- A designated Air Quality Management Areas (AQMAs) covers Oxford City, declared based on NO2 levels exceeding the annual mean objective. In January 2021 Oxford City Council published its Air Quality Action Plan (AQAP). Oxford City Council has committed to becoming the first UK local authority to set an annual mean NO2 target in a city-wide AQAP.
- The objective is to target a maximum level of 30 ug/m3 NO2 at all monitored locations in Oxford by 2025 ('30 by 25'). This is more ambitions than the Government's annual mean limit of 40 ug/m3 NO2, recognising the persistent harmful effects of NO2 at lower levels.
- In 2021, the World Health Organisation (WHO) produced a set of updated Global Air Quality Guidelines (AQGs) . The AQGs represent current best scientific knowledge as to safe levels of common air pollutants for human health. The new numbers include a significant lowering of the safe threshold for annual NO2 levels, from 40ug/m3 to 10ug/m3. Safe thresholds for PM10 and PM2.5 levels have also been lowered.
- The WHO study essentially reinforces the imperative to act on air quality.

The role of traffic filters	

- Traffic Filters aim to reduce traffic flows in areas where air quality is poor and there are high volumes of vulnerable users whose health is adversely affected.
- Environmental consultancy Ricardo has modelled the air quality impacts of traffic filters, based on the forecast change in traffic flows. The analysis considers a 2019 base year–using latest available data on air quality and traffic and a 2024 implementation year. The transition of the vehicle fleet (to electric vehicles) and reduced tailpipe emissions from petrol / diesel cars (as newer vehicles subject to stricter regulation replace older ones) means that, across the city, air quality will improve significantly by the mid-2020s (compared to the 2019 base). Key results are:
  - NO2 concentrations are predicted to decrease along 76% of the assessed road links and at 91% of existing monitoring locations as a result of the Traffic Filters Scheme.
  - The maximum predicted decrease in NO2 concentration at monitoring locations (8.17μg/m3) was observed at St Clement's. The location is no longer predicted to exceed the Oxford limit value as a result of implementation of the traffic filters.
  - A significant decrease (7.43μg/m3) in NO2 concentration as a result of the scheme along the A420 (High Street / Headington Road). This location also showed the maximum decrease in PM10and PM2.5 concentrations at roadside receptors as a result of scheme implementation.
  - All road links which show a predicted increase in NO2, PM10and PM2.5 concentrations as a result of the scheme are located on road links outside of the city centre. The modelling forecasts that the scheme will not result in any exceedances of national air quality objectives.

Assessment	
Overall, traffic filters will make a **strong positive** contribution to this objective.	

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[9] https://uk-air.defra.gov.uk/air-pollution/causes

Traffic filter objective: **Improve public health and wellbeing by increasing levels of walking and cycling**
Key challenges
- The health and wellbeing benefits of physical activity are well understood. Physical activity can improve fitness, improve mental health and cognitive function, and reduce health risks including heart disease, diabetes, cancer and depression.   - Walking and cycling are the cheapest and most accessible ways of being active.   - In addition, encouraging more people to walk and cycle, rather than drive, improves physical health by helping improve air quality and reducing the risk of traffic collisions.   - Issues relating to safety were cited by over 60% of cyclists as the issues they perceived to be the most significant for cycling in Oxford city. These included issues relating to traffic safety (26%), a lack of quality cycle lanes (17%) and junction safety (17%) (Oxfordshire Cycle Survey 2019).   - The LWCIP notes that cyclists' perceptions did not differ substantially depending on how recently they took up cycling. This suggests that barriers to cycling for non-users are generally similar to the issues identified by current users.   - Oxfordshire has a county-wide target to increase the number of cyclists on our roads by at least 60%.
The role of traffic filters
Traffic Filters will address the key challenges outlined through: - Enabling more people to travel by cycling and walking, where this is a viable alternative to driving through traffic filters. Traffic Filters are expected to increase the mode share of walking and cycling by around 10%.   - Creating a more attractive environment for pedestrians and cyclists by reducing traffic in the city centre and inner radials, which have the highest number of pedestrian and cycle trips.   - Enabling further improvements in cycle provision and the public realm as road-space can be re-allocated towards pedestrians and cyclists. This, in-turn, supports the 'healthy place shaping' objectives.
Assessment
Overall, traffic filters will make a **strong positive** contribution to this objective.

Traffic filter objective: Improve road safety for all users, and in particular vulnerable users.

Key challenges

- Between 2015 and 2019 there were over 1,700 collisions resulting in over 2,000 casualties in Oxfordshire. Cycle collisions account for almost half (47%) of total casualties, of which 88% were within the ring road. By contrast, only around half (51%) of motorised collisions were within the ring road.
- Oxfordshire's Active and Healthy Travel Strategy (AHTS) notes that cyclists experience the highest number of road incidents per mile travelled of any transport mode and that, between 2014 and 2019, there were around 30 incidents per year in which a cyclist was seriously injured in the city of Oxford.
- In June 2022 Oxfordshire County Council announced its 'Vision Zero' ambition to completely reduce fatalities or serious injuries from annual road traffic collisions in the county by 2050. To this end, interim targets have been set for a 25% reduction by 2026 and a 50% reduction by 2030.

The role of traffic filters

- The impact of Traffic Filters on road safety in Oxford in terms of collisions and casualties was assessed using the data between 2015 and 2019 as a baseline. The collision rate was assumed to remain constant with changes in road safety being driven by changes in traffic flows.
- The estimated impact of Traffic Filters on road collisions:
  - Roughly 13% fewer total collisions and casualties
  - Roughly 13% fewer pedestrian collisions and casualties
  - Roughly 16% fewer cyclist collisions and casualties
- The increase in collision risk from increased cycle use has not been estimated. However, Oxfordshire's Active and Healthy Travel Strategy (AHTS) notes that the chance of a cycle trip in Oxford resulting in a serious injury is approximately 1 in 500,000, and the health benefits of cycling alone exceed most measures of casualty risk by a factor of more than 20 to 1.
- Moreover, the purpose of TFs is to reduce traffic and enable cycle measures that together combine to make cycling safer for all users, and to encourage increased take up by those for whom perceived lack of cycle safety is a barrier to take up.

Assessment

Overall, traffic filters will make a **strong positive** contribution to this objective.

8   Assessment – Environment

Traffic filter objective: Reduce carbon and tackle climate change
Key challenges
- The UK Government passed laws in 2019 to bring all its greenhouse gas emissions to net zero (relative to 1990 levels) by 2050, setting the context for its transport decarbonisation plan.   - Oxfordshire County Council has aligned itself with UK policy and committed to becoming carbon neutral by 2050. The council has also committed to making its operations carbon neutral by 2030 in its Climate Action Framework[10].   - Transport's share of overall carbon emissions has increased from 33% in 2008 to 44% in 2019. Emissions in 2019 from 'Commercial' activities are less than half their 2008 levels, whereas 'Industry' and 'Domestic' emissions are around two-thirds of their 2008 levels. By contrast, emissions from transport in 2019 were 94% of 2008 levels[11]. Oxfordshire's commitment to becoming carbon neutral by 2050 cannot be met unless there is a fundamental shift towards the decarbonation of transport.   - The LCTP states that "decarbonisation is a key overriding challenge that the LTCP seeks to address" through delivering a net-zero transport system, as part of Oxfordshire's stated intention to lead the way in tackling Climate Change.
The role of traffic filters
There are several ways in which traffic filters may support the overall objective to decarbonise Oxfordshire and tackle climate change. These are: - Accelerating the take-up of electric (i.e. lower lifetime emission) vehicles.   - Traffic filters will have direct effect on the decarbonisation of transport thought enabling the introduction of electric vehicles within the Oxford SmartZone area. The purchase of 159 zero-emission buses, for which a Department for Transport funding contribution of £35m has been secured, is subject to the introduction of the Traffic Filters to secure the required bus operator investment to purchase zero-emission buses. Annual carbon reductions of 7,500 tonnes per year[12] are forecast to result from zero-emission bus implementation.   - Encouraging and enabling modal shift towards more sustainable modes.   - Traffic filters are expected to reduce overall car trips by around 20% across the city (within the ring road). While car trips are forecast to decrease by 20%, the carbon benefits are partially offset by the increase in trip lengths for some car trips where re-routing to ovoid the filters would be required.   - An assessment of carbon impacts undertaken by Ricardo, based on forecast changes in traffic, estimated an annual carbon saving of 11,900 tonnes per year, which represents a saving of 6% within the area of assessment (which includes the city, ring road and near hinterland).   - Reducing the need to travel, especially by car or van.   - Traffic filters play an enabling role in Oxfordshire's ambitions towards 'Healthy Place Shaping' and promoting sustainable land use development, both of which aim to reduce the need for travel overall and the need to travel by car.
Assessment
Overall, traffic filters will make a **strong positive** contribution to this objective.

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[10] 2020 Climate Action Framework, Oxfordshire County Council, Available at: https://www.oxfordshire.gov.uk/sites/default/files/file/about-council/OCC_Climate_Action_Framework2020.pdf

[11] *Steer analysis, based on data provided by Oxfordshire. Original data from Department of Business, Energy and Industrial Strategy*

[12] From ZEBRA business case.

Traffic filter objective: Mitigate and wherever possible enhance the impacts of transport on the local built, historic and natural environment

Key challenges

- Oxford's historic streets were not constructed to facilitate modern traffic, particularly in the city centre. For example:
    - Traffic-dominated streets such as **High Street** negatively impact the capacity for visual appreciation of the historic character and appearance of these significant historic streets.
    - On **Beaumont Street**, traffic makes the street noisy, busy, and difficult to cross as a pedestrian which prevents easy access to the museum and makes the area less desirable for people to spend time.
- Road traffic emissions including Nitrogen Oxide (NOx) are harmful to public health. They can cause inflammation of the airways and increase susceptibility to respiratory infections and to allergens. NO2 can exacerbate the symptoms of those already suffering from lung or heart conditions.
- The Oxford Meadows – located either side of the A34 to the north east of Oxford - is designated as a Special Area of Conservation (SAC) that requires protection – any changes to traffic circulation may affect this area.

The role of traffic filters

Traffic Filters will directly address the key challenges outlined through:
- The introduction of the traffic filter on the A420 will reduce traffic on **High Street** leading from Magdalene Bridge. At times when there is a break in the traffic, the potential benefit of this scheme can be appreciated as noise levels drop and the street becomes more open, accessible and pleasant to the pedestrian.
- A reduction of traffic as a result of introducing a traffic filter on Little Hythe has great potential to open up **Beaumont Street's** significant cultural area thus having a positive impact on the heritage assets and associated public engagement.
- As a result of the traffic filters, some traffic is expected to be diverted away from the city centre and other parts of the city, with some increases in traffic levels expected to the city centre via the A4142 Oxford on the ring road and outer sections of the city's radial routes. The ring road has a number of listed assets that are situated within physical or visual proximity to it.
- Habitats Regulation Assessment identified exceedances of the critical level of NOx of 30 μg/m3 and an increase of over 1% at receptors up to 30m from the SAC boundary.

Assessment

- Traffic filters will reduce traffic circulation in the historic streets of the city centre, enhancing the pedestrian experience and ability for visitors and residents to engage with and appreciate the city's heritage.
- Some heritage assets in proximity to the ring road will experience an increase in the level of traffic passing by them. However, as the road is already very busy and highly trafficked, it is considered, based on professional judgement, that no appreciable change should be anticipated . More vehicles on an already very busy route is unlikely to cause an additional impact above the existing impact of the ring road.
- The forecast increase in traffic on the A34 to the north west of Oxford, as a result of the traffic filters, is expected to lead to a small worsening in the case of NOX emissions and acid deposition. The assessment, however, concludes that there are significant improvements overall compared to the situation in 2019 (mainly due to improvements in overall emissions from changes to the general vehicle fleet). In 2019, the SAC was considered to be in a favourable condition and the assessment work concludes this is still the case, by some margin, even with the traffic filters in place. The assessment therefore concludes that no mitigation is required.
- Overall, traffic filters will make a **moderate positive** contribution to this objective.

9 Assessment – Healthy Place Shaping

Traffic filter objective: Supporting Healthy Place Shaping
Key challenges
- The LCCP identifies "the need to consider the wider role of how we design our urban environment to make it easy and enjoyable for people to walk and cycle, including the design and connectivity of our streets".   - The concept of 'Health Place Shaping' is a collaborative approach which aims to create sustainable, well designed, thriving communities where healthy behaviours are the norm and which provide a sense of belonging, identity and community.   'Healthy Streets' is central to this concept. Streets play a role in all journeys and have a significant impact on people's experiences of travel and everyday lives.   - The Healthy Streets approach is guided by the new Street Design Guide (approved September 2021), which provides a framework for improving streets in terms of people's lived experience and usability based on 10 key indicators.
The role of traffic filters
The main impact of Traffic Filters is to significantly reduce traffic in the city centre and on key roads within the city. The city centre and key locations on other roads serve not only as 'routes' to accommodate movement, but also 'places' to support activity and wellbeing. The ethos of 'healthy streets' seeks to promote the role of streets as 'places'. Traffic Filters help create opportunities for pedestrianisation and improving public spaces Traffic Filters preform a role in enabling and supporting a number of the healthy streets indicators, including: - Clean air - through the reduction in traffic within the city centre and inner radials   - Easy to cross - reducing traffic flows across areas of the city with some of the highest pedestrian activity levels.   - People choose to walk and cycle - encouraging residents and employers to switch modes by making walking and cycling more attractive, and discouraging car use   - People feel safe - improving road safety outcomes for all users, and especially vulnerable users, through reducing traffic levels   The positive impact Traffic Filters directly have on these indicators support the achievement of related perceived (more indirect) indicators including that 'everyone feels welcome' and 'people feel relaxed'.
Assessment
Overall, traffic filters will make a **strong positive** contribution to this objective.

10   Assessment - Connectivity

Traffic filter objective: To Improve Connectivity
Key challenges
- Connectivity represents one of the challenges identified within the LTCP, and one of the key themes required to support the delivery of the overall LTCP Vision and outcomes.   - The context for the connectivity challenge is framed by the significant impact that planned housing and employment growth will have on the transport network, and that "Given the scale of growth, more radical solutions are needed to transform transport in Oxfordshire".   - The LCTP identifies the key areas of required improvement under the connectivity challenge as being the need to: - improve walking and cycling connectivity to enable more journeys by these modes.   - better manage movement of freight and goods, both in rural and more urban areas.   - improve other forms of connectivity such as digital connectivity, particularly full fibre connectivity
The role of traffic filters
Traffic Filters would have the following impacts on connectivity: - LTCP objective: Improve Walking and Cycling Connectivity to enable more journeys by these modes   - Traffic Filters serve to improve the cycle and pedestrian environment through delivering large-scale traffic reduction in areas of highest pedestrian and cycle volumes, and consequently improving air quality, safety and overall attractiveness of travelling by active modes.   - LTCP objective: To Better Manage Movement of Freight and Goods   - For movement of goods and services there is, in many cases, little alternative other than to use LGVs or cars (to transport goods or equipment). This is the basis for the exemption of goods vehicles as part to the Traffic Filter scheme.   - The reduction in overall traffic and exemption of goods vehicles, means that Traffic Filters will positively contribute to the efficient movement of local goods and freight movements to and within the city.   - LTCP objective: To improve other forms of connectivity such as digital connectivity, particularly full fibre connectivity   - Traffic Filters would have no direct impact on this objective.   - However, the enhanced digital connectivity will allow people (especially car users in the context of filters) to be more flexible in their patterns of working and hence travelling, providing a wider potential range of behavioural responses to filters.
Assessment
For the sustainable modes of transport that are prioritised in the LTCP (walking, cycling, public transport), the traffic filters will make a **strong positive** contribution to the objective of improving connectivity.

11   Assessment – Inclusivity

Traffic filter objective: To improve local journeys for people in Protected Characteristic Groups
Key challenges
- People in Protected Characteristic Groups (PCGs)[13] may be significantly more affected by a change than other people. A separate Equalities Impact Assessment considers potential impacts of traffic filters in detail. It identifies some relevant challenges relating to PCGs and traffic filters: - Young people aged under 16 and older people aged over 65 are more vulnerable to poor air quality   - Using the transport system may be difficult for older and disabled people, who may have slower movement and reaction times or a need to use mobility aids.   - People in mid- (and later) life are less likely to walk or cycle than younger people and therefore less likely to receive the health benefits from doing so.   - Private cars and taxis are often relied upon by older and disabled people who are also more likely to depend on support workers/carers or friends and family who travel by car to carry out caring responsibilities   - Disabled people are more likely to rely upon family members or friends for daily care, as some impairments may require assistance which is not provided by paid carers.   - Some disabled people may find changes to streets and the transport network confusing and stressful   - Women are more likely to walk, cycle and travel by public transport (journeys that typically start and end on foot or cycle) than men). Women who do drive may be more hesitant to walk or cycle because of an increased threat or fear of crime, especially at night   - Those on lower incomes are less likely to have access to a car and (nationally) are twice as likely to use buses as those on higher incomes
The role of traffic filters
Traffic Filters will directly address the key challenges outlined through: - The Traffic Filters are likely to reduce traffic volumes and create improved conditions for buses, leading to reduced journey times by public transport. This will disproportionately benefit those who currently use buses, including some disabled people, women (who are more likely to use public transport than men), and 'Black/African/Caribbean/Black British' residents who have the highest public transport mode share by ethnic group in Oxford.   - There are also likely to be benefits for those who cycle (predominantly those aged 16-24 and those aged 25-44) due to the removal of through-traffic within the Traffic Filters. This will create a safer and more accessible environment for people cycling and has the potential to encourage people from all backgrounds to cycle.   - Where the Traffic Filters increase journey times, this may have a disproportionately negative impact on non-professional carers for disabled and/or older residents who are more likely to be making regular trips by car. However, it is important to recognise that motor vehicle access to all locations has been maintained, and exemptions for Blue Badge holders, disabled tax class vehicles, taxis and private hire vehicles, and both professional and non-professional health and care workers will mitigate the worst of these potential impacts. The ability for residents to obtain day passes will also help mitigate impacts on people making fewer regular journeys for caring purposes.
Assessment
Overall, traffic filters will make a **strong positive** contribution to this objective.

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[13] Protected characteristics are specific aspects of a person's identity as defined by the Equality Act 2010. The 'protection' refers to protection from discrimination. On this basis, people are grouped into nine PCGs by the Act: Age, Disability, Gender reassignment, Marriage and civil partnership, Pregnancy and maternity, Race, Religion or belief, Sex, Sexual orientation

Traffic filter objective: Create economic opportunities for all, through enabling inclusive access to jobs, education, training and services

Key challenges

- Tacking inequality forms a key theme of the LTCP vision. In an economic context, this means supporting inclusive growth and equality of opportunity, so the economic success in achieved in a manner that supports the achievement of more equitable societal outcomes.
- While Oxfordshire county and Oxford city are, in a national context, more economically prosperous and less deprived that many other areas, significant pockets of deprivation and inequality exist.
- Deprivation within the county is concentrated within the Oxford city area with cluster output areas within the bottom 20% (most deprived) nationally located towards the south, east and centre of the Oxford City boundary. Ten of Oxford's 83 neighbourhood areas ('Super Output Areas') are among the 20% most deprived areas in England[14]. These neighbourhoods, which are in the Leys, Rose Hill, Littlemore, Barton areas of the city, experience multiple levels of deprivation - low skills, low incomes and relatively high levels of crime.
- Around 35% of Oxford households do not have access to a car. Research by the Urban Transport Group has highlighted that 77% of jobseekers in British cities outside London do not have regular access to a car, van or motorbike and can face significant barriers to work as a result.
- Access by public transport (and specifically bus within an Oxford context) is essential in supporting unemployed people to get access to employment, training and educational opportunities. Access to opportunities by walking and cycling – low cost modes of transport - is also important to lower income groups.

The role of traffic filters

Traffic Filters will directly address the key challenges outlined through:
- Enhancing bus provision though a combination of improved journey times and new services.
- Bus accessibility analysis suggests that, as a result of the journey time and service enhancements there would be a significant increase on the number of residents who can access key locations. For example there would be an of over 28,000 residents within a half an hours journey time of Cowley, 55,000 within half an hour of the Eastern Arc [John Radcliffe Hospital, West Wing] and 37,000 within half an hour of Botley. The equivalent increases within 45 minutes are 48,000, 49,000 and 62,000 respectively.
- The benefits from bus improvements will support greater economic opportunity, as the demographic profile of bus users has a higher proportion lower income residents, many of whom do not have access to a car and are 'captive' public transport users. The role of traffic filters will therefore support more deprived socio-demographic groups (whose propensity to use, and reliance upon, bus is greater) and areas within the Oxford build-up area (including the Leys) that are characterised by higher levels of deprivation.
- Improved cycle and walking environment will also encourage more people to access employment and other opportunities by bike.
- Traffic filters have a wider 'inclusivity' role in supporting improved physical fitness and improving air quality – which are both significant issues in their own right but also sources of 'health inequalities' whereby more deprived residents are more adversely affected.

Assessment

Overall, traffic filters will make a **strong positive** contribution to this objective.

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[14] Index of Multiple Deprivation 2019 data

Control Information

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QUALITY SYSTEM CERTIFICATION
DNV·GL
ISO 9001:2015

steer