

Local Transport and Connectivity Plan - Monitoring Report 2022-2023

November 2023



**OXFORDSHIRE
COUNTY COUNCIL**

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Executive Summary

Introduction

This is the first annual monitoring report for Oxfordshire County Councils (OCC) Local Transport and Connectivity Plan (LTCP). The LTCP was adopted by the county council in July 2022. It sets out an overarching vision for transport in the county and the policies that will be required to deliver the vision.

In order to demonstrate progress on delivering the LTCP, progress made against the headline targets and performance against the key performance indicators (KPI), we committed to publishing annual monitoring reports. This document is the first of these annual reports.

Baseline data

The baseline year for the data used in our monitoring is outlined for each target or KPI. Where possible data has been used from either before or after the COVID-19 pandemic which covered the years 2020 and 2021. This is due to the significant changes COVID-19 lockdowns and restrictions had on travel.

However, this is not possible for all data due to the reporting timescales associated with some data sources. We will update these baselines once the relevant data is available. We will also continue to review changes to travel patterns in the coming years by comparing current data, historical Oxfordshire data and national trends. This will help us to establish whether the baseline years are appropriate and reflect the reality of travel in Oxfordshire following COVID-19.

Headline targets

In order to track delivery of the vision and key themes we identified a set of headline targets in the LTCP. These were identified to help us quantify progress made on delivering the vision and ensure that we are on track to deliver our objectives.

There has been little change on the headline targets in the last year. This is expected because it will take a number of years to significantly change travel patterns in the county and so the impacts of LTCP work will not immediately be seen. There is also limited data for 2022 at this stage and so much of the data is from before the LTCPs adoption and affected by the COVID-19 pandemic.

Key performance indicators

The LTCP also identified a set of Key Performance Indicators (KPIs). The KPIs provide us with more detail about progress and identify potential areas for further work.

There is not data for all KPIs in this annual monitoring report. This is because there are not currently data sources for some of the KPIs which were not previously monitored by OCC. We are conducting work on monitoring to address these data gaps for future reports.



There have been some observed changes to the KPIs, however as with the headline targets much of this data is from 2021. It is therefore prior to the LTCP and affected by the COVID-19 pandemic. Whilst not directly related to the LTCP, understanding these changes is important to inform future work.

We are planning to conduct a countywide travel survey in Autumn 2023 which will provide further insight into the LTCP headline targets and KPIs. The survey will also allow us to collect data for some of the current data gaps.

Delivery over the last year

There has been a good level of delivery between the LTCPs adoption in July 2022 and July 2023. Key work delivered includes:

- Abingdon-on-Thames, Banbury and Witney Local Cycling and Walking Infrastructure Plans approved.
- 4 school streets made permanent.
- As part of tranche 1 of the 20mph programme we have delivered 22% (51 out of 231) of the town and parish councils.
- Delivery of 10 km of Quickway cycle routes in East Oxford including extensions of 20mph.
- Approval of Low Traffic Neighbourhoods in Cowley area and delivery of 18 km of Quietway cycle routes within LTN areas.
- Bus Enhanced Partnership formally made with bus operators in January 2023.
- Delivered a number of digital infrastructure projects including Businesses in Rural Oxfordshire and Better Broadband for Oxfordshire.
- Park and Charge Oxfordshire completed and electric vehicle car club pilot launched.
- Network management plan, Highway Infrastructure Asset Maintenance Approach, updated parking standards and Implementing Decide & Provide: Requirements for Transport Assessments document approved by cabinet.
- Earliest adopter of the Innovation Framework approach submitted a high level 'Innovation Plan' in March 2023.
- Central Oxfordshire Travel Plan approved by cabinet in November 2022.

Future delivery

Good progress has been made on delivering the LTCP in this first year. However, we recognise that there is still a long way to go if we are to deliver our vision and targets for transport in Oxfordshire. We will therefore continue to work hard on delivering the LTCP over the next year.

Over the next year we will continue work in all of the LTCP policy areas. Some key areas of planned work include:

- Development of LTCP part 2 supporting strategies.
- Development of LCWIPs for Charlbury, Chipping Norton, Thame, Wantage & Grove and Woodstock.
- Begin delivery of the Zero Emission Bus Regional Area (ZEBRA) in partnership with the bus operators.
- Begin delivery of transport hub programme.



- Further development of School Streets.
- Delivery of countywide community transport initiatives and improvements to bus information.

Central Oxfordshire Travel Plan

In support of the LTCP, a set of area and corridor travel plans are being developed. The area and corridor travel plans will outline how the LTCP vision and outcomes are delivered in locations across the county. They will create more detailed plans that can be used to guide future scheme development, funding bids, responses to planning applications and developer contributions.

The Central Oxfordshire Travel Plan was the first area travel plan produced and approved by cabinet in November 2022. The strategy includes a set of KPIs to monitor progress which will be annually reported on through this report.



Introduction

This is the first annual monitoring report for Oxfordshire County Councils Local Transport and Connectivity Plan (LTCP). The LTCP was adopted by the county council in July 2022 following 3 rounds of public consultation. The LTCP sets out an overarching vision for transport in the county and the policies that will be required to deliver the vision.

The LTCP is supported by a number of more detailed strategies. These build on the high level principles in the LTCP but address complex topics in more detail. Supporting strategies for freight, active travel and innovation were adopted alongside the LTCP in July 2022. Following adoption, work has been ongoing to develop the 'Part 2' supporting strategies.

In order to demonstrate progress on delivering the LTCP, progress made against the headline targets and performance against the KPIs we committed to publishing annual monitoring reports. This document is the first of these annual reports.

Baseline data

The baseline year for the data used in our monitoring is outlined for each target or KPI. Where possible data has been used from either before or after the COVID-19 pandemic which covered the years 2020 and 2021. This is due to the significant changes COVID-19 lockdowns and restrictions had on travel.

However, this is not possible for all data due to the reporting timescales associated with some data sources. We will update these baselines once the relevant data is available. We will also continue to review changes to travel patterns in the coming years by comparing current data, historical Oxfordshire data and national trends. This will help us to establish whether the baseline years reflect the reality of travel in Oxfordshire following COVID-19.

Similarly, there is limited monitoring data for 2022 at this stage. Therefore, much of the data included in the headline target and KPI sections is from 2021. This is from before the LTCP's adoption and affected by the COVID-19 pandemic. Whilst not directly related to the LTCP, understanding these changes is important to inform future work.

Local Transport Plan guidance

The Department for Transport's decarbonisation plan published in 2021¹, strengthened the role of Local Transport Plans (LTPs). The plan set out a role for revitalised LTPs to set quantifiable targets in carbon reductions in transport for local areas. Guidance for designing sustainable transport solutions through LTPs will also be published by the Department for Transport and it is stated that this will be linked to funding for schemes.

We are still awaiting publication of the LTP guidance which will clarify any requirements about LTP content or monitoring. The guidance is scheduled to be published in the summer 2023 for public consultation. We will continue to monitor this situation and update the LTCP and the content of these monitoring reports accordingly.

¹ [Decarbonising Transport: A Better, Greener Britain \(2021\)](#)



Headline targets

Background

In order to track delivery of the vision and key themes we identified a set of headline targets in the LTCP. These were identified to help us quantify progress made on delivering the vision and ensure that we are on track to deliver our objectives. The LTCP headline targets are included below.

By 2030 our targets are 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 serious injuries by 50%

By 2040 our targets are to:

- Deliver a net-zero transport network
- Replace or remove an additional 1 out of 3 car trips in Oxfordshire

By 2050 our targets are to:

- Deliver a transport network that contributes to a climate positive future
- Have zero, or as close as possible, road fatalities or serious injuries

Current progress

Progress made on delivering the headline targets is summarised in the following sections. We have provided some short analysis of the data and the trends observed which is grouped according to car trips, cycle trips, net-zero transport network and road safety to reflect the main target themes.

Data sources for all of the targets and KPIs can be found in appendix 1. The majority of the targets are using existing data sources. However, car trips were not previously monitored and there is not a readily available data source. Work has therefore been conducted over the last year to develop a bespoke monitoring mechanism.

The car trip target has been derived from a combination of automatic traffic counter data, Vivacity camera (object recognition cameras which provide counts by mode of transport) and INRIX telematics data providing a sample of trips within the county. By combining these data sources, a proxy for the number of car trips has been developed.

It is important to note that this is a proxy and not an absolute measure of the number of car trips. It allows us to understand the percentage change from a sample of car trips but does not provide an overall countywide figure.

It is also important to note that we only have short-term data for 2022 at present and so could not compare to whole year data from 2019. We have therefore compared 2 weeks from 2022 with the matching 2 weeks from 2019 as the baseline. Further technical information about the methodology can be found in appendix 2.



Target	2019 (Baseline)	2020 (COVID-19)	2021 (COVID-19)	2022 (Current)	Change vs baseline (%)
2030 targets					
Replace or remove 1 out of every 4 current car trips in Oxfordshire	N/A	N/A	N/A	+4.5% vs 2019	+4.5%
Increase the number of cycle trips in Oxfordshire from 600,000 to 1 million cycle trips per week	630,000 per week	570,000 per week	460,000 per week	N/A	N/A
Reduce road fatalities or serious injuries by 50%	233	225	246	306	+31%
2040 targets					
Deliver a net-zero transport network	1315.9 kt CO ₂	1058.3 kt CO ₂	N/A	N/A	N/A
Replace or remove an additional 1 out of 3 car trips in Oxfordshire	See 2030 targets	See 2030 targets	See 2030 targets	See 2030 targets	See 2030 targets
2050 targets					
Deliver a transport network that contributes to a climate positive future	See 2040 targets	See 2040 targets	See 2040 targets	See 2040 targets	See 2040 targets
Have zero, or as close as possible, road fatalities or serious injuries	See 2030 targets	See 2030 targets	See 2030 targets	See 2030 targets	See 2030 targets

Future trajectory

Having outlined the progress made on delivering the headline targets, this section provides a summary of the trajectories required to meet our targets. It should be noted that these trajectories have been calculated as an average annual percentage change required and are not forecasts or modelled predictions. Further information can be found in the analysis section.



Car trips

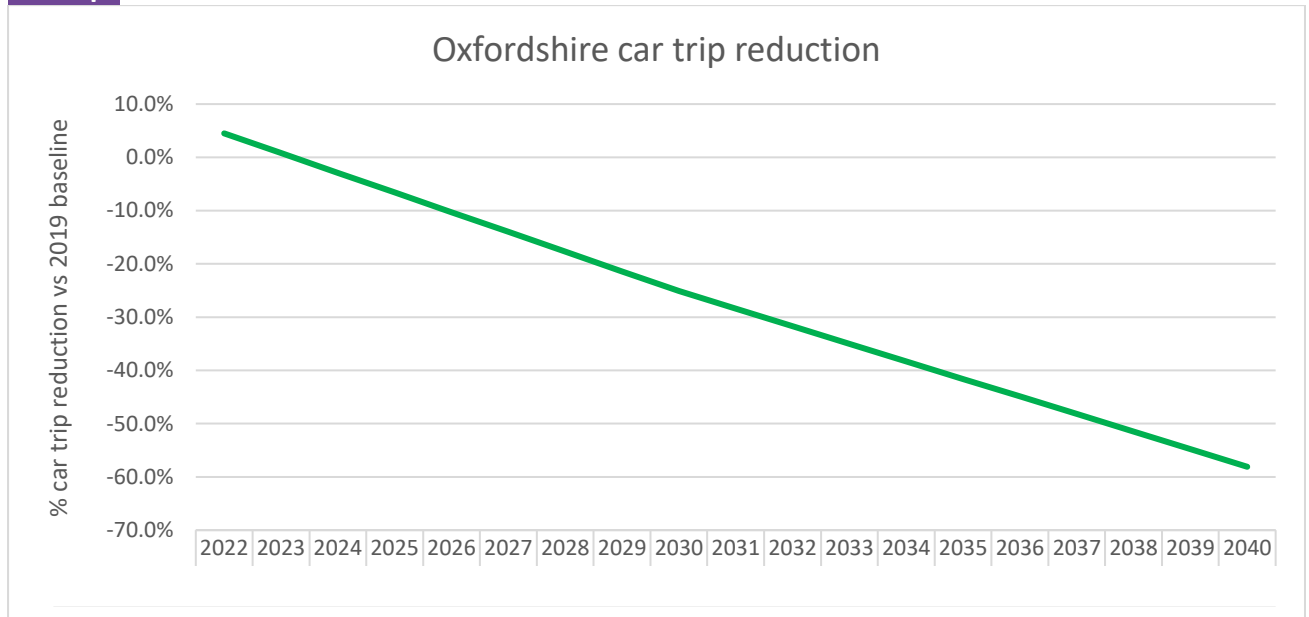


Figure 1 - Oxfordshire car trip reduction required per year to reach 2030 and 2040 targets from 2019 base

Cycle trips

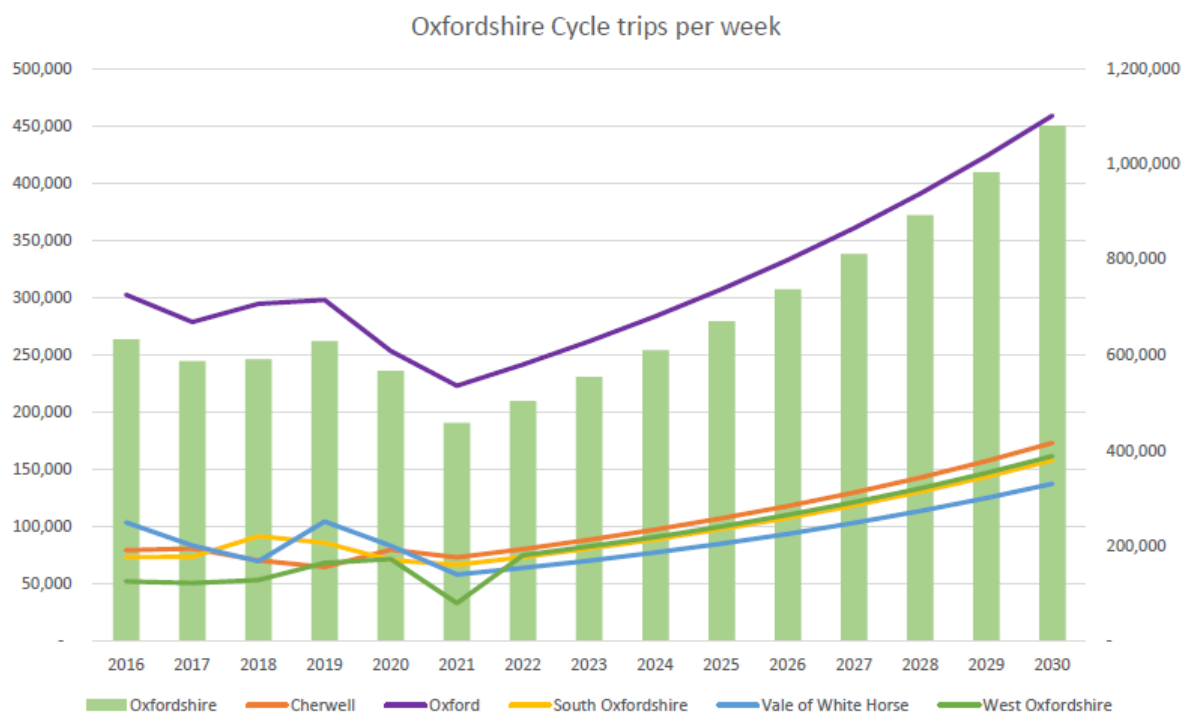


Figure 2 – Oxfordshire cycle trip data between 2016-2021 and cycle trip targets per week to reach 2030 target from 2021 base (Oxfordshire shown on right axis, districts on left axis)

Net-zero transport network

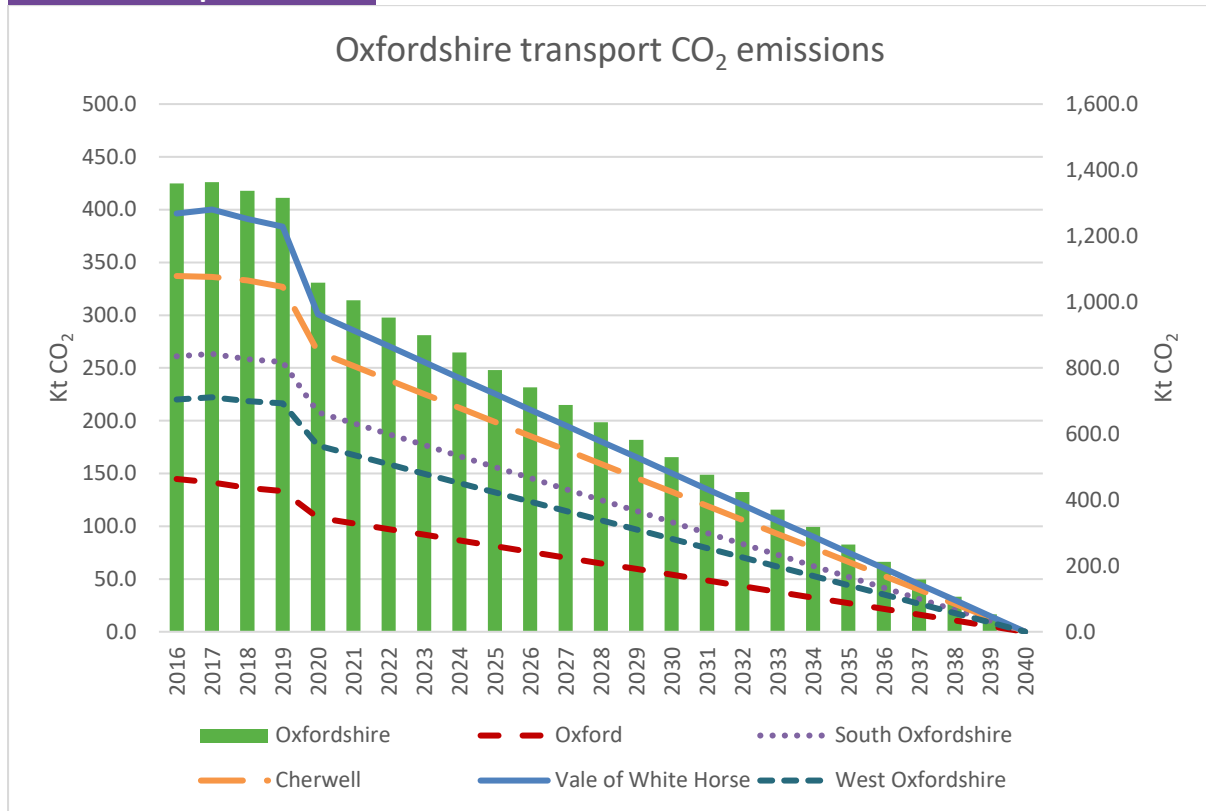


Figure 3 – Oxfordshire transport CO₂ emission data between 2016-2020 and yearly reduction targets to reach 2040 target from 2020 base (Oxfordshire on right axis, districts on left axis)

Road safety

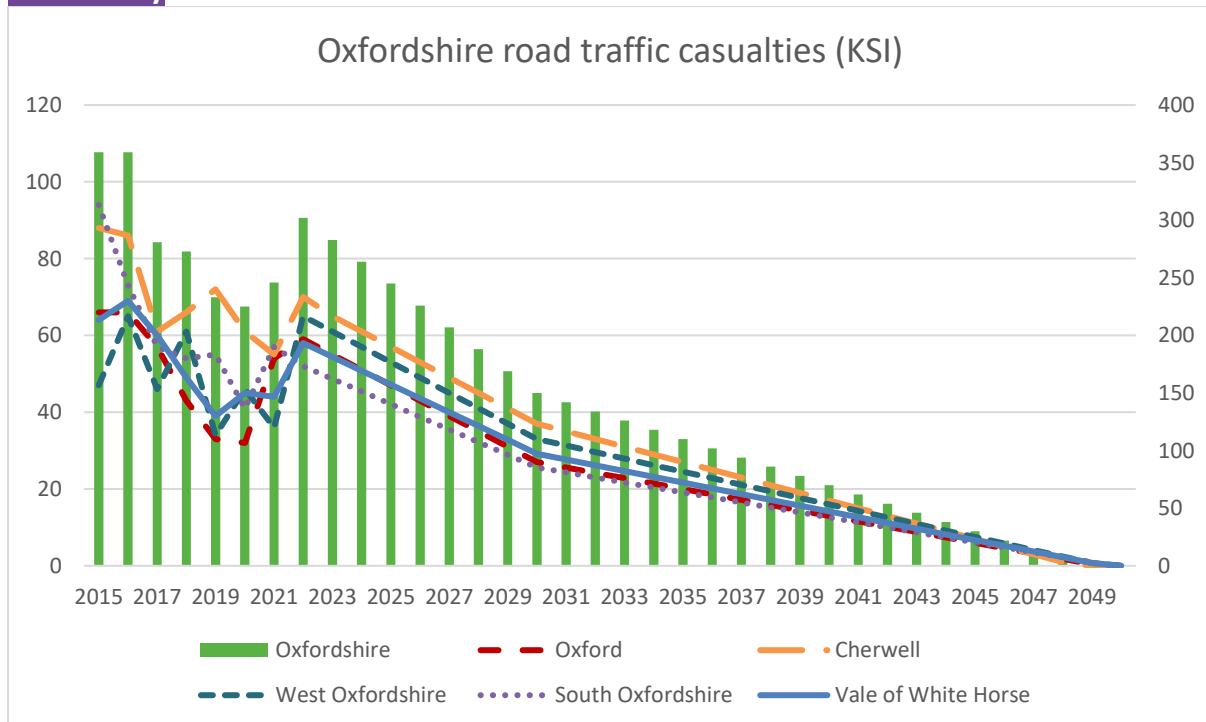


Figure 4 – Oxfordshire road traffic casualty (KSI) data between 2015-2022 and yearly reduction targets to reach 2030 and 2050 targets from 2022 base (Oxfordshire on right axis, districts on left axis)



Analysis

This section provides analysis of progress made on the headline targets and the future trajectories required to meet our targets. The analysis is structured according to the main target themes of car trips, cycle trips, net-zero transport network and road safety.

Car trips

As previously highlighted, our car trip monitoring uses percentage change from a sample of car trips. We only have short-term data for 2022 at present and so we have selected 2 weeks from 2022 to compare with 2019. 2019 was chosen as the baseline year due to the impacts of COVID-19 on traffic flow in 2020 and 2021.

The 2022 data is for 2 weeks in April, Saturday to Friday with a week gap. We have adjusted the 2019 dates back by 4 days to match the days of week and Easter. In these matching 2 weeks, the number of car trips increased by 4.5% in 2022 compared to 2019. There was a 5.0% increase in car trips on weekdays and 2.7% increase on weekends.

In order to reach the 2030 car trip reduction target (25% reduction vs 2019 baseline) there needs to be an annual average decrease of 3.7%. The 4.5% increase in car trips between 2019 and 2022 highlights the scale of this challenge. We will continue to work to refine our methodology and increase data sample sizes moving forward.

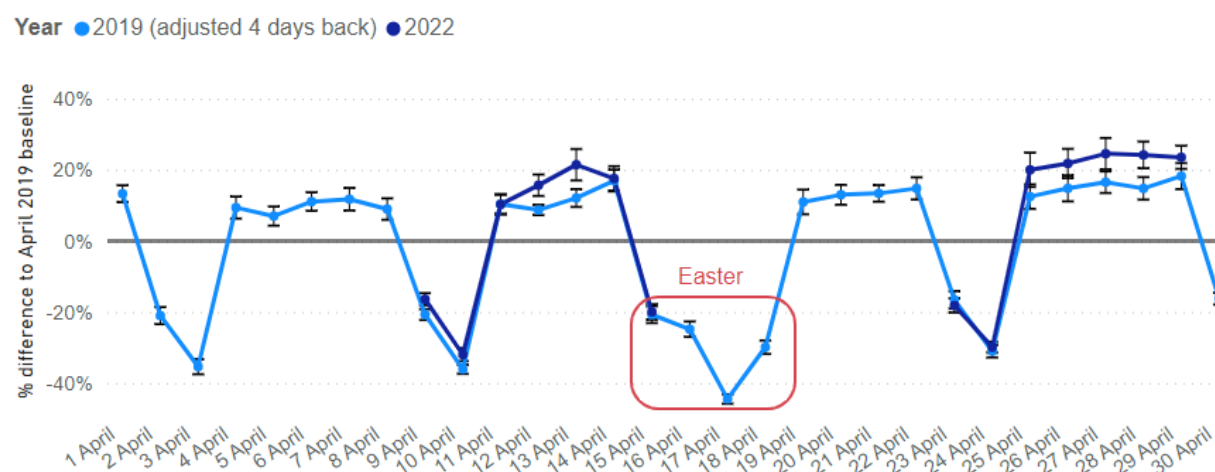


Figure 5 – Car trip percentage change between 2022 and 2019 baseline

Cycle trips

The number of cycling trips per week is calculated using data from Sport England’s Active Lives Survey. The most recent data available is from 2021 which is prior to publication of the LTCP and is also affected by COVID-19 lockdowns and restrictions which were in place throughout the year.

The data shows that the number of cycling trips in Oxfordshire in 2021 decreased by 25% compared to the 2019 baseline. This decrease reflects national trends and shows that changes to travel and work patterns as a result of COVID-19, such as increased working from home, have had a big impact on levels of cycling.



In order to achieve the 2030 targets from 2021 levels, there needs to be an annual increase in cycling trips per week of 8% in Oxford and 10% in the other Oxfordshire districts. We await publication of 2022 data to gain better understanding of the current situation and how cycling patterns have changed following the end of COVID-19 restrictions.

Net-zero transport network

Data about CO₂ emissions from transport is provided by the government and covers emissions within the scope of influence of local authorities. For transport, railways and motorways are therefore excluded. Owing to the time taken to collect, analyse and validate the data, the most recent data is for 2020. As with cycling trip data, this is prior to publication of the LTCP and coincides with the COVID-19 lockdowns that began in March 2020 and significantly reduced the amount of travel.

However, the data provides helpful insight into the broader trends associated with transport emissions in Oxfordshire. There was a notable 20% decrease in CO₂ emissions from transport between 2019 and 2020 but this is likely due to reduced travel as a result of COVID-19. 2020 data highlights the scale of the challenge to reach net-zero by 2040 as transport emissions were only reduced by 20% during a year with COVID-19 restrictions.

The graph in the future trajectory section shows that an annual average reduction of approximately 50.2 kt CO₂ is required to reach the 2040 net-zero transport network target. This is over double the rate achieved between 2018 and 2019 (21.4 kt CO₂ reduction) highlighting the need to accelerate transport decarbonisation work. The rate of reduction required may also be higher as it uses a 2020 base which was affected by COVID-19. We await publication of future data to gain better understanding of the current situation.

Road safety

Road safety data is compiled by the county council from reports submitted by the police for each road traffic collision resulting in a personal injury that they attend. In practice, it is known from various national studies using information from insurers and the NHS that quite a large number of injury collisions are not reported to the police. It is therefore acknowledged that the actual number of collisions and injuries on our roads is considerably higher than those analysed.

The proportion of collisions included in the police reports appears to be reasonably stable, and a very similar picture is found in other areas outside the county. The information therefore allows trends in road safety to be assessed with a good level of confidence.

There has over the longer term been a downward trend in reported collisions and injuries, reflecting a very wide range of factors such as road improvement schemes, improved vehicle safety and national and local measures to improve the training and skills of road users.

However, despite a longer term reduction, the number of road deaths and serious injuries has increased in recent years. The number of people killed or seriously injured (KSI) increased from 233 to 306 between 2019 and 2022. The number of KSI did not fall



significantly in the intermediate years of 2020 (225 KSI) and 2021 (246 KSI) despite lower traffic levels due to the COVID-19 pandemic.

Nationally, there has been a 6% decrease in KSI between 2019 and 2022. However, since 2020 the KSI trends observed in Oxfordshire generally match those observed in the wider Thames Valley Police (TVP) area and national trends. In the most recent year (2021 – 2022) the number of KSI increased by 16% in the Thames Valley Police Area and by 9% nationally.

We recognise that the increase in Oxfordshire is larger than the regional or national average. We are currently undertaking further analysis to help understand the data and once completed, we will publish more detailed analysis in our annual casualty report. Initial analysis of the broader trends suggests that the larger increase in KSI in Oxfordshire is unlikely to be due to any local factor and instead a reflection of the variability in a relatively small set of data when just looking at Oxfordshire.

As part of the LTCP we adopted a ‘Vision Zero’ commitment to eliminate all fatalities and severe injuries on Oxfordshire’s roads and streets by 2050. Our vision zero work is now underway, and we are seeking to work closely with partners and stakeholders on infrastructure, behaviour, technology and legislation to achieve this change.

The future trajectory section shows that an average KSI reduction of 19 per year is required to meet the 2030 target from the 2022 base. From 2030 there would then need to be an average KSI reduction of 8 per year to meet the 2050 vision zero target.

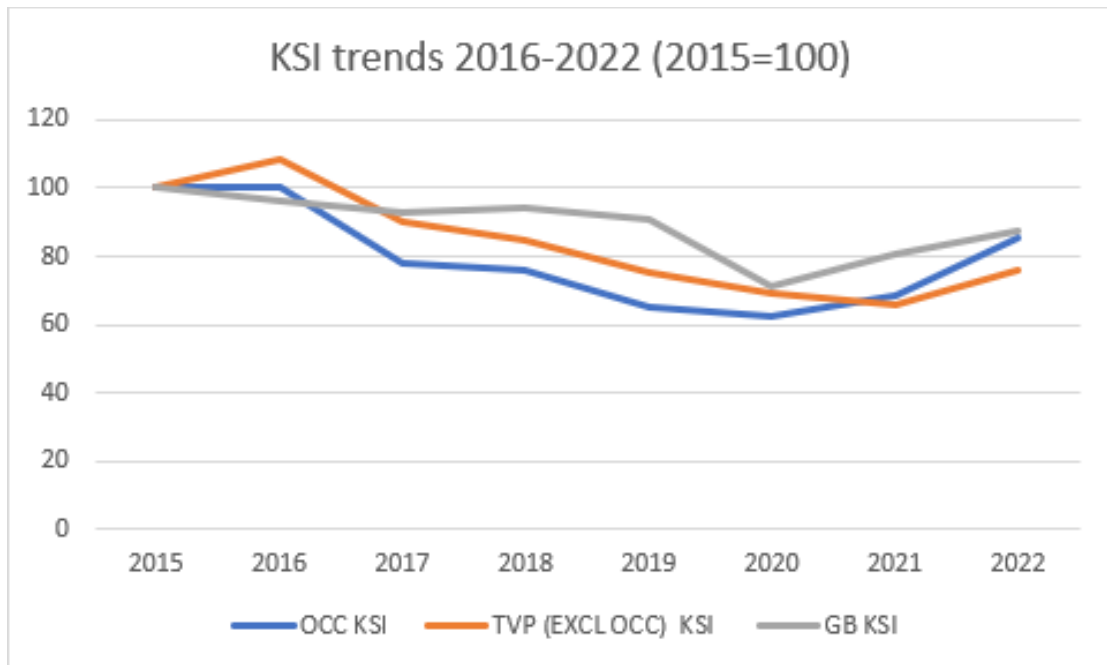


Figure 6 – Comparison of KSI trends in Oxfordshire, Thames Valley Police area excluding OCC and Great Britain against 2015 baseline



Key Performance Indicators

The following set of Key Performance Indicators were identified in the LTCP. We have not identified specific targets for all of the KPIs. Instead, all policies and schemes are working towards delivery of our headline targets.

The KPIs provide us with more detail about progress and identify potential areas for further work. Where applicable, national data has also been included to show Oxfordshire compared to national trends. This is helpful for highlighting where broader national trends and policy beyond the county council's control may be affecting travel.

There is not data for all KPIs in this annual monitoring report. This is because there are not currently data sources for some of the KPIs which were not previously monitored. We are conducting work on monitoring to address these data gaps for future reports. The sources used for the KPIs in this report can be found in appendix 1.

We are planning to conduct a countywide travel survey in Autumn 2023 which will provide further insight into the LTCP headline targets and KPIs. The survey will also allow us to collect data for some of the current data gaps.

Transport emissions

Indicator	Location	2019 (Baseline)	2020 (COVID-19)	2021 (COVID-19)	2022 (Current)
Road transport emissions	Oxfordshire	1315.9 kt CO ₂	1058.3 kt CO ₂	N/A	N/A
	UK	100,783.6 kt CO ₂	82,791.9 kt CO ₂	N/A	N/A

Analysis of the road transport emission data can be found in the headline target chapter. As shown on the table above, the reduction in CO₂ emissions from transport was slightly higher in Oxfordshire (20%) than the national average (18%). However, this reduction was likely as a result of reduced travel demand due to the COVID-19 pandemic in 2020.

Walking and cycling

Indicator	Location	2019 (Baseline)	2020 (COVID-19)	2021 (COVID-19)	2022 (Current)
% of adults that do any walking 3 times per week	Oxfordshire	48.3%	46.5%	44.9%	N/A
	England	44.2%	42.5%	42.9%	N/A
% of adults that walk for leisure 3 times per week	Oxfordshire	23.1%	33.3%	35.0%	N/A
	England	23.1%	29.1%	31%	N/A
% of adults that walk for travel 3 times per week	Oxfordshire	25.3%	15.3%	13.3%	N/A
	England	22.7%	15.1%	13.1%	N/A
% of adults that do any cycling 3 times per week	Oxfordshire	11.5%	10.2%	8.4%	N/A
	England	5.3%	5.3%	3.9%	N/A
% of adults that cycle for leisure 3 times per week	Oxfordshire	2.9%	4.1%	2.5%	N/A
	England	2.1%	2.8%	1.8%	N/A
% of adults that cycle for travel 3 times per week	Oxfordshire	8.5%	6.6%	5.5%	N/A
	England	3.1%	2.3%	2%	N/A
Number of walking trips	Oxfordshire	2,600,000	2,310,000	2,350,000	N/A



		per week	per week	per week	
	England	N/A	N/A	N/A	N/A
Number of cycling trips	Oxfordshire	630,000 per week	570,000 per week	460,000 per week	N/A
	England	N/A	N/A	N/A	N/A

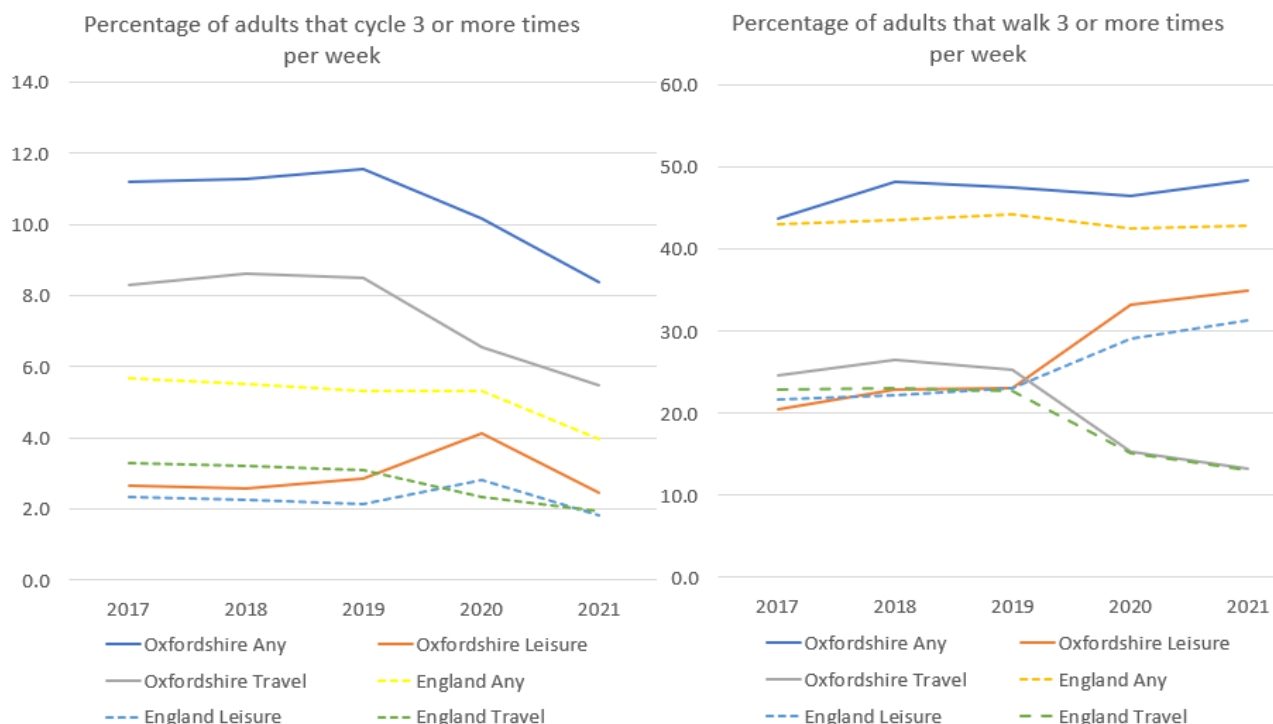


Figure 7 – Percentage of adults that walk or cycle 3 or more times per week. Oxfordshire trends are shown with the solid lines, national trends with the dashed lines.

The walking and cycling KPIs use data published by the Department for Transport and Sport England. The most recent data available is for 2021, as with other data, this is prior to publication of the LTCP and is affected by COVID-19. This data provides us with further understanding about the overall changes to cycle patterns covered in the headline target section.

The overall number of walking trips decreased by 9% in 2021 compared to the 2019 baseline. This decrease was less than that seen for cycling, possibly due to increases in the percentage of adults walking for leisure. There was also a decrease in the percentage of adults that do any walking and particularly those walking for travel at least 3 times per week.

There was a substantial 27% decrease in total number of cycle trips. This was primarily due to a reduction in the percentage of adults cycling for travel, which is likely related to the impact of COVID-19 restrictions and increased home working.

However, all of the changes to walking and cycling levels are broadly in line with national trends. Whilst some of the decreases have been larger in Oxfordshire, the levels of people walking or cycling remain higher in Oxfordshire than the national average for all purposes and frequencies.



Physical activity

Indicator	Location	2019 (Baseline)	2020 (COVID-19)	2021 (COVID-19)	2022 (Current)
% of adults meeting physical activity recommendations	Oxfordshire	73.6%	72.5%	73.4%	N/A
	England	67.2%	65.9%	67.3%	N/A
% of children meeting physical activity recommendations	Oxfordshire	58.4%	51.2%	46.6%	N/A
	England	44.9%	46.4%	47.2%	N/A

Further data and analysis of physical activity can be found in the [Oxfordshire Joint Strategic Needs Assessment 2022](#). Key points have been summarised in the following sections.

The percentage of adults meeting physical activity recommendations in Oxfordshire has largely remained the same since 2019, with a minor 0.2% decrease since 2019. A higher percentage of Oxfordshire adults meet the physical activity guideline than national figures (67.3%), but roughly 1 in 4 Oxfordshire adults do not. The percentage of physically active adults was lower in Asian, Black, and Chinese ethnic groups than the average and a higher percentage of males were physically active than females.

Nationally, the data shows that participation in physical activity is lower in older age groups, more deprived groups, unemployed or economically inactive groups, routine and manual workers, those who had never worked or were unemployed, and people with disability. Barriers to physical activity for those in more deprived areas include time, cost, lack of access to green space and safety concerns.

The percentage of children meeting physical activity recommendations has been decreasing in Oxfordshire since 2019. Whilst the current levels of children meeting physical activity recommendations is in line with the national average (47.2%), further work is required to understand and address this decreasing trend.

Healthy place shaping

Indicator	Location	Baseline (2019)	2020 (COVID-19)	2021 (COVID-19)	2022 (Current)
Average Healthy Streets score improvement	Oxfordshire	N/A	N/A	N/A	N/A
	England	N/A	N/A	N/A	N/A
20-minute neighbourhood index improvements	Oxfordshire	N/A	N/A	N/A	N/A
	England	N/A	N/A	N/A	N/A

Work is ongoing to embed use of the Healthy Streets Approach in County Council work and capture monitoring data. It is planned that the approach is piloted over the next year to score and monitor improvements delivered through the Vision Zero programme. Progress on this and the data captured will be summarised in the 2023-24 monitoring report.



Work is required to update the data that supports our 20-minute neighbourhood dashboard and investigate appropriate KPIs for future monitoring reports.

Road safety

Indicator	Location	2019 (Baseline)	2020 (COVID-19)	2021 (COVID-19)	2022 (Current)	Change vs baseline (%)
Total number of Killed or Seriously Injured (KSI)	Oxfordshire	233	225	246	306	+31%
	Great Britain	31,539	26,589	27,450	29,795	-6%
Pedestrian KSI	Oxfordshire	32	23	31	45	+41%
	Great Britain	7,043	5,861	4,734	6,161	-13%
Pedal cycle KSI	Oxfordshire	45	45	52	63	+40%
	Great Britain	4,392	4,156	4,596	4,365	-1%
Two-wheel motor vehicle KSI	Oxfordshire	45	47	57	66	+47%
	Great Britain	6,395	5,130	5,125	6,021	-6%
Motor vehicle KSI	Oxfordshire	111	108	106	132	+19%
	Great Britain	12,158	10,274	9,193	11,473	-6%

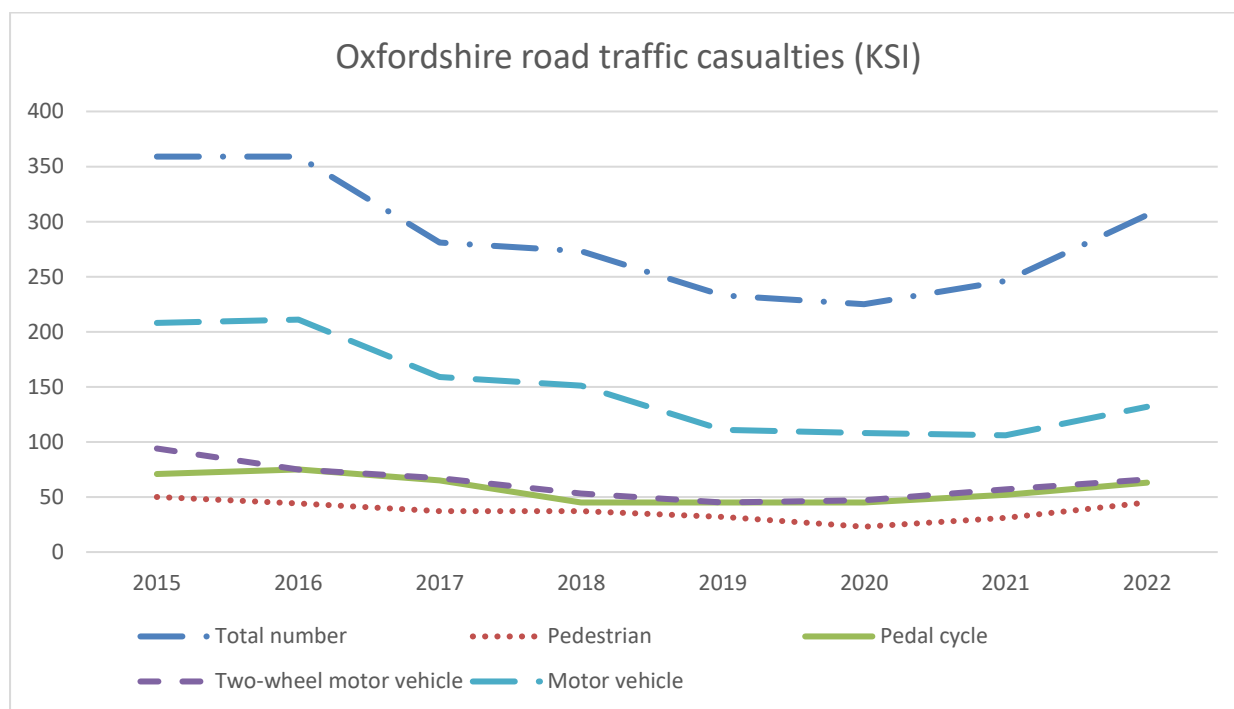


Figure 8 – Oxfordshire road traffic casualties (killed or seriously injured) since 2015

The number of people killed or seriously injured in Oxfordshire has decreased over the longer term. The number of people killed or seriously injured is lower for all modes than 2015. However, since 2019 there has been a slight increase in the number of KSI for all modes. Further analysis of the road safety data can be found in the headline target chapter.

As highlighted in the headline target chapter, since 2020 the KSI trends observed in Oxfordshire generally match the trends observed in the wider Thames Valley Police (TVP) area and national trends (the national figures for 2022 are currently provisional figures, we are awaiting publication of confirmed national data). Initial analysis of the broader trends



suggests that the larger increase in KSI in Oxfordshire is unlikely to be due to any local factor and instead a reflection of the variability in a relatively small set of data when just looking at Oxfordshire.

We are currently undertaking further analysis to help understand the data and once completed, we will publish more detailed analysis in our annual casualty report. More detailed analysis and further data from 2021 can be found in the [Oxfordshire County Council Road Traffic Collisions: Casualty Data Summary 2021](#).

Recognising the devastating impact of road casualties we have adopted a ‘Vision Zero’ commitment and our vision zero work is now underway.

Public transport

Indicator	Location	2019 (Baseline)	2020 (COVID-19)	2021 (COVID-19)	2022 (Current)
Passenger journeys on local bus services	Oxfordshire	40,700,000	11,700,000	25,500,000	N/A
	England	4,071,168,641	1,580,574,631	2,839,207,383	N/A
Passenger journeys on local bus services per head of the population	Oxfordshire	58.9	16.8	35.2	N/A
	England	72.3	27.9	50.2	N/A
Number of rail passenger journeys (rail station entries and exits)	Oxfordshire	21,700,000	3,950,376	12,600,000	N/A
	England	3,007,144,054	678,732,800	1,788,478,136	N/A
Number of park and ride passenger journeys	Oxfordshire	N/A	N/A	-38% vs 2019	N/A
	England	N/A	N/A	N/A	N/A

The latest available data regarding public transport trips is from 2021-2022. As highlighted in other sections of this report, this data coincides with the COVID-19 pandemic.

Bus patronage fell significantly during the COVID-19 pandemic. Bus patronage fell to 11.7 million in 2020, a 71% decrease from 2019. Bus patronage in 2021 increased to 2.8 million but this represents a 37% decrease in the number of passengers journeys compared to 2019-20. This decrease is slightly larger than the national average (-30%).

Similarly, rail passenger journeys fell significantly during the COVID-19 pandemic. The number of journeys fell to 3.9 million in 2020, an 82% decrease from 2019. As with bus patronage, the number of rail passenger journeys increased in 2021 to 12.6 million. This represents a 42% decrease from 2019 and is in line with the national trend (-41%).

We are not able to provide the overall number of journeys from park and ride sites due to it being commercially sensitive, but we are able to report on the aggregated percentage change. The data shows that there has been a 38% decrease in journeys from the park and ride sites between 2019-20 and 2021-22, this is in line with the trends seen with bus passenger journeys more generally.



We will continue to monitor bus patronage and await publication of the 2022-23 data for further analysis of the current situation. In the meantime, we are working to support public transports recovery including work to give buses greater priority in Oxford through the introduction of traffic filters, delivery of our Bus Service Improvement Plan and delivery of the Zero Emission Bus Regional Areas (ZEBRA) scheme.

Digital connectivity

Indicator	Location	2019 (Baseline)	2020	2021	2022	2023 (Current)	Change vs baseline (%)
Percentage of premises with superfast broadband	Oxfordshire	98%	97.7%	98.2%	98.4%	98.5%	+0.5%
	England	96%	96.2%	97.3%	97.6%	97.9%	+1.9%
Percentage of premises with full fibre broadband	Oxfordshire	10%	13.4%	17.4%	26.5%	39.9%	+29.9%
	England	6%	7.4%	22%	35.1%	49.5%	+43.8%

Digital connectivity data is updated monthly and so we have been able to include 2023 data for this KPI. As this data is regularly updated it is likely to have changed following production of this report. The ‘current’ data is accurate as of May 2023 and has been compared to data from May of previous years.

Oxfordshire has more premises with superfast broadband than the national average and it has increased since 2019. There has been a significant 29.9% increase in the percentage of premises with full fibre broadband since 2019. However, both the growth rate and overall percentage of premises are below the national averages. There are three factors influencing the (current) relatively low provision of full fibre in Oxfordshire:

- Rurality - In general, the more rural the county is, the more widely dispersed the premises are outside of the city and major towns. This makes the cost per premise of building full fibre infrastructure much higher and attracts less commercial investment.
- Most cities have good full fibre access which helps raise the average of the county. However, until September 2022 Oxford had just 2% full fibre coverage. We have worked hard to secure investment in Oxford and building has commenced raising the level to 15%. With such a high percentage of Oxfordshire premises in Oxford, this will make a big difference by the end of March 2024.
- Virgin Media has about 40% coverage across the county with their gigabit docsis network. This is patchy across Oxford and other market towns but typically disincentives alternative networks from investing in full fibre build.

The county council’s Digital Infrastructure Team have contributed to these changes by delivering projects such as Better Broadband for Oxfordshire which enabled over 90,000 premises to access superfast broadband. The team will continue to engage with fibre broadband operators to encourage investment in Oxfordshire, whilst also working with the government on digital infrastructure interventions in areas of market failure.



Air quality

Indicator	Location	2019 (Baseline)	2020 (COVID-19)	2021 (COVID-19)	2022 (Current)
Road transport emissions	Oxfordshire	1315.9 kt CO ₂	1058.3 kt CO ₂	N/A	N/A
	UK	100,783.6 kt CO ₂	82,791.9 kt CO ₂	N/A	N/A
Years of healthy life lost (DALYs) due to ambient particulate matter	Oxfordshire	2,300	N/A	N/A	N/A

Analysis of road transport emissions has been covered previously. Years of healthy life lost due to ambient particulate matter is included in the [Joint Strategic Needs Assessment](#) using a methodology from Public Health England. The last calculation was made in 2019 and so there is not an update for inclusion in this year's monitoring report.

It is worth highlighting that whilst transport contributes to particulate matter (PM) emissions it is not the largest source. Oxford City Council's most recent source appointment study found that domestic combustion is by far the largest contributor to particulate matter emissions in Oxford, contributing approximately 66% of PM2.5. emissions. Road transport only accounts for approximately 10% of total local emissions of particulate matter.

Private car

Indicator	Location	2019 (Baseline)	2020 (COVID-19)	2021 (COVID-19)	2022 (Current)	Change vs baseline (%)
Car vehicle miles	Oxfordshire	3,800,000,000	2,710,000,000	3,085,000,000	N/A	N/A
	England	225,160,000,000	169,561,000,000	189,675,000,000	N/A	N/A
Number of car trips	Oxfordshire	N/A	N/A	N/A	+4.5% vs 2019	+4.5%
	England	N/A	N/A	N/A	N/A	N/A
Number of registered battery EVs	Oxfordshire	1,704	3,564	5,022	9,804	+465%
	UK	90,859	193,993	379,221	628,984	+592%
Car ownership	Oxfordshire	82% (2011)	N/A	84%	N/A	N/A
	England	74% (2011)	N/A	76%	N/A	N/A



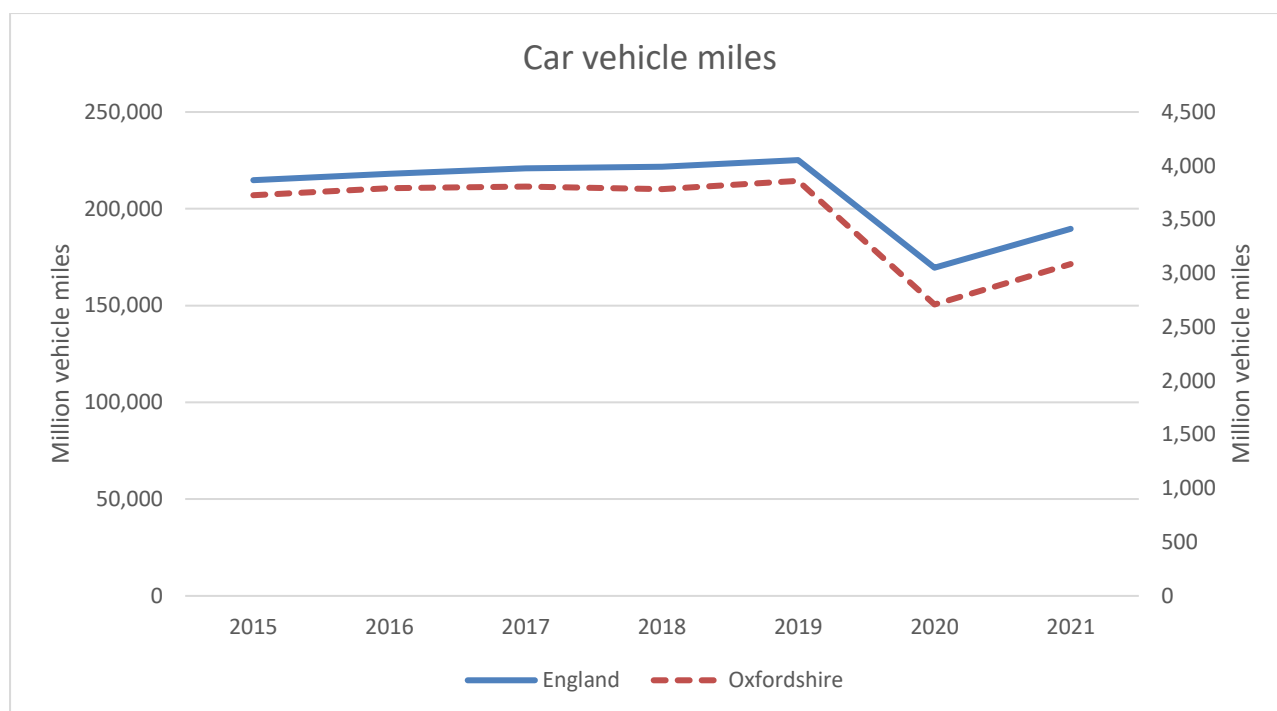


Figure 9 – Car vehicle mile trends in England (left axis) and Oxfordshire (right axis)

The most recent data for car vehicle miles is from 2021 and therefore is prior to the LTCP and affected by COVID-19. Car vehicle miles decreased by 19% in Oxfordshire in 2021 which is in line with the national average (-16%). The decreases observed are not likely to represent the current situation as traffic has largely returned to pre-COVID levels. We await publication of 2022 data to better understand the current situation. Analysis of car trips can be found in the headline target section.

Car ownership at the Oxfordshire level is currently best measured through the census. We now have outputs from the 2021 census which show that the percentage of households with access to 1 or more cars in Oxfordshire has increased by 2% compared to 2011. This change is in line with the national average (+2%). However, car ownership remains higher in Oxfordshire than the national average.

Car ownership is linked to car usage and increased car ownership also places pressure on road space. The LTCP seeks to improve the transport choices available and reduce reliance on the private car.

Whilst we know that there are many opportunities to reduce the number of car journeys and the length of journey, we recognise that the car will still be a part of Oxfordshire’s transport system. It is important to support the uptake of zero tailpipe emission vehicles so that where car journeys are made, they produce less emissions. As shown, there has been a significant uptake of battery electric vehicles in Oxfordshire since 2019.

The 475% increase in registered battery electric vehicles since 2019 is lower than the national average (592%). This is likely due to Oxfordshire being an early adopter of electric vehicles with a 353% increase in registered battery electric vehicles between 2016 and



2019. This was higher than the national average across the same time period (206% increase).

Battery electric vehicles represent approximately 2.13% of licensed cars in Oxfordshire and has increased from 0.38% of licensed cars in 2019. This figure is higher than the national average where battery electric vehicles represent approximately 1.66% of licensed cars. The county council continue to conduct a range of projects to support the uptake of electric vehicles, some of which are summarised later in this report.

Road highways maintenance condition

Indicator	Location	2018 (Baseline)	2023 (Current)	Change vs baseline (%)
Percentage of roads in good condition	Oxfordshire	47%	50%	+3%
	England	54%	50%	-4%
Percentage of roads in fair condition	Oxfordshire	43%	35%	-8%
	England	28%	32%	+4%
Percentage of roads in poor condition	Oxfordshire	10%	15%	+5%
	England	18%	18%	0%
Percentage of pavements / cycle ways in good condition	Oxfordshire	N/A	N/A	N/A
	England	N/A	N/A	N/A
Percentage of pavements / cycle ways in fair condition	Oxfordshire	N/A	N/A	N/A
	England	N/A	N/A	N/A
Percentage of pavements / cycle ways in poor condition	Oxfordshire	N/A	N/A	N/A
	England	N/A	N/A	N/A

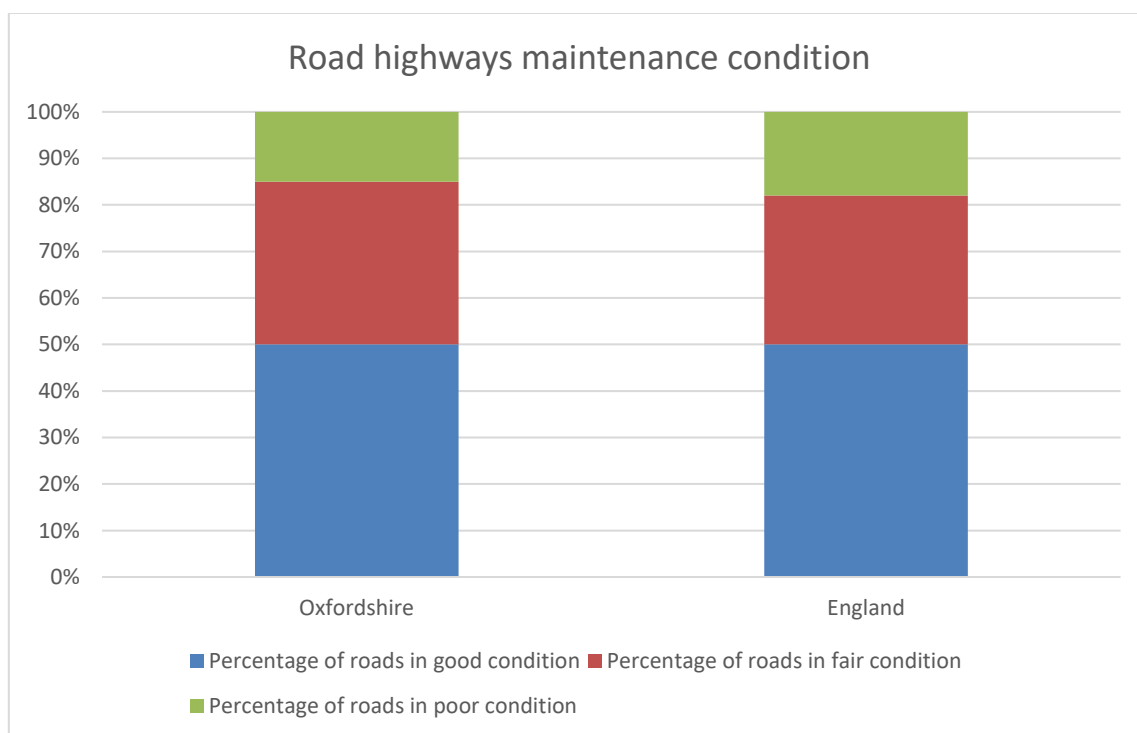


Figure 10 – 2023 road highways maintenance condition in England and Oxfordshire



The percentage of roads in 'Good' condition has increased since 2017-18. This is in contrast to a decreasing national trend and the number of roads in 'Good' condition is now in line with the national average.

Whilst the percentage of roads in 'Fair' condition has decreased, Oxfordshire has more roads in 'Fair' condition than the national average (35% compared to 32%). Similarly, Oxfordshire has fewer roads in 'Poor' condition than the national average (15% compared to 18%).

There is not currently a readily available data source about the condition of pavements and cycle ways. We will work to investigate this for future monitoring reports.



Delivery over the last year

This section provides an overview of progress made on delivering the LTCP policies over the last year (July 2022 – July 2023). The section is structured according to the LTCP policy focus areas to highlight the progress made in each policy area.

This section demonstrates the significant level of delivery made since the LTCP's adoption in July 2022. However, as noted previously in this report, much of the latest data is from before the LTCP's implementation and owing to the time it will take to significantly change travel patterns in the county, the impacts of this work will not immediately be seen in future monitoring reports. We will therefore continue to deliver programmes of improvements across the county and monitor the impacts of these alongside the annual monitoring of the broader LTCP targets and KPIs.

Walking and cycling

- Abingdon-on-Thames, Banbury and Witney Local Cycling and Walking Infrastructure Plans approved.
- Strategic Active Travel Network developed.
- Delivery of 10 km of Quickway cycle routes in East Oxford including extensions of 20mph.
- Approval of Low Traffic Neighbourhoods in Cowley area and delivery of 18 km of Quietway cycle routes within LTN areas.
- 19 Active Oxfordshire community activation projects run with 379 participants.
- 711 Street Tag users walking approximately 172 million steps and 228,193 miles (September 2022 - February 2023).
- 157 schools registered to use Street Tag, of which 147 are active.

Healthy place shaping

- 7 school travel plans nationally accredited. A further 283 schools are registered on the travel plan platform, and we are or have been actively working with many of these, with many nearing accreditation.
- 4 school streets made permanent.
- Co-production with Abingdon-on-Thames Town Councillors, Oxford Bus Company and Abingdon Liveable Streets to refine the Abingdon-on-Thames 20mph zone proposals.

Road safety

- As part of tranche 1 of the 20mph programme we have delivered 22% (51 out of 231) of the town and parish councils.
- We have a further 137 20mph zones planned as part of tranches 2 and 3. This will take the programme total to 82% of all town and parish councils having a 20mph.
- Vision zero summit held in November 2022 and strategy under development.



Public transport

- Investment to secure new bus service to Risinghurst and Northway, in Oxford, (Stagecoach route 14) following withdrawal of previous services.
- Bus Enhanced Partnership formally made with bus operators in January 2023.
- Transport hub strategy completed and approved in June 2023.

Digital connectivity

- Delivered or delivering a number of digital infrastructure projects:
 - Businesses in Rural Oxfordshire – European Agricultural Fund for Rural Development funded contracts with BT and Airband delivering ultrafast fibre broadband to rural Oxfordshire, focused on improving business productivity.
 - GigaHubs – Contract with Neos Networks to connect over 200 public service sites with gigabit-capable broadband.
 - 5G Coverage – Collaboration with FreshWave to utilise existing street furniture to rollout of 5G across Oxford.
 - Project Gigabit – Government funding of up to £114m to extend full-fibre coverage to over 68,000 hard-to-reach premises in Oxfordshire & West Berkshire.
 - Building Digital UK Gigabit Voucher scheme, subject to availability/timing of Project Gigabit.
 - County Council procurement of broadband connectivity for all council buildings.
 - Better Broadband for Oxfordshire – Contract completed enabling over 90,000 premises to access superfast broadband. The contract savings and income generation entirely fund the programme's ongoing costs.

Environment, carbon and air quality

- Park and Charge Oxfordshire completed, installing EV charging hubs in 20 council-owned car parks across the county.
- Electric vehicle car club pilot launches across the county in partnership with the City and District councils and commercial car club operators.

Network, parking and congestion management

- Network management plan 2023-28 approved by cabinet in February 2023. Includes hierarchy of road users and priority for roadworks in line with the LTCP.
- Updated Highway Infrastructure Asset Maintenance Approach approved by cabinet in September 2022. Includes consideration of LTCP priorities.
- Updated parking standards approved by cabinet in October 2022.
- Implementing Decide & Provide: Requirements for Transport Assessments document approved by cabinet in September 2022. This is one of the first, if not the first, document of its kind to be produced by a Local Highway Authority in England.

Innovation

- Launch of the UK's first fully electric autonomous bus service in Milton Park in March 2023.



- Funding secured from Innovate UK and project commenced in August 2022 to plan an unmanned aerial vehicle superhighway, covering between Reading, Milton Keynes, Coventry, Cambridge and Oxford.
- Earliest adopter of the Innovation Framework approach submitted a high level 'Innovation Plan', describing how the site will incorporate Innovation Framework principles, with their Outline planning application in March 2023.

Data

- LTCP monitoring report produced.
- Car trip monitoring framework established.

Freight and logistics

- Area weight restriction study completed.
- Oxfordshire Freight Steering Group established.
- Funding secured from Horizon Europe for a freight consolidation pilot in Oxford, with project commencing in January 2023.

Regional connectivity and cross-boundary working

- Ongoing engagement with neighbouring local authorities and sub-national transport bodies.

Local connectivity

- Central Oxfordshire Travel Plan approved by cabinet in November 2022.
- First phase of Didcot area travel plan has been completed.
- 3 area travel plans under development.
- A4074 and A44 corridor travel plans completed.



Future delivery

Good progress has been made on delivering the LTCP in this first year. However, we recognise that there is still a long way to go if we are to deliver our vision and targets for transport in Oxfordshire. We will therefore continue to work hard on delivering the LTCP over the next year.

It is important to note that councils no longer receive funding directly to spend on transport improvements and we do not currently have funding for all of the proposals identified. We will therefore continue to work hard to identify funding sources and bid for every suitable opportunity.

Over the next year we will continue work in all of the LTCP policy areas. Some key areas of planned work include:

- Development of LTCP part 2 supporting strategies, see next section for further detail.
- Development of LCWIPs for Charlbury, Chipping Norton, Thame, Wantage & Grove and Woodstock.
- Banbury Cherwell Street bus lane design work as part of the bus service improvement plan.
- Begin delivery of the Zero Emission Bus Regional Area (ZEBRA) in partnership with the bus operators.
- Begin delivery of transport hub programme utilising £0.5m funding allocated in the County Council’s 2023/24 budget.
- Delivery of countywide community transport initiatives utilising £1.2m funding allocated in the County Council’s 2023/24 budget.
- Improvements to bus information utilising £100,000 funding allocated in the County Council’s 2023/24 budget.
- Further development of school streets programme utilising £500,000 funding allocated in the County Council’s 2023/24 budget.
- Rail development and study work utilising £100,000 funding allocated in the County Council’s 2023/24 budget.

Work will continue to monitor the targets and KPIs for inclusion in the 2023-24 annual monitoring report. As well as year to year trends, future reports will also evaluate longer term trends and geographic differences where feasible. Owing to the time taken to achieve significant modal shift, longer term trends will be critical to judging the success of the LTCP.

Part 2 supporting strategies

Following adoption of the LTCP, work has commenced on developing the ‘Part 2’ supporting strategies. An update on progress with these strategies is provided below.

Strategy	Update
Area travel plans	<ul style="list-style-type: none"> • Central Oxfordshire Travel Plan approved by cabinet in November 2022. • The first phase of a Didcot travel plan was completed



	<p>so that it can feed into a wider Didcot/Wantage/Grove (Science Vale) travel plan.</p> <ul style="list-style-type: none"> • Work is progressing on the Abingdon-on Thames, Bicester and Witney travel plans. • Initial work has been undertaken for the Banbury travel plan, with an engagement session with local businesses. • The Banbury, Science Vale, Carterton and Woodstock travel plans are expected to be the next ones developed.
Corridor travel plans	<ul style="list-style-type: none"> • A44 and A4074 travel plans completed, approval process and date to be confirmed. • The A41, A40 and A420 travel plans are expected to be the next ones developed.
Rail strategy	<ul style="list-style-type: none"> • Work planned to commence later in 2023.
Walking and cycling design guidance	<ul style="list-style-type: none"> • Work planned to commence later in 2023.
EV infrastructure strategy	<ul style="list-style-type: none"> • Work planned to commence later in 2023 on updating the Oxfordshire Electric Vehicle Infrastructure Strategy.



Central Oxfordshire Travel Plan

In support of the LTCP, a set of area and corridor travel plans are being developed. The area and corridor travel plans will outline how the LTCP vision and outcomes are delivered in locations across the county. They will create more detailed plans that can be used to guide future scheme development, funding bids, responses to planning applications and developer contributions.

The Central Oxfordshire Travel Plan (COTP) was the first area travel plan produced and approved by cabinet in November 2022. The strategy includes a set of KPIs to monitor progress which will be annually reported on through the LTCP monitoring report. The COTP monitoring has been included in the main LTCP monitoring report this year, we will publish a separate supporting report as further area travel plans are approved.

Many of the COTP KPIs align with those in the LTCP to provide consistency between the overarching policy document and individual area travel plans. Where possible, data for the COTP area has been identified and compared to both the countywide and national trends. However, some of the data is only available at the countywide level.

Furthermore, the COTP geographic area does not align with administrative boundaries and is therefore challenging to collect data for. For this report we have used data for Oxford as this constitutes the majority of the COTP area. We will work to improve and review our monitoring methodology moving forward.

The data sources used to monitor COTP are the same as those used for the LTCP. Previous commentary about data sources and limitations such as the impacts of COVID-19, are therefore the same and have not been repeated in full to prevent duplication.

Transport emissions

Indicator	Location	2019 (Baseline)	2020 (COVID-19)	2021 (COVID-19)	2022 (Current)
Road transport emissions	Oxford	133.2 kt CO ₂	108.2 kt CO ₂	N/A	N/A
	Oxfordshire	1315.9 kt CO ₂	1058.3 kt CO ₂	N/A	N/A
	UK	100,783.6 kt CO ₂	82,791.9 kt CO ₂	N/A	N/A

Road transport emissions decreased by 19% in Oxford between 2019 and 2020, this was similar to the countywide average (20%). However, as highlighted in the headline target chapter this coincides with the COVID-19 lockdowns that began in March 2020 and significantly reduced the amount of travel.

Walking and cycling

Indicator	Location	2019 (Baseline)	2020 (COVID-19)	2021 (COVID-19)	2022 (Current)
% of adults that do any walking 3 times per week	Oxford	54.9%	51.9%	51.8%	N/A
	Oxfordshire	48.3%	46.5%	44.9%	N/A
	England	44.2%	42.5%	42.9%	N/A



% of adults that walk for leisure 3 times per week	Oxford	13.9%	29.3%	27.1%	N/A
	Oxfordshire	23.1%	33.3%	35%	N/A
	England	23.1%	29.1%	31%	N/A
% of adults that walk for travel 3 times per week	Oxford	35.6%	31.3%	24%	N/A
	Oxfordshire	25.3%	15.3%	13.3%	N/A
	England	22.7%	15.1%	13.1%	N/A
% of adults that do any cycling 3 times per week	Oxford	25.3%	20.8%	19.1%	N/A
	Oxfordshire	11.5%	10.2%	8.4%	N/A
	England	5.3%	5.3%	3.9%	N/A
% of adults that cycle for leisure 3 times per week	Oxford	3.7%	6.6%	3.8%	N/A
	Oxfordshire	2.9%	4.1%	2.5%	N/A
	England	2.1%	2.8%	1.8%	N/A
% of adults that cycle for travel 3 times per week	Oxford	22%	16.6%	14.4%	N/A
	Oxfordshire	8.5%	6.6%	5.5%	N/A
	England	3.1%	2.3%	2%	N/A
Number of walking trips	Oxford	650,000 per week	560,000 per week	595,000 per week	N/A
	Oxfordshire	2,600,000 per week	2,310,000 per week	2,350,000 per week	N/A
	England	N/A	N/A	N/A	N/A
Number of cycling trips	Oxford	300,000 per week	250,000 per week	225,000 per week	N/A
	Oxfordshire	630,000 per week	570,000 per week	460,000 per week	N/A
	England	N/A	N/A	N/A	N/A

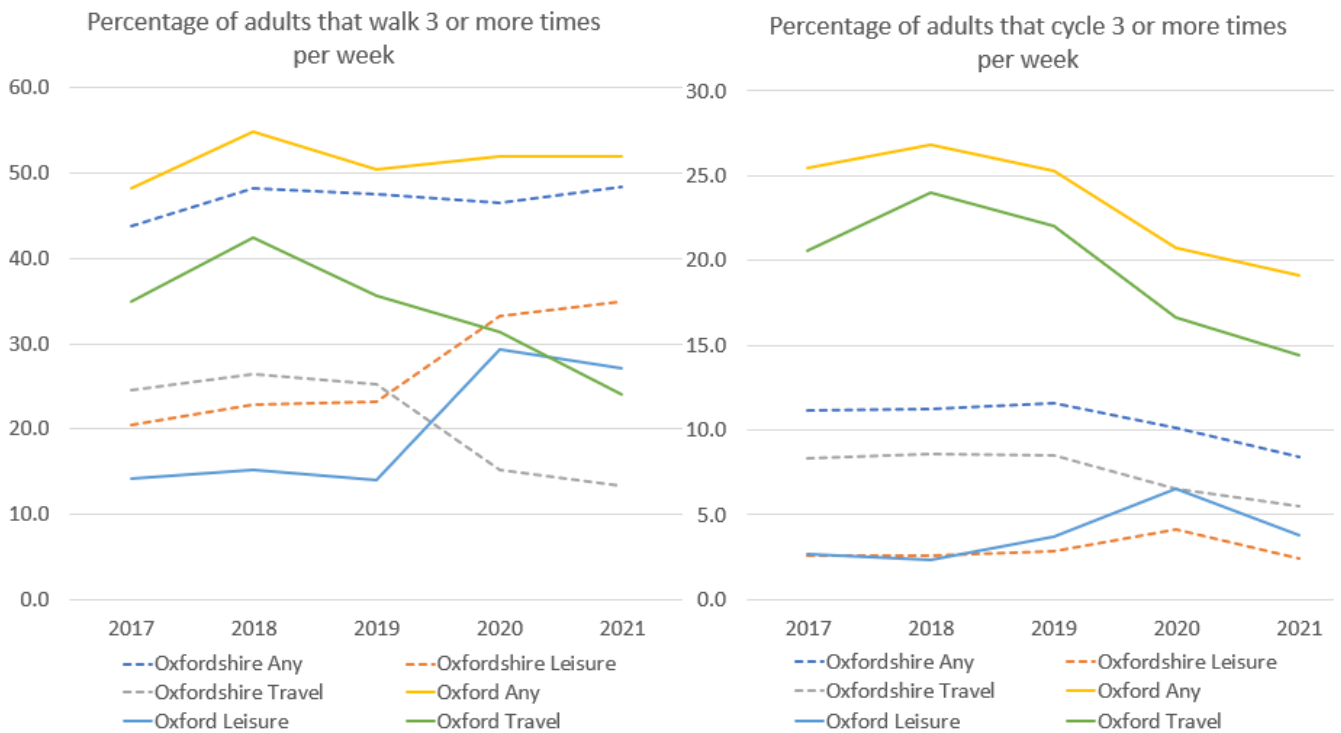


Figure 11 – Percentage of adults that walk or cycle 3 or more times per week. Oxford trends are shown with the solid lines, countywide averages with the dashed lines.

As highlighted previously, the walking and cycling KPIs use data for 2021, this is prior to publication of the LTCP and COTP and is also affected by COVID-19.

Oxford shows similar trends to the countywide averages for walking between 2019 and 2021. The overall number of trips fell by 9% between 2019 and 2021 which is in line with the countywide average (-10%). Similarly, the percentage of adults walking at least 3 times per week generally followed countywide trends.

Oxford also shows similar cycling trends to the countywide average, with the overall number of trips falling by 25% between 2019 and 2021 in line with the countywide average (-37%). Decreases in the percentage of adults that do any cycling or cycle for travel at least three times per week were larger in Oxford than the countywide average but the percentage of adults that cycle for leisure increased slightly in contrast to a slight decrease to the countywide and national averages.

The number and percentage of adults walking and cycling in Oxford remains higher than the countywide and national average. In particular, the number of cycling trips and the percentage of adults that do any cycling or cycling for travel at least three times per week are significantly higher than the countywide and national averages.

Physical activity

Indicator	Location	2019 (Baseline)	2020 (COVID-19)	2021 (COVID-19)	2022 (Current)
% of adults meeting physical activity recommendations	Oxford	74.4%	76.2%	75.9%	N/A
	Oxfordshire	73.6%	72.5%	73.4%	N/A
	England	67.2%	65.9%	67.3%	N/A
Percentage of children meeting physical activity recommendations	N/A	N/A	N/A	N/A	N/A

A higher percentage of Oxford adults meet the physical activity guideline than the countywide average. The level is also considerably higher than the national (65.9%) and regional averages (69.2%). Oxford is the district with the highest percentage of adults meeting physical activity recommendations in Oxfordshire.

Data about the percentage of children meeting physical activity recommendations is not available for Oxford. Further data and analysis of physical activity can be found in the LTCP KPI section of this report or the [Oxfordshire Joint Strategic Needs Assessment 2022](#).

Healthy place shaping

Indicator	Location	Baseline (2019)	2020 (COVID-19)	2021 (COVID-19)	2022 (Current)
Average Healthy Streets score improvement	N/A	N/A	N/A	N/A	N/A
20-minute	N/A	N/A	N/A	N/A	N/A



neighbourhood index					
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An update on work to monitor healthy place shaping KPIs can be found in the LTCP KPI section of this report.

Road safety

Indicator	Location	2019 (Baseline)	2020 (COVID-19)	2021 (COVID-19)	2022 (Current)	Change vs baseline (%)
Total number of Killed or Seriously Injured (KSI)	Oxford	33	32	54	59	+79%
	Oxfordshire	233	225	246	306	+31%
	Great Britain	31,539	26,589	27,450	29,795	-6%
Pedestrian KSI	Oxford	8	5	16	10	+25%
	Oxfordshire	32	23	31	45	+41%
	Great Britain	7,043	5,861	4,734	6,161	-13%
Pedal cycle KSI	Oxford	20	16	20	27	+35%
	Oxfordshire	45	45	52	63	+40%
	Great Britain	4,392	4,156	4,596	4,365	-1%
Two-wheel motor vehicle KSI	Oxford	2	6	14	14	+600%
	Oxfordshire	44	45	52	66	+47%
	Great Britain	6,395	5,130	5,125	6,021	-6%
Motor vehicle KSI	Oxford	3	5	4	8	+167%
	Oxfordshire	111	108	106	132	+19%
	Great Britain	12,158	10,274	9,193	11,473	-6%

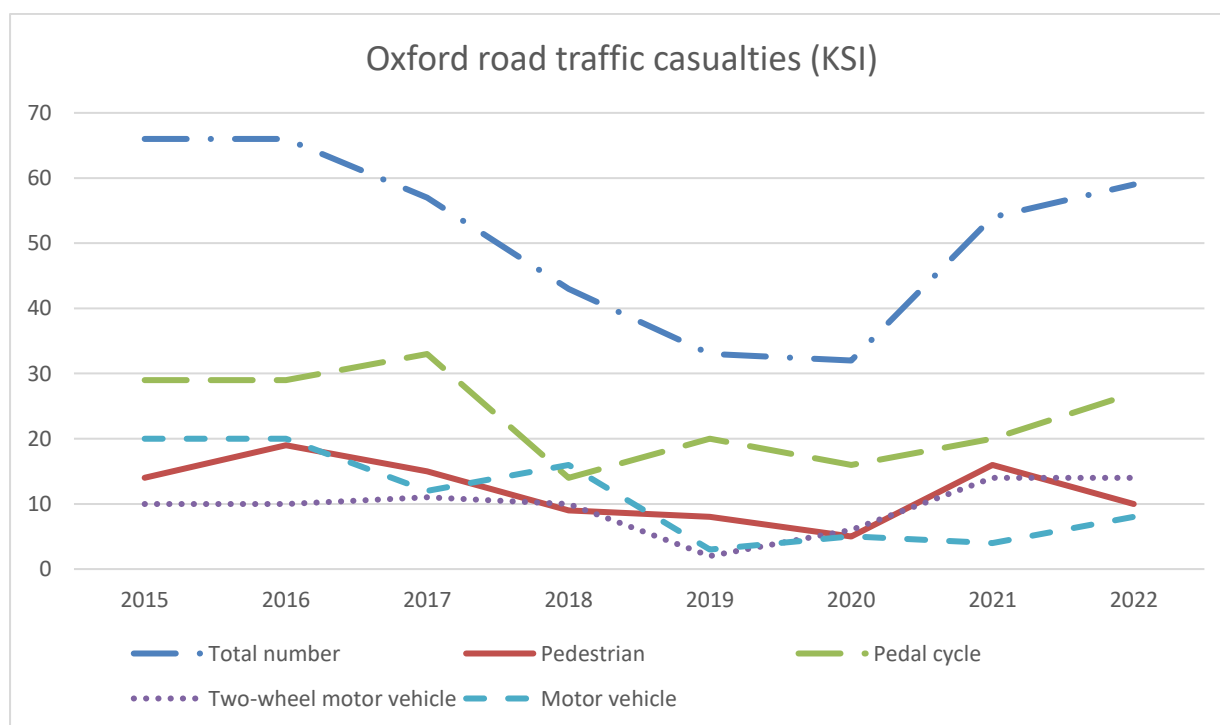


Figure 12 – Oxford road traffic casualties (killed or seriously injured) since 2015



Background to the road safety data can be found in the headline target chapter and some analysis of countywide trends in the LTCP KPI section. More detailed analysis and further data from 2021 can be found in the [Oxfordshire County Council Road Traffic Collisions: Casualty Data Summary 2021](#).

Oxford has the highest proportion of pedal cyclist road casualties in the county with 43% of the countywide total. However, Oxford has the lowest proportion of car occupant casualties with 6% of the countywide total. This reflects the different geography and travel patterns in Oxford compared to the rest of the county.

As shown in the table above the number of road deaths and higher severity injuries has decreased over the longer term but there has been an increasing trend since 2019, in line with the countywide average. There have been particularly concerning increases in the number of motor vehicle and motorcycle casualties in Oxford. As previously outlined, we are currently conducting detailed analysis to help understand these trends and will publish more analysis and further data in our annual casualty report.

Recognising the need to address these trends we adopted a ‘Vision Zero’ commitment in the LTCP. The COTP builds on this commitment and includes actions to help meet vision zero in the COTP area.

Public transport

Indicator	Location	2019 (Baseline)	2020 (COVID-19)	2021 (COVID-19)	2022 (Current)
Passenger journeys on local bus services	N/A	N/A	N/A	N/A	N/A
Bus journey times	Oxford	N/A	N/A	N/A	N/A
	Oxfordshire	N/A	N/A	N/A	N/A
	England	N/A	N/A	N/A	N/A
Number of rail passenger journeys (rail station entries and exits)	Oxford	8,702,368	1,574,610	5,013,078	N/A
	Oxfordshire	21,700,000	3,950,376	12,600,000	N/A
	England	3,007,144,054	678,732,800	1,788,478,136	N/A
Number of park and ride passenger journeys	Oxford	N/A	N/A	-38% vs 2019	N/A
	England	N/A	N/A	N/A	N/A

Bus passenger journey data is only available at the countywide level, analysis can be found in the LTCP KPI section. The park and ride sites are all located in Oxford and so the data is the same as the LTCP KPI section.

We do not have data to include about changes to bus journey times for this year. We will work to establish a methodology moving forward and include data in future years reports. This work will align with other related workstreams such as ZEBRA.

The number of rail passengers fell at Oxford station by 42% between 2019 and 2021, in line with the countywide average (-42%) and national averages (-41%). As highlighted previously,



these figures are affected by COVID-19 and we will continue to review public transport usage.

Digital connectivity

Indicator	Location	2019 (Baseline)	2020	2021	2022	2023 (Current)	Change vs baseline (%)
Percentage of premises with superfast broadband	Oxford	99%	99.1%	99.3%	98.8%	98.9%	-0.1%
	Oxfordshire	98%	97.7%	98.2%	98.4%	98.5%	+0.5%
	England	96%	96.2%	97.3%	97.6%	97.9%	+1.9%
Percentage of premises with full fibre broadband	Oxford	0.3%	0.6%	1.1%	2.1%	15.1%	+14.8%
	Oxfordshire	10%	13.4%	17.4%	26.5%	39.9%	+29.9%
	England	6%	7.4%	22%	35.1%	49.5%	+43.8%

There has been a slight decline in the percentage of premises in Oxford with superfast broadband, but it remains above both the countywide (98.5%) and national averages (97.8%). There has been a 14.8% increase in the percentage of premises with full fibre broadband since 2019. As highlighted in the LTCP KPI section, we have worked hard to secure investment in Oxford and building has commenced on new full fibre networks which will further increase these levels in future years.

Air quality

Indicator	Location	2019 (Baseline)	2020 (COVID-19)	2021 (COVID-19)	2022 (Current)
Road transport emissions	Oxford	133.2 kt CO ₂	108.2 kt CO ₂	N/A	N/A
	Oxfordshire	1315.9 kt CO ₂	1058.3 kt CO ₂	N/A	N/A
	UK	100,783.6 kt CO ₂	82,791.9 kt CO ₂	N/A	N/A
Years of healthy life lost (DALYs) due to ambient particulate matter	N/A	N/A	N/A	N/A	N/A

Analysis of road transport emissions has been covered previously in this section. Years of healthy life lost due to ambient particulate matter is currently only calculated at the countywide level.

Private car

Indicator	Location	2019 (Baseline)	2020 (COVID-19)	2021 (COVID-19)	2022 (Current)	Change vs baseline (%)
Car vehicle miles	N/A	N/A	N/A	N/A	N/A	N/A
Number of car trips	N/A	N/A	N/A	N/A	N/A	N/A
Number of	Oxford	221	377	584	867	+292%



registered battery EVs	Oxfordshire	1,704	3,564	5,022	9,804	+465%
	UK	90,859	193,993	379,221	628,984	+592%
Car ownership	Oxford	67% (2011)	N/A	68%	N/A	N/A
	Oxfordshire	82% (2011)	N/A	84%	N/A	N/A
	England	74% (2011)	N/A	76%	N/A	N/A

Data for car vehicle miles is only available at the countywide level and the number of car trips is not currently possible to calculate for specific towns. This is because the sample size of trips being used is not robust enough if narrowed down to an individual town level. In light of this, we will review the COTP KPIs and alternative ways of capturing this data.

As highlighted previously, car ownership is best measured through the census. The 2021 census shows that the percentage of households with access to 1 or more cars in Oxford has increased by 1% compared to 2011. Car ownership remains much lower in Oxford than the countywide average (84%) and has increased at a slightly lower rate.

The 292% increase in registered battery electric vehicles in Oxford since 2019 is lower than the countywide and national averages. Oxford is the district with the lowest number of battery electric vehicles in the county, however due to the much lower levels of car ownership there is a higher overall proportion of electric vehicles than some districts.

Road highways maintenance condition

Indicator	Baseline	Current	Change vs baseline (%)
Percentage of roads in good condition	N/A	N/A	N/A
Percentage of roads in fair condition	N/A	N/A	N/A
Percentage of roads in poor condition	N/A	N/A	N/A
Percentage of pavements / cycle ways in good condition	N/A	N/A	N/A
Percentage of pavements / cycle ways in fair condition	N/A	N/A	N/A
Percentage of pavements / cycle ways in poor condition	N/A	N/A	N/A

Road condition data is currently only available at the countywide level and so it is not duplicated here. As highlighted previously, there is not currently a readily available data source about the condition of pavements and cycle ways. We will work to investigate this for future monitoring reports.



Appendix 1 – Target and KPI data sources

Targets

Target	Source	Source name
2030		
Replace or remove 1 out of every 4 current car trips	OCC car trip monitoring framework	INRIX trips and pathways dataset, Vivacity sensors and Automatic Traffic Count Data
Increase the number of cycle trips in Oxfordshire from 600,000 to 1 million cycle trips per week	Sport England	Active Lives Survey
Increase the number of cycle trips in Oxford from 300,000 to 450,000 cycle trips per week	Sport England	Active Lives Survey
Reduce road fatalities or serious injuries by 50%	Compiled by OCC using Thames Valley Police reports	STATS-19
2040		
Deliver a net-zero transport network	Department for Business, Energy & Industrial Strategy	Local Authority territorial CO ₂ emissions estimates (kt CO ₂) within the scope of influence of Local Authorities
Replace or remove an additional 1 out of every 3 current car trips in Oxfordshire	OCC car trip monitoring framework	INRIX trips and pathways dataset, Vivacity sensors and Automatic Traffic Count Data
2050		
Deliver a transport network that contributes to a climate positive future	Department for Business, Energy & Industrial Strategy	Local Authority territorial CO ₂ emissions estimates (kt CO ₂) within the scope of influence of Local Authorities
Have zero, or as close as possible, road fatalities or serious injuries	Compiled by OCC using Thames Valley Police reports	STATS-19

Key Performance Indicators

KPI	Source	Source name
Transport emissions		
Road transport emissions	Department for Business, Energy & Industrial Strategy	Local Authority territorial CO ₂ emissions estimates (kt CO ₂) within the scope of influence of Local Authorities
Walking and cycling		
Percentage of adults that do any walking / walk for leisure / walk for travel 3 times per week	Sport England	Active Lives Survey / DfT CW0303
Percentage of adults that do any cycling / cycle for leisure / cycle for travel 3 times per week	Sport England	Active Lives Survey / DfT CW0302
Number of walking trips	N/A	N/A
Number of cycling trips	Sport England	Active Lives Survey
Physical activity		



Percentage of adults meeting physical activity recommendations	Public Health England	Public Health England Profiles - Physical Activity
Percentage of children meeting physical activity recommendations	Sport England	Active Lives Children and young people Survey
Healthy Place Shaping		
Average Healthy Streets score improvement	Lucy Saunders	Healthy streets design check tool
20 minute neighbourhood index improvements	OCC	20-minute neighbourhood mapping tool
Road safety		
Total number of KSI / KSI per mode	Compiled by OCC using Thames Valley Police reports	STATS-19
Public transport		
Passenger journeys on local bus services	Department for Transport	Passenger journeys on local bus services by local authority: England, from 2009/10
Passenger journeys on local bus services per head of the population	Department for Transport	Passenger journeys on local bus services per head by local authority: England, from 2009/10
Bus journey times	OCC / bus operators	N/A
Number of rail passenger journeys (rail station entries and exits)	Office of rail and road	Passenger entries and exits by station
Number of park and ride passenger journeys	OCC / bus operators	N/A
Digital connectivity		
Percentage of premises with superfast broadband	Think Broadband	Local broadband information
Percentage of premises with full fibre broadband	Think Broadband	Local broadband information
Air quality		
Road transport emissions	Department for Business, Energy & Industrial Strategy	Local Authority territorial CO ₂ emissions estimates (kt CO ₂) within the scope of influence of Local Authorities
Years of healthy life lost (DALYs) due to ambient particulate matter	Oxfordshire Health and Wellbeing Joint Strategic Needs Assessment	N/A
Private car		
Car vehicle miles in Oxfordshire	Department for Transport	Motor vehicle traffic (vehicle miles) by local authority and selected vehicle type in Great Britain, annual from 1993
Number of car trips	OCC car trip monitoring framework	INRIX trips and pathways dataset, Vivacity sensors and Automatic Traffic Count Data
Number of registered battery electric vehicles	Department for Transport	DVLA 'Licensed plug-in vehicles (PiVs) at the end of the quarter



		by body type, fuel type, keepership (private and company) and upper and lower tier local authority' VEH0142 (except total vehicle registrations VEH0105)
Car ownership	Office for national statistics	Census - car or van availability
Road highways maintenance condition		
Percentage of roads in good / fair / poor condition	OCC	N/A
Percentage of pavements / cycle ways in good / fair / poor condition	N/A	N/A



Appendix 2 – LTCP car trip methodology

1. Match Automatic Traffic Counter count sites to OpenStreetMap network

To match the Automatic Traffic Counter (ATC) count sites to the OpenStreetMap (OSM) network, we began by identifying the ATC count sites and obtaining their geographic coordinates. These coordinates serve as the reference points for locating the ATC sites within the OSM network.

Next, we utilised Open Street Map (OSM) network data, which provides a detailed representation of road networks, including nodes and edges. By leveraging this data, we matched each ATC count site to the nearest network nodes in the OSM data based on their geographic coordinates. This matching process allows us to associate each ATC site with the corresponding location on the OSM network.

2. Filter out ATC sites we don't need

To ensure that our analysis focuses only on relevant traffic locations, we filtered out ATC sites that are not essential for our purposes. For instance, we excluded ATC sites situated within car parks or other areas unrelated to traffic flow. By removing these unnecessary sites, we streamlined the subsequent analysis and ensured that our results accurately reflect the traffic patterns we intended to study.

3. Match trip trajectories to OSM network

To analyse the trips in relation to the OSM network, we obtained car trip trajectory data. These trajectories consist of sequences of GPS coordinates recorded during each car trip. The trajectory data is anonymously sent from consenting cars to summarise a route taken and provides trip summaries for a small number of trips (current INRIX telematics data includes approximately 2-10% of car trips in the county but we have only used personal car trips which are less than 1% of the sample).

By associating these GPS coordinates with the nearest network nodes in the OSM data, we matched the trip trajectories to the OSM network. This matching process allows us to establish a connection between the recorded trips and the road network represented in the OSM data. It enables us to precisely track the paths taken by the trips and determine their interaction with the road infrastructure.

4. Find trips that pass-through ATC sites

After matching the trip trajectories to the OSM network, we identified trips that intersect or pass through the ATC sites. By comparing the trip trajectories with the locations of the ATC sites, we were able to pinpoint the trips that directly interacted with these specific locations.

This step is crucial for our analysis as it helps us identify trips that contribute to the traffic counts recorded at the ATC sites. By isolating these trips, we can accurately measure their impact on the traffic flow and ensure that they are appropriately accounted for in our calculations.



5. Assign each trip to an appropriate ATC site

To avoid double-counting trips and ensure accurate attribution, we assigned each trip that passed through an ATC site to the appropriate location. This assignment process involved associating each trip with the specific ATC site it intersected or passed through during its trajectory.

By assigning each trip to its corresponding ATC site, we establish a clear relationship between the recorded trip and the location where it contributes to the traffic count. This step is essential for accurate analysis and prevents duplicate counting of trips, enabling precise calculations of trip volumes at each ATC site.

6. Scale trip count by ATC count

To accurately represent the total trip count passing through each ATC site, we scaled the trip count by the count recorded at that ATC site. This scaling factor accounts for the discrepancy in counts between the trip data and the actual count data obtained from the ATC sites.

By multiplying the number of trips assigned to each ATC site by the count recorded at that site, we ensure that the trip counts are proportionate and representative of the actual traffic volumes. This scaling process allows us to obtain reliable and meaningful trip count data for further analysis.

7. Cluster trip density to create 'virtual ATC' sites

For trips that do not pass through any ATC sites, we employed a clustering technique to identify areas with high trip densities. These areas, referred to as 'Virtual ATC' sites, represent regions where trip activity is concentrated despite the absence of an ATC site.

By clustering the trip density, we can identify spatial patterns and hotspots of trip activity. This approach allows us to create virtual representations of ATC sites in areas where they are not physically present, ensuring comprehensive coverage of trip data and capturing areas of significant trip concentration.

8. Repeat process to assign trips to 'virtual ATCs'

Like the assignment process for ATC sites, we repeated the process to assign the remaining trips to the 'Virtual ATC' sites. By comparing the trip trajectories with the locations of the virtual sites, we associated each trip with the nearest 'Virtual ATC' site.

This step ensures that all trips, including those that do not pass-through physical ATC sites, are appropriately accounted for in the analysis. Assigning these trips to the 'Virtual ATC' sites allows us to capture their contribution to the overall trip counts and accurately represent their impact on traffic volumes.

9. Scale trip count assigned to 'virtual ATCs'

To account for the density of trips in each cluster and ensure accurate representation, we applied a scaling factor to the trip count assigned to the 'Virtual ATC' sites. This scaling process adjusts the trip counts based on the concentration of trips within each cluster.



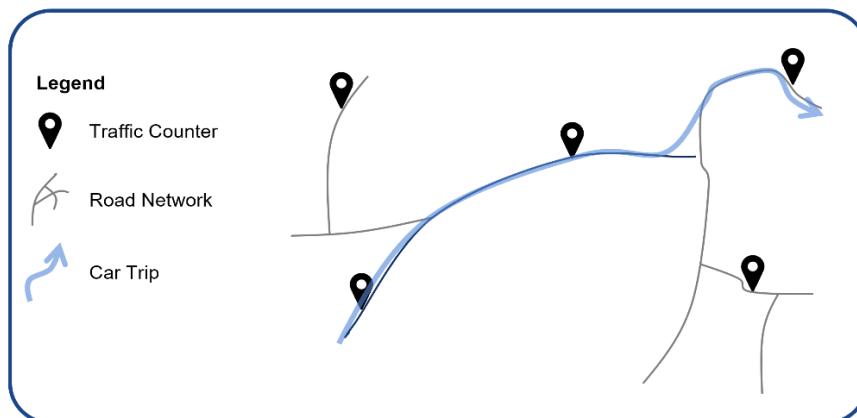
By scaling the trip counts assigned to the 'Virtual ATC' sites, we can accurately represent the trip activity in these areas. This step ensures that the virtual sites effectively capture the volume of trips they represent, providing reliable data for analysis and interpretation.

10. Collect total trip counts and standard deviations

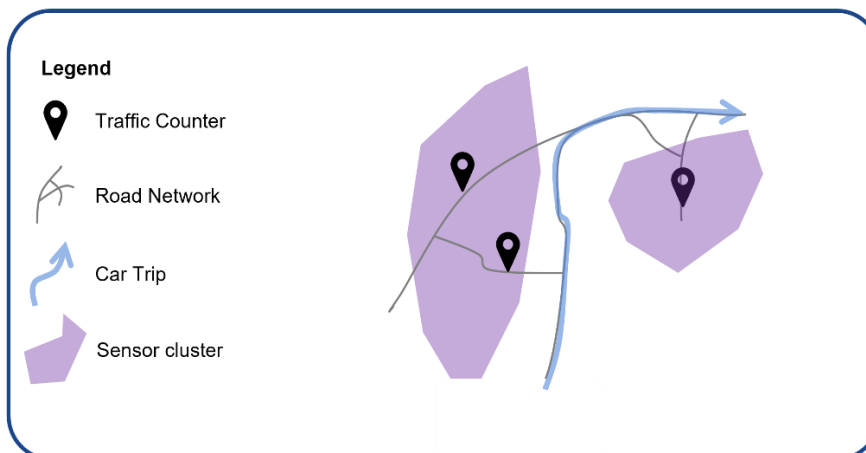
Finally, we collected the total trip counts and calculated standard deviations to provide an indication of variability and error bounds in the dataset. By summing the trip counts for all ATC sites and 'Virtual ATC' sites, we obtained the overall trip count for the study area.

Additionally, calculating the standard deviations allows us to understand the variability in the trip counts and assess the level of uncertainty in our measurements. These statistical measures provide valuable insights into the reliability and robustness of our dataset, enabling informed analysis and interpretation of the results.

Summary



- For each sensor, find the probability that a trip passes.
- Use this to weight each sensor.
- Use weighting to calculate how much of the sensors count should contribute to the trips count.



- Identify trips that don't pass a sensor or through a sensor cluster.
- Count these trips.
- Multiply up from the sample to reflect the statistical population.
- Add to the previous calculation.

