

New Sydney Place and Sydney Road Liveable Neighbourhood

Traffic Monitoring

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Glossary

Term	Definition
Active Travel	Walking, cycling and wheeling (wheelchair, mobility scooter, buggy etc.).
Automatic Number Plate Recognition (ANPR)	Cameras which can record the registration plates of vehicles passing a camera-location and how long it took the vehicles to travel between cameras in two locations.
Automatic Traffic Counter (ATC)	A temporary counter that is laid in the road, made up of two rubber tubes and a control unit. It records the number of vehicles; the types of vehicles; and the speeds of vehicles.
Baseline Traffic Data	Traffic flow and speed data collected before the installation of the through-traffic restriction trial to enable a comparison with the same traffic flow and speed data collected during the trial (post-installation)
Experimental Traffic Regulation Order (ETRO)	A temporary legal arrangement used to trial changes to the road network, such as rerouting of motor vehicles.
GPS Tracking Data	Location data collected from personal devices, such as mobile phones, and vehicles which provides information on journey times, speeds, routing and start and end points.
Link	A road, or a section of a road between junctions, for example the A36 Beckford Road between Bathwick Street and Warminster Road
Liveable Neighbourhood	An area with improved residential streets which encourage safe, active and more sustainable forms of travel, such as walking, wheeling and cycling.
Max (Maximum)	The largest value recorded during a particular survey or set of surveys.
Mean	The average of a set of numbers, calculated by adding up all the numbers and dividing this value by the quantity of numbers. It is the most used type of average however is more susceptible to be skewed by unusually small or unusually large numbers in the dataset.
Median	The average of a set of numbers, calculated by taking the middle value of the set of numbers. It is a less commonly used type of average however is less susceptible to be skewed by unusual values in a limited dataset.
Passenger Car Units (PCUs)	A common unit of traffic with different vehicle types expressed as a factor of one car, for example a heavy goods vehicle is considered to comprise 2.3 PCUs for analytical purposes.
Permanent Traffic Counter	A counter that is installed on a long-term basis to record monthly or annual trends in traffic flows and speeds, typically formed of magnetic loops in the ground with an associated counting device.

Term	Definition
Post-Installation Traffic Data	Traffic flow and speed data collected after the installation of the through-traffic restriction/during the trial that enables comparison with traffic flow and speed data collected before the trial was installed (baseline data). .
Temporary camera survey	A temporary traffic count which can record different users, such as pedestrians, cyclists and vehicles, via video survey.
Temporary radar survey	A temporary traffic count undertaken using a radar device which can detect the quantity of vehicles and the speeds at which they are travelling.

1 Introduction

1.1 Overview

- 1.1.1 This report has been prepared by Arcadis on behalf of Bath and North East Somerset Council (B&NES). It presents a comparison of traffic data collected before and after a through-traffic restriction trial was installed on Sydney Road in April 2024 as part of the New Sydney Place and Sydney Road Liveable Neighbourhood.
- 1.1.2 The purpose of the report is to understand how traffic and active travel flows changed following the introduction of the trial.

1.2 Aim of the Trial

- 1.2.1 The through-traffic restriction (or modal filter) was installed under an Experimental Traffic Regulation Order (ETRO) in April 2024 for an initial period of six months. The aim is to stop motorists using the streets of New Sydney Place and Sydney Road as an inappropriate short cut (or through route) and provide a safe, healthy environment for residents, visitors, pedestrians and cyclists. New Sydney Place is the branch of Sydney Place that lies east of Darlington Street and West of Sydney Mews.
- 1.2.2 The scheme does not restrict vehicular access to homes, businesses or the neighbouring Sydney Gardens, but it may require drivers to take alternative routes. Turning areas are provided in front of the through-traffic restriction.
- 1.2.3 The through-traffic restriction is one of several measures proposed for New Sydney Place and Sydney Road under the Liveable Neighbourhoods programme, which aims to improve residential streets and encourage safe, active and more sustainable forms of travel, such as walking, wheeling and cycling.

2 Traffic Monitoring

2.1 Overview

- 2.1.1 This chapter sets out the purpose of the traffic monitoring; details of the traffic data collected before and after the implementation of restriction; and the method that has been used to analyse the traffic data.

2.2 Purpose of Traffic Monitoring

- 2.2.1 The purpose of the baseline (pre-installation) and in-trial surveys is to understand how traffic flows in the local area have changed since the implementation of the trial. This includes:
- Changes to motor vehicle traffic and active travel flows on New Sydney Place and Sydney Road.
 - Changes to motor vehicle traffic flows on the A36 Beckford Road and A36 Sydney Place.
 - Changes to motor vehicle traffic flows on local roads comprising Bathwick Hill, Cleveland Walk, and North Road.
 - Changes to motor vehicle traffic flows on local roads comprising Sham Castle Lane, St Anns Way, and Sutton Street.
 - Changes to journey times and delay on the A36 Beckford Road and the A36 Sydney Place.

2.3 About the Monitoring

- 2.3.1 The legal order for the scheme came into effect on 1 April and the consultation for the through-traffic restriction trial started on 3 April 2024 due to a bank holiday.
- 2.3.2 Baseline traffic data was collected on consecutive days during the periods of 25 September 2023 to 01 October 2023; 21 February 2024 to 27 February 2024; and 19 March 2024 & 26 March 2024. The data gathered average daily counts over the course of a week before the trial started.
- 2.3.3 Post-installation traffic data was collected for seven consecutive days from 03 June 2024 to 09 June 2024 (two months after the through-traffic restriction was installed).
- 2.3.4 Additionally, post-installation was collected for seven consecutive days from 13 July 2024 to 19 July 2024 (three months after installation).
- 2.3.5 Further surveys were then undertaken for seven consecutive days in the Autumn of 2024, from 02 November 2024 to 08 November 2024 (seven months after installation).
- 2.3.6 By comparing post-installation average daily counts with baseline data, the impacts of the trial can be considered.
- 2.3.7 All monitoring was conducted outside of the planned closure of the A36 at Limpley Stoke by Highways England, which closed on 12 August 2024. This work reduces traffic on A36 Warminster Road. While the work is ongoing to Spring in 2025, the road was briefly opened in Autumn (November 2024) and the council took this opportunity to conduct another period of monitoring in the Bathwick area to support a comparison with the original baseline data taken in Autumn 2023. See Section 2.5.

- 2.3.8 Monitoring was also conducted outside of school holidays as per usual practice, with one exception. In July 2024, the monitoring period overlapped with the King Edward's School summer holiday. This was due to the council having a short window to conduct monitoring between the North Parade Bridge re-opening on 8 July and the A36 shutting on 12 August.

2.4 Method

- 2.4.1 A range of data was collected during baseline and in-trial periods, as summarised in Table 1 and with locations presented later on maps in Figure 1 and Figure 2. The table includes the acronyms 'ATC' for Automatic Traffic Count, and 'ANPR', for Automatic Number Plate Recognition, which are types of data collection explained in more detail in the paragraphs following the table.

Table 1: Data Collection

Location	Reference	ATC No.	Baseline Method	Monitoring Method	Baseline Dates	Summer 2024 In-Trial Dates	Autumn 2024 In-Trial Dates
Motor Vehicle Traffic Flows							
A36 Beckford Road, between Bathwick Street and Warminster Road	L4	N/A	Permanent traffic counter	Permanent traffic counter	25 September 2023 to 01 October 2023	03 June 2024 to 09 June 2024 13 July 2024 to 19 July 2024	02 November 2024 to 08 November 2024
A36 Darlington Street, between Bathwick Hill Roundabout and Sydney Place	L13	ATC 6	ATC	ATC	25 September 2023 to 01 October 2023	03 June 2024 to 09 June 2024 13 July 2024 to 19 July 2024	02 November 2024 to 08 November 2024
Bathwick Hill, east of Cleveland Walk	L9	ATC 4	ATC	ATC	25 September 2023, 29 September 2023 to 02 October 2023	03 June 2024 to 09 June 2024 13 July 2024 to 19 July 2024	02 November 2024 to 08 November 2024
Bathwick Hill, between Bathwick Hill Roundabout and Raby Place	L10	ATC 5	ATC	ATC	25 September 2023 to 01 October 2023	03 June 2024 to 09 June 2024 13 July 2024 to 19 July 2024	02 November 2024 to 08 November 2024
Cleveland Walk, northeast of Bathwick Hill	L8	ATC 9	ATC	ATC	25 September 2023 to 01 October 2023	03 June 2024 to 09 June 2024 13 July 2024 to 19 July 2024	02 November 2024 to 08 November 2024
Cleveland Walk, south of North Road	L7	ATC 2	ATC	ATC	25 September 2023 to 01 October 2023	03 June 2024 to 09 June 2024 13 July 2024 to 19 July 2024	14 November 2024 to 20 November 2024
North Road, east of Cleveland Walk	L6	ATC 3	ATC	ATC	25 September 2023 to 01 October 2023	03 June 2024 to 09 June 2024 13 July 2024 to 19 July 2024	02 November 2024 to 08 November 2024
North Road, west of King Edward’s School	L5	ATC 1	ATC	ATC	25 September 2023 to 01 October 2023	03 June 2024 to 09 June 2024 13 July 2024 to 19 July 2024	02 November 2024 to 08 November 2024
Sham Castle Lane, south of Vellore Lane	L12	ATC 7	ATC	ATC	25 September 2023 to 01 October 2023	03 June 2024 to 09 June 2024 13 July 2024 to 19 July 2024	02 November 2024 to 08 November 2024
St Anns Way, south of Sham Castle Lane	L11	ATC 8	ATC	ATC	25 September 2023 to 01 October 2023	03 June 2024 to 09 June 2024 13 July 2024 to 19 July 2024	02 November 2024 to 08 November 2024
Sutton Street, between A36 Sydney Place and Henrietta Gardens	L14	ATC 12	Temporary radar survey	ATC	21 February 2024 to 27 February 2024	03 June 2024 to 09 June 2024 13 July 2024 to 19 July 2024	17 November 2024 to 23 November 2024

Location	Reference	ATC No.	Baseline Method	Monitoring Method	Baseline Dates	Summer 2024 In-Trial Dates	Autumn 2024 In-Trial Dates
New Sydney Place, east of A36 Darlington Street	L3	ATC 10	ANPR	ATC	25 September 2023 to 01 October 2023	03 June 2024 to 09 June 2024 13 July 2024 to 19 July 2024	02 November 2024 to 08 November 2024
Sydney Road, between New Sydney Place and Sham Castle Lane	L1	N/A	Temporary camera survey	Temporary camera survey	25 September 2023 to 01 October 2023	03 June 2024 to 09 June 2024 13 July 2024 to 19 July 2024	02 November 2024 to 08 November 2024
Sydney Road, south of A36 Beckford Road	L2	ATC 11	ANPR	ATC	25 September 2023 to 01 October 2023	03 June 2024 to 09 June 2024 13 July 2024 to 19 July 2024	02 November 2024 to 08 November 2024
Active Travel Flows							
Sydney Road, between New Sydney Place and Sham Castle Lane	L1	-	Temporary camera survey	Temporary camera survey	25 September 2023 to 01 October 2023	03 June 2024 to 09 June 2024 13 July 2024 to 19 July 2024	02 November 2024 to 08 November 2024
Origin Destination Data							
New Sydney Place, east of the A36 Darlington Street	L3	-	ANPR	-	25 September 2023 to 01 October 2023	-	-
Sydney Road, south of the A36 Beckford Road	L2	-	ANPR	-	25 September 2023 to 01 October 2023	-	-
Queue Lengths							
A36 Beckford Road / A36 Warminster Road / Sydney Road	-	-	Manual enumeration	Manual enumeration	19 March 2024, 26 March 2024	05 June 2024, 06 June 2024 17 July 2024	-
A36 Bathwick Street / A36 Beckford Road / A36 Sydney Place	-	-	Manual enumeration	Manual enumeration	19 March 2024, 26 March 2024	05 June 2024, 06 June 2024 17 July 2024	-
A36 Darlington Street / A36 Sydney Place / Sydney Place	-	-	Manual enumeration	Manual enumeration	19 March 2024, 26 March 2024	05 June 2024, 06 June 2024 17 July 2024	-
Travel Time Data – Journeys							
A36 Warminster Road to A36 Darlington Street via Beckford Road	-	-	GPS tracking data	GPS tracking data	25 September 2023 to 01 October 2023 01 June 2023 to 30 June 2023	03 June 2024 – 09 June 2024 01 June 2024 to 30 June 2024	01 November 2024 to 30 November 2024
Travel Time Data – Roads							
A36 Bathwick Street	-	-	GPS tracking data	GPS tracking data	19 March 2024, 26 March 2024 01 June 2023 to 30 June 2023	05 June 2024, 06 June 2024 01 June 2024 to 30 June 2024	02 November 2024 to 08 November 2024

Location	Reference	ATC No.	Baseline Method	Monitoring Method	Baseline Dates	Summer 2024 In-Trial Dates	Autumn 2024 In-Trial Dates
A36 Beckford Road	-	-	GPS tracking data	GPS tracking data	19 March 2024, 26 March 2024 01 June 2023 to 30 June 2023	05 June 2024, 06 June 2024 01 June 2024 to 30 June 2024	02 November 2024 to 08 November 2024
A36 Darlington Street	-	-	GPS tracking data	GPS tracking data	19 March 2024, 26 March 2024 01 June 2023 to 30 June 2023	05 June 2024, 06 June 2024 01 June 2024 to 30 June 2024	02 November 2024 to 08 November 2024
A36 Sydney Place	-	-	GPS tracking data	GPS tracking data	19 March 2024, 26 March 2024 01 June 2023 to 30 June 2023	05 June 2024, 06 June 2024 01 June 2024 to 30 June 2024	02 November 2024 to 08 November 2024
A36 Warminster Road	-	-	GPS tracking data	GPS tracking data	19 March 2024, 26 March 2024 01 June 2023 to 30 June 2023	05 June 2024, 06 June 2024 01 June 2024 to 30 June 2024	02 November 2024 to 08 November 2024
New Sydney Place	-	-	GPS tracking data	GPS tracking data	19 March 2024, 26 March 2024 01 June 2023 to 30 June 2023	05 June 2024, 06 June 2024 01 June 2024 to 30 June 2024	02 November 2024 to 08 November 2024
Sydney Road	-	-	GPS tracking data	GPS tracking data	19 March 2024, 26 March 2024 01 June 2023 to 30 June 2023	05 June 2024, 06 June 2024 01 June 2024 to 30 June 2024	02 November 2024 to 08 November 2024

Baseline

2.4.2 Baseline data was collected during the periods 25 September 2023 to 01 October 2023; 21 February 2024 to 27 February 2024; and 19 March 2024 & 26 March 2024.

2.4.3 The following baseline data was collected:

- Motor vehicle traffic flow data for links using Automatic Traffic Counters (ATCs), permanent survey sites, and temporary radar surveys.
- Motor vehicle and active travel traffic flow data for links using temporary camera surveys.
- Motor vehicle origin destination and traffic flow data using Automatic Number Plate Recognition (ANPR) surveys.
- Motor vehicle queue lengths through manual enumeration.

2.4.4 In addition, baseline travel time data was also collected for the month of June 2023.

2.4.5 The above surveys are described in more detail in the sections that follow.

Motor Vehicle Traffic Flows

2.4.6 The baseline motor vehicle traffic flows that were collected are mapped in Figure 1 and described in Table 1.

2.4.7 The motor vehicle traffic surveys recorded the following vehicle types:

- Motorcycles.
- Cars.
- Light goods vehicles (vans).
- Heavy goods vehicles (lorries).
- Buses and coaches.

2.4.8 Most of the baseline motor vehicle traffic flow counts were undertaken using ATCs, except for L1, which was undertaken using a temporary camera survey; L2 and L3, which were undertaken using ANPR; L4, for which data was obtained from a permanent traffic counter and L14, which was undertaken using a temporary radar survey.

2.4.9 All baseline counts were undertaken in late September – early October 2023 apart from L14, which was undertaken in February 2024.

2.4.10 All baseline counts were undertaken for continuous 24-hour periods, apart from L1, L2, and L3 which were undertaken for the hours 0600-2200.

Active Travel Flows

2.4.11 A baseline survey of active travel flows was undertaken on Sydney Road, between New Sydney Place and Sham Castle Lane, using a temporary camera survey during the period 25 September 2023 to 01 October 2023.

2.4.12 Active travel flows were recorded for the hours 0600-2200.

2.4.13 The active travel surveys recorded the following travel modes:

- Pedestrians (inclusive of wheelchair users or mobility scooters).
- Cyclists.

Origin Destination Data

2.4.14 During baseline surveys in September – October 2023, ANPR cameras were placed on New Sydney Place, east of the A36 Darlington Street, and on Sydney Road, south of the A36 Beckford Road. Data was collected from 0600-2200 to record the numbers of vehicles using the route as a through route.

2.4.15 The cameras recorded vehicle registration numbers so that unique vehicles using the road could be counted. If the vehicle appeared on both cameras within three minutes, it could be inferred that it was using New Sydney Place and Sydney Road as a through route and not stopping for a specific reason.

2.4.16 Origin destination data was not collected on New Sydney Place and Sydney Road during the June 2024 and July 2024 in-trial periods because the restriction prevented any motor vehicles from passing through.

Queue Lengths

2.4.17 Baseline surveys of queue lengths were undertaken at the following junctions:

- A36 Beckford Road / A36 Warminster Road / Sydney Road
- A36 Bathwick Street / A36 Beckford Road / A36 Sydney Place
- A36 Darlington Street / A36 Sydney Place / Sydney Place

2.4.18 The queue length surveys were undertaken via manual enumeration on Tuesday 19 March 2024 and Tuesday 26 March 2024 for the hours 0700-0900 and 1400-1730. The counts were undertaken during school term time.

2.4.19 The queue lengths were recorded in Passenger Car Units (PCUs). PCU is a term used in traffic analysis as a way of converting traffic – which is composed of various types of vehicles - into a common unit, for analytical purposes. The conversion factors for each vehicle type are set out in Table 2. An example interpretation of the table is that a bus is 2.0 PCUs, while a pedal cycle is 0.2 PCUs.

Table 2: PCU Factors

Vehicle Type	Factor
Pedal Cycle	0.2
Motorcycle	0.4
Passenger Car	1.0
Light Goods Vehicle (LGV)	1.0
Medium Goods Vehicle (MGV)	1.5
Buses and coaches	2.0
Heavy Goods Vehicle (HGV)	2.3

Travel Time Data

- 2.4.20 GPS tracking data was obtained from a source of data collected from fixed and non-fixed in-vehicle GPS devices used for navigation and telematics. The data provides travel times for motor vehicles on both roads and specific journeys.
- 2.4.21 Baseline journey time data was obtained for journeys between the A36 Warminster Road and the A36 Darlington Street via Beckford Road, in both directions. Data was obtained for the period 25 September 2023 to 01 October 2023 and the whole month of June 2023.
- 2.4.22 Baseline vehicular travel time data was obtained for the following roads:
- A36 Bathwick Street
 - A36 Beckford Road
 - A36 Darlington Street
 - A36 Sydney Place
 - A36 Warminster Road
 - New Sydney Place
 - Sydney Road
- 2.4.23 Baseline travel time data for roads was obtained for the queue survey days of Tuesday 19 March 2024 and Tuesday 26 March 2024 for the hours 0700-0900 and 1400-1730, and also for the whole month of June 2023.

In-Trial

- 2.4.24 In-trial traffic data was collected during the periods 03 June 2024 to 09 June 2024, 13 July 2024 to 19 July 2024, and 02 November 2024 to 08 November 2024 (apart from two locations, as set out in Table 1).
- 2.4.25 The following monitoring data was collected:
- Motor vehicle traffic flow data using ATCs and permanent survey sites.
 - Motor vehicle and active travel traffic flow data using temporary camera surveys.
 - Motor vehicle queue lengths through manual enumeration 05 June 2024, 06 June 2024, and 17 July 2024 (not collected in November 2024).
- 2.4.26 In addition, travel time data was also obtained for the months of June 2024 and November 2024, and for the week commencing 02 November 2024.
- 2.4.27 The in-trial data collection periods are set out in Table 1.
- 2.4.28 The in-trial traffic data was generally collected using the same methods as for the baseline, with differences in data collection methods highlighted below.

Motor Vehicle Traffic Flows

- 2.4.29 During the in-trial data collection periods, data for L14 (Sutton Street, between the A36 Sydney Place and Henrietta Gardens), L3 (New Sydney Place, east of the A36 Darlington Street, and L2 (Sydney Road, south of the A36 Beckford Road) was collected using ATCs.

2.4.30 During the baseline, data for Sutton Street was collected using a radar survey, and data for New Sydney Place and Sydney Road was collected using ANPR.

2.5 Data Validation

- 2.5.1 The A36 at Limpley Stoke, to the southeast of Bath, was closed to all traffic from August 2024 to Spring 2025 due to instability of the carriageway, which is set on a slope in the valley. The closure applied to all vehicles at all times. As the A36 is a trunk road, this closure had the potential to impact on traffic patterns in Bath. The council did not therefore undertake traffic monitoring during the closure.
- 2.5.2 To enable other road works in Wiltshire, the closure of the A36 at Limpley Stoke was temporarily lifted from 18 October 2024 to 11 November 2024. This provided an opportunity to undertake further monitoring surveys as the trunk road was once again available to all road users.
- 2.5.3 To understand whether traffic patterns during the temporary suspension of the road closure returned to typical levels, a benchmarking exercise was undertaken. This involved a comparison of traffic flow data on the A36 at Trossachs Drive in Bathampton from November 2023 (i.e. prior to the closure at Limpley Stoke) with November 2024, during the temporary suspension of the road closure.
- 2.5.4 The benchmarking exercise investigated how traffic flows varied between the week commencing 2 November 2024 and the same week in November 2023, specifically the week commencing 4 November 2023. Eastbound, westbound, and total flows were analysed to understand the changes, as set out in Table 3.

Table 3: November 2024 Benchmarking Comparison

Direction	November 2023 Average Weekday	November 2023 Average Day	November 2024 Average Weekday	November 2024 Average Day	Percentage Change Average Weekday	Percentage Change Average Day
Eastbound	4,938	4,588	4,000	3,662	-19%	-20%
Westbound	4,324	4,021	3,719	3,468	-14%	-14%
Total	9,262	8,610	7,718	7,129	-17%	-17%

- 2.5.5 Traffic flows on the A36 were generally lower in November 2024 than in November 2023, with an average 17% decrease in traffic volumes.
- 2.5.6 Whilst the data suggests that traffic volumes on the A36 towards the east did not fully return to typical conditions during the temporary reopening of the road at Limpley Stoke, it is important to note that overall traffic patterns in the local area are influenced by a variety of key roads, including the A4 London Road to the northeast; the A36 Pulteney Road to the south; and the A4 The Paragon to the northwest.
- 2.5.7 Each of these key roads has their own traffic patterns that influence the traffic flows around Sydney Road therefore a change in traffic flows on one road in isolation may not affect overall traffic patterns in the local area.

2.5.8 It is important to understand that the road network is a live operational system and there will always be incidents and events during any given survey period. Consequently, it is considered that the November 2024 data gives a useful understanding of traffic patterns following the implementation of the trial through-traffic restriction, and was undertaken at a similar time of year to the baseline surveys.

3 Analysis

3.1 Data Presentation

- 3.1.1 Most of the motor vehicle traffic flows were collected for 7 days for continuous 24-hour periods. On this basis, motor vehicle traffic flows, for both the baseline and in-trial periods are presented as average day 24-hour flows. Where motor vehicle flows were recorded for other periods, factors have been applied to convert them to average day 24-hour flows.
- 3.1.2 The active travel flow data was recorded for 7 days for the hours 0600-2200 therefore average day 0600-2200 data is presented for both the baseline and in-trial periods.
- 3.1.3 The locations of the traffic flow counts are mapped in Figure 1 and the locations of the queue length surveys are mapped in Figure 2.

Figure 1: Locations of Traffic Flow Counts

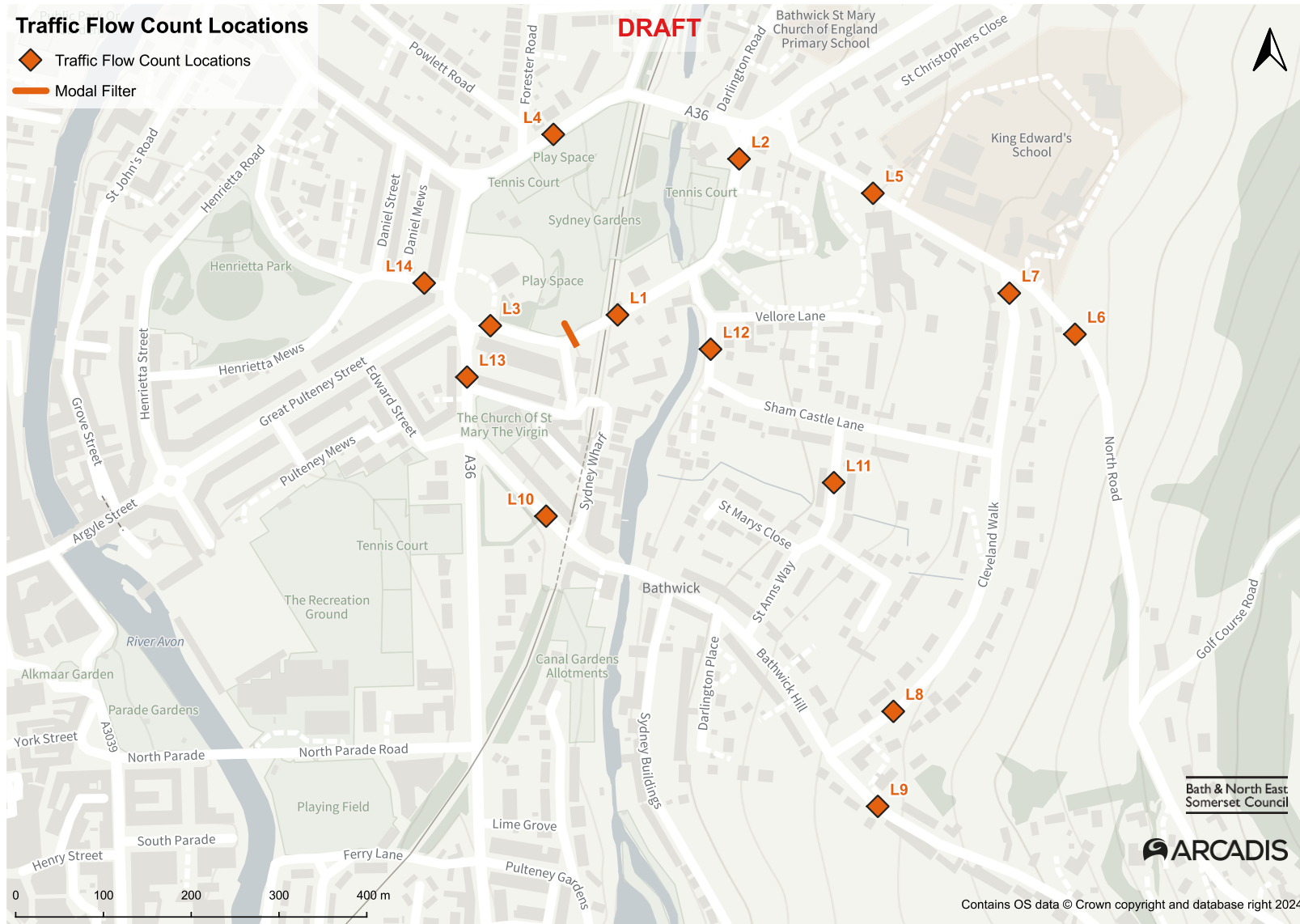
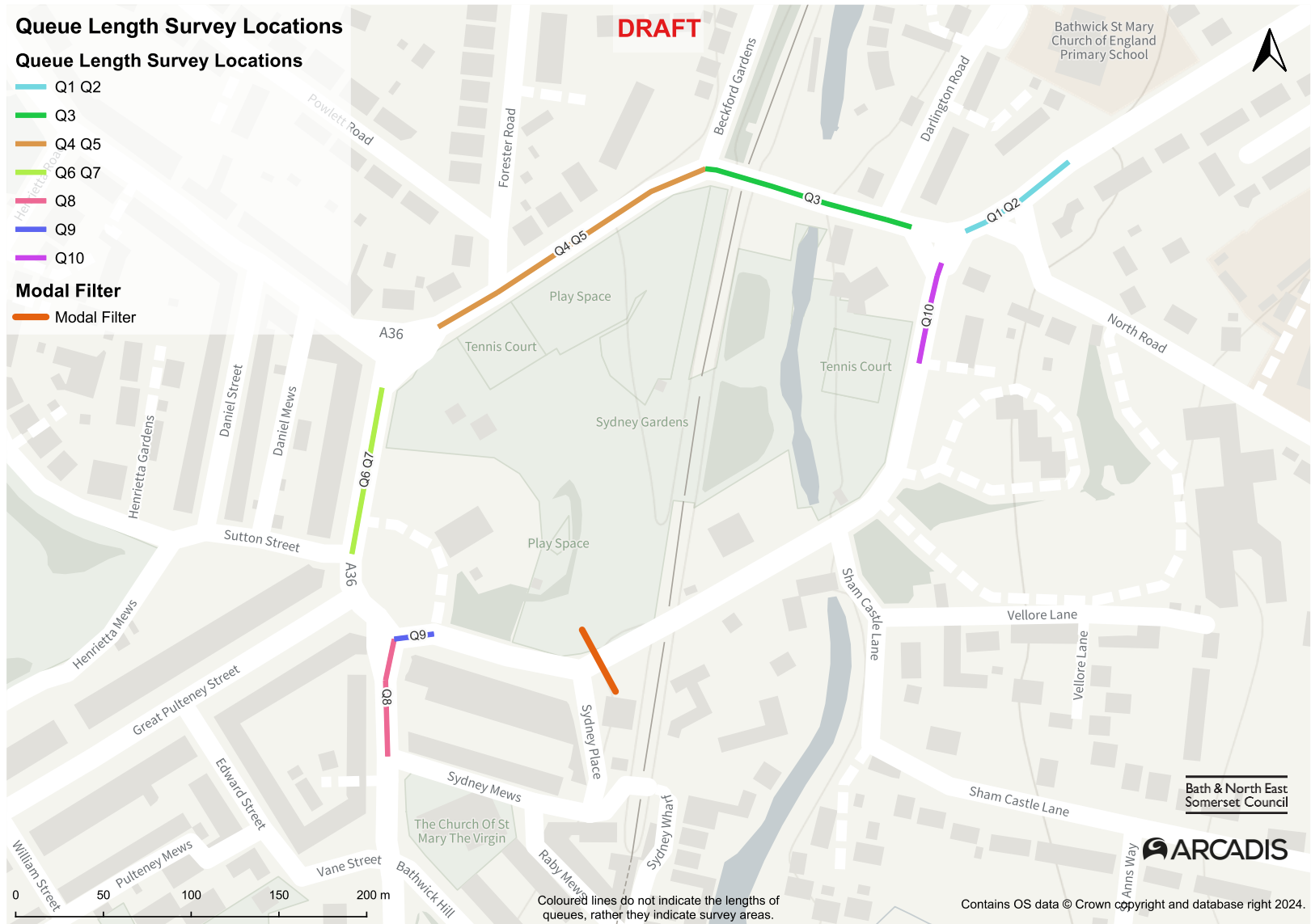


Figure 2: Locations of Queue Length Surveys



3.2 Observations

- 3.2.1 The following sections set out the observations that have been made following an analysis of the survey data for both the baseline and in-trial periods, along with a review of changes to traffic patterns between the baseline and two in-trial periods.

Motor Vehicle Traffic Flows

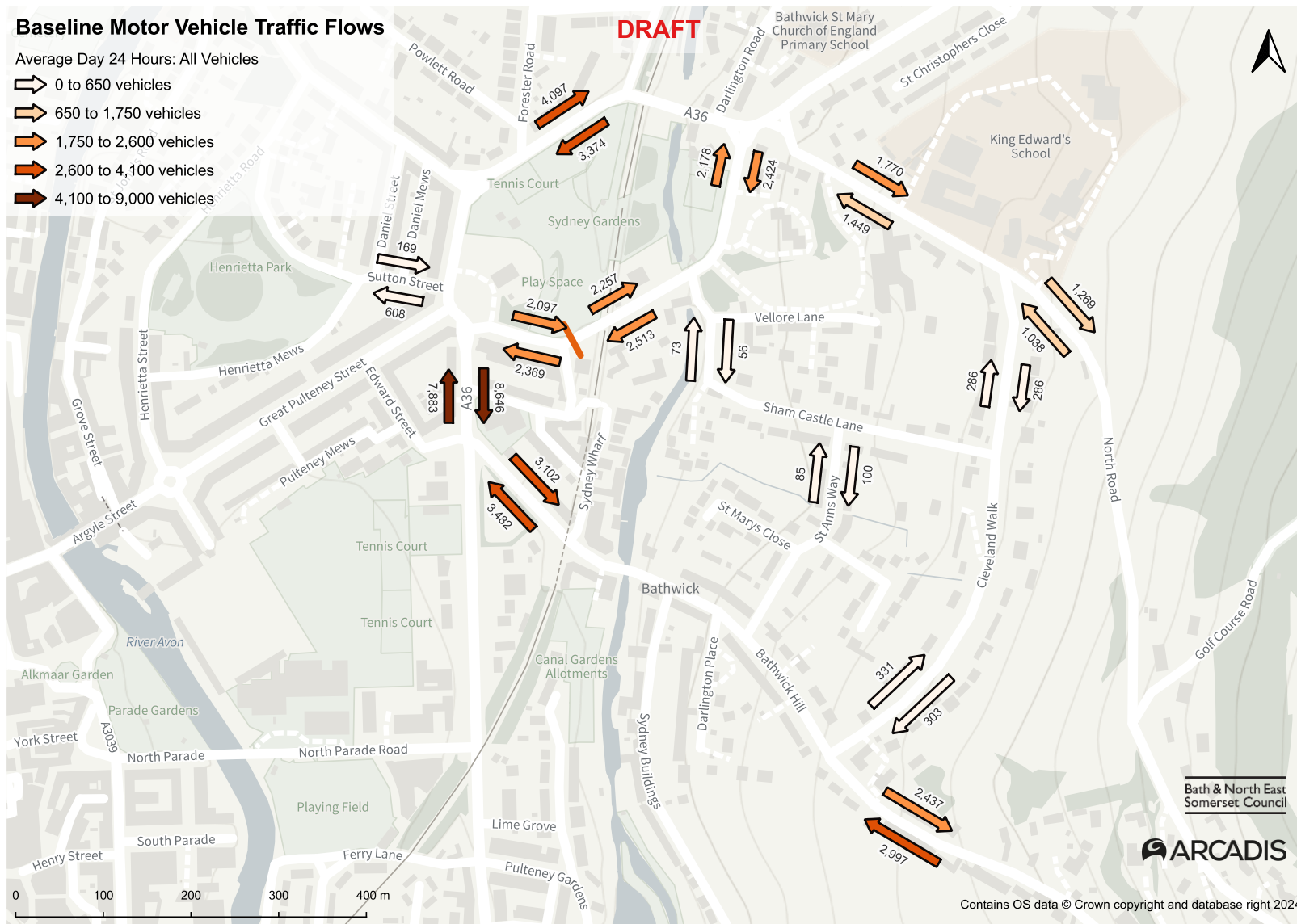
Baseline

- 3.2.2 Baseline motor vehicle traffic flows for the 7-day average travelling in both directions (All Vehicles) are summarised in Table 4 and mapped in Figure 3.

Table 4: Baseline Motor Vehicle Traffic Flows (7-day average across both directions)

Road Name	Count No.	All Vehicles
A36 Beckford Road, between Bathwick Street and Warminster Road	L4	7,471
A36 Darlington Street, between Bathwick Hill Roundabout and Sydney Place	L13	16,529
Bathwick Hill, east of Cleveland Walk	L9	5,434
Bathwick Hill, between Bathwick Hill Roundabout and Raby Place	L10	6,585
Cleveland Walk, northeast of Bathwick Hill	L8	634
Cleveland Walk, south of North Road	L7	572
North Road, east of Cleveland Walk	L6	2,308
North Road, west of King Edward's School	L5	3,219
Sham Castle Lane, south of Vellore Lane	L12	129
St Anns Way, south of Sham Castle Lane	L11	185
Sutton Street, between A36 Sydney Place and Henrietta Gardens	L14	777
New Sydney Place, east of A36 Darlington Street	L3	4,466
Sydney Road, between New Sydney Place and Sham Castle Lane	L1	4,770
Sydney Road, south of A36 Beckford Road	L2	4,602

Figure 3: Baseline Motor Vehicle Traffic Flows



- 3.2.3 The data shows that, over the 7 days, the A36 Darlington Street carried the highest traffic flows during the baseline survey period, with 16,529 motor vehicles per average day traveling on the road (i.e. in either direction). New Sydney Place and Sydney Road was used by between 4,466 and 4,770 motor vehicles per day, whilst the A36 Beckford Road was used by 7,471 vehicles per day.
- 3.2.4 Bathwick Hill was used by 5,434 motor vehicles per average day across both directions east of Cleveland Walk, rising to 6,585 motor vehicles per day between the Bathwick Hill Roundabout and Raby Place. North Road was trafficked by 2,308 motor vehicles per day to the east of Cleveland Walk, rising to 3,219 motor vehicles per day to the west of King Edward's School. Cleveland Walk was used by 572 to 634 motor vehicles per day.
- 3.2.5 The local roads of Sham Castle Lane and St Anns Way were used by 129 and 185 motor vehicles per average day across both directions respectively, whilst Sutton Street was trafficked by 777 motor vehicles per day.
- 3.2.6 For most roads, the directional split of motor traffic flows was within three percentage points of a 50:50 split. However, it was found that on Sutton Street, the majority (78%) of traffic travelled westbound, whilst on North Road, the majority (55%) of traffic at both count points was travelling south-eastbound.
- 3.2.7 On the A36 Beckford Road, 55% of motor vehicles were found to be travelling north-eastbound, whilst on the parallel Sydney Road, the majority (53%) were found to be travelling south-westbound.

In-Trial

- 3.2.8 Motor vehicle traffic flows per average day across both directions during the in-trial survey periods are set out in Table 5. The flows are mapped in Figure 4, Figure 5, and Figure 6 for June 2024, July 2024 and November 2024 respectively.

Table 5: In-Trial Motor Vehicle Traffic Flows (7-day average across both directions)

Road	Count No.	June 2024 All Vehicles	July 2024 All Vehicles	November 2024 All Vehicles
A36 Beckford Road, between Bathwick Street and Warminster Road	L4	10,476	10,168	10,070
A36 Darlington Street, between Bathwick Hill Roundabout and Sydney Place	L13	15,329	15,251	15,218
Bathwick Hill, east of Cleveland Walk	L9	4,303	5,021	5,030
Bathwick Hill, between Bathwick Hill Roundabout and Raby Place	L10	6,464	6,307	6,275
Cleveland Walk, northeast of Bathwick Hill	L8	706	481	721
Cleveland Walk, south of North Road	L7	696	429	671
North Road, east of Cleveland Walk	L6	2,593	1,935	2,846
North Road, west of King Edward's School	L5	3,309	2,331	3,660
Sham Castle Lane, south of Vellore Lane	L12	174	173	172
St Anns Way, south of Sham Castle Lane	L11	280	235	239
Sutton Street, between A36 Sydney Place and Henrietta Gardens	L14	796	857	805
New Sydney Place, east of A36 Darlington Street	L3	684	640	439
Sydney Road, between Sydney Place and Sham Castle Lane	L1	20	145	91
Sydney Road, south of A36 Beckford Road	L2	1,376	1,456	1,436

Figure 4: June 2024 In-Trial Motor Vehicle Traffic Flows

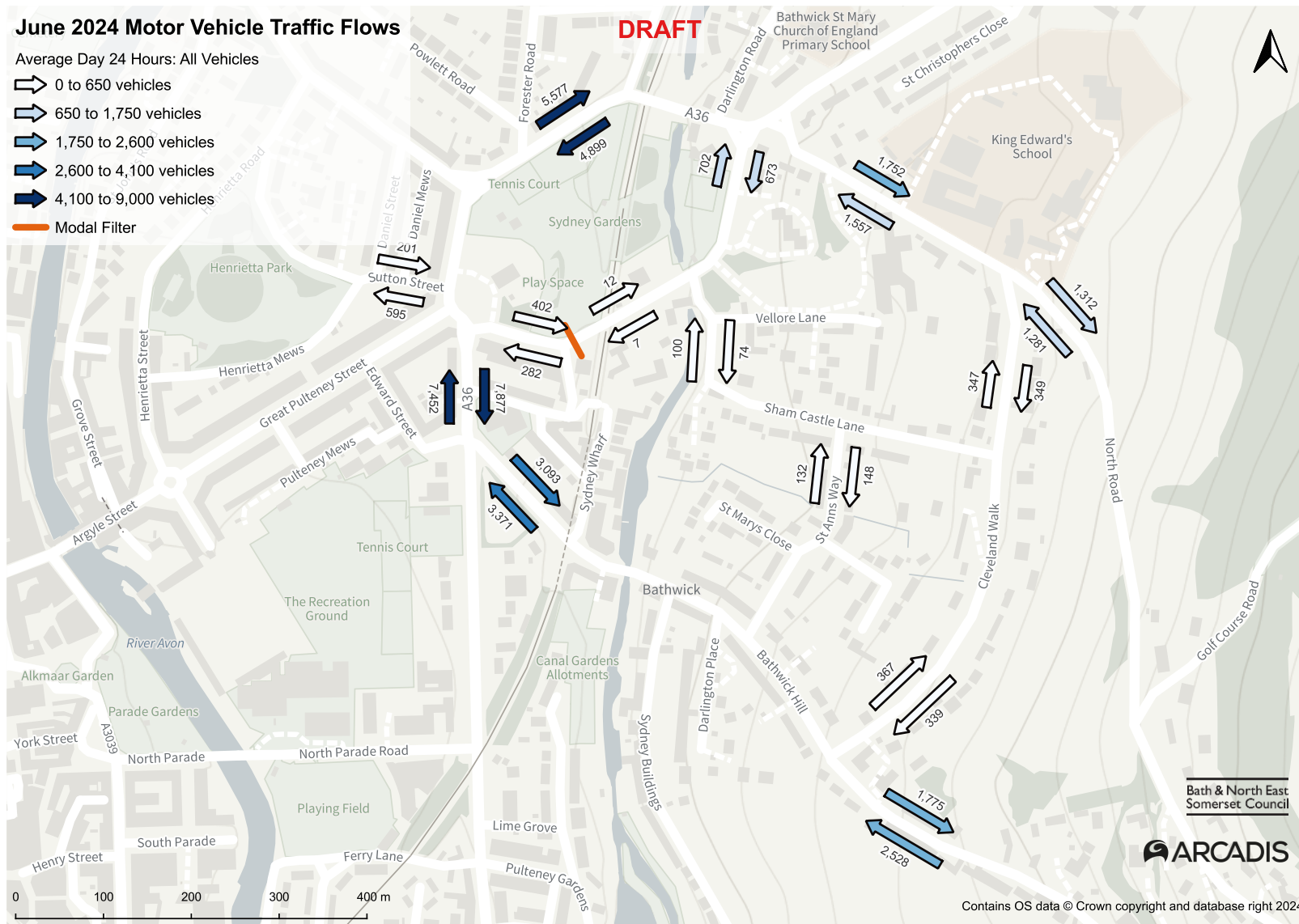


Figure 5: July 2024 In-Trial Motor Vehicle Traffic Flows

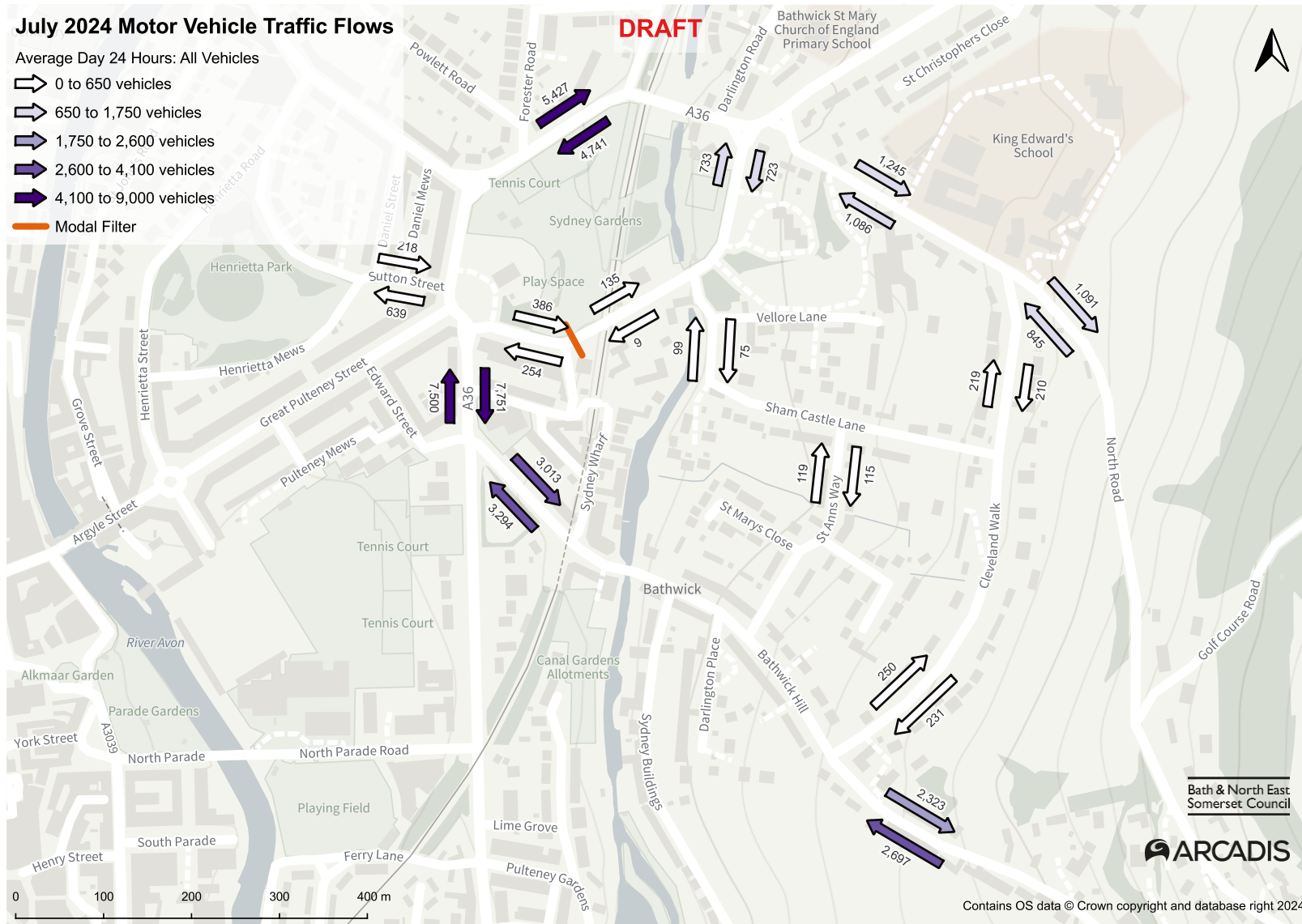
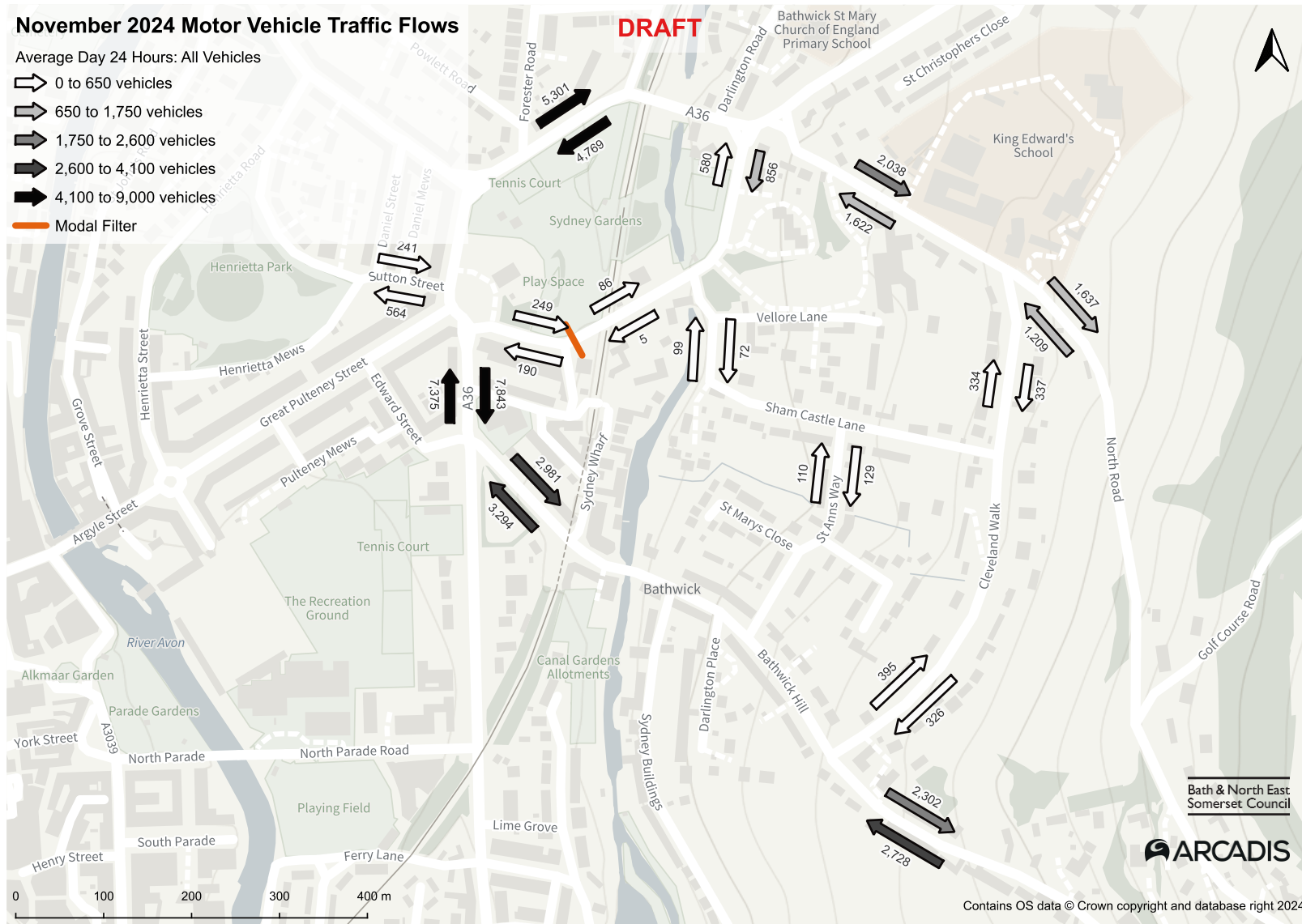


Figure 6: November 2024 In-Trial Motor Vehicle Traffic Flows



- 3.2.9 A written description of the in-trial traffic-flow monitoring results is provided below, followed by a comparison with the baseline traffic-flow data in Table 6.
- 3.2.10 The data shows that across the 7 days, similar to baseline monitoring the A36 Darlington Street carried the highest traffic flows in June 2024, July 2024 and November 2024, with 15,329 motor vehicles per day in June 2024, 15,251 motor vehicles per day in July 2024, and 15,218 motor vehicles per day in November 2024.
- 3.2.11 Traffic flows on Sydney Road, south of the A36 Beckford Road, were 1,376 motor vehicles per day in June 2024, 1,456 motor vehicles per day in July 2024, and 1,436 motor vehicles per day in November 2024. Traffic flows on New Sydney Place, east of the A36 Darlington Street, were 684 motor vehicles per day in June 2024, 640 motor vehicles per day in July 2024, and 439 motor vehicles per day in November 2024.
- 3.2.12 At the location of the through-traffic restriction on Sydney Road, traffic flows were 20 motor vehicles per day in June 2024, rising to 145 vehicles per day in July 2024, and decreasing to 91 motor vehicles per day in November 2024. The traffic flows generally comprised of motorcycles and cars / light vans.
- 3.2.13 The A36 Beckford Road was used by 10,476 motor vehicles per day in June 2024, reducing to 10,168 in July 2024, and reducing slightly further to 10,070 motor vehicles per day in November 2024.
- 3.2.14 To the east of Cleveland Walk, Bathwick Hill was used by 4,303 motor vehicles per day in June 2024, increasing to 5,021 in July 2024, and further increasing to 5,030 in November 2024. Between the Bathwick Hill Roundabout and Raby Place, Bathwick Hill was used by 6,464 motor vehicles per day in June 2024, 6,307 motor vehicles per day in July 2024, and 6,275 motor vehicles per day in November 2024.
- 3.2.15 North Road, to the east of Cleveland Walk, was used by 2,593 motor vehicles per day in June 2024, decreasing to 1,935 per day in July 2024, then increasing again to 2,846 per day in November 2024. To the west of King Edward's School, North Road carried 3,309 motor vehicles per day in June 2024, reducing to 2,331 in July 2024, then increasing to 3,660 in November 2024.
- 3.2.16 Cleveland Walk was used by 696 to 706 motor vehicles per day in June 2024, with 429 to 481 in July 2024, and 671 to 721 in November 2024. Sham Castle Lane was trafficked by 174 motor vehicles per day in June 2024, 173 motor vehicles per day in July 2024, and 172 motor vehicles per day in November 2024.
- 3.2.17 It should be noted that the reduction in June on roads surrounding King Edward School is likely as a result of King Edward School holidays. See Section 2.3 About the Monitoring for more information.
- 3.2.18 St Anns Way carried 280 motor vehicles per day in June 2024, reducing to 235 per day in July 2024, then increasing slightly to 239 per day in November 2024. Sutton Street carried 796 motor vehicles per day in June 2024, 857 motor vehicles per day in July 2024, and 805 motor vehicles per day in November 2024.
- 3.2.19 For most roads, the directional split of motor vehicle traffic was circa 50:50 during all in-trial periods. However, on Sutton Street, 75% of motor vehicles travelled westbound in both June 2024 and July 2024, reducing to 70% westbound in November 2024. On Sydney Road at the through-traffic restriction, 94% of motor vehicles travelled northbound in July 2024 and November 2024.

- 3.2.20 It is also noted that on Bathwick Hill, east of Cleveland Walk, the majority of motor vehicle traffic travelled north-westbound during all in-trial periods, whilst on Sham Castle Lane, the majority of motor vehicle traffic headed northbound.

Comparison of Results

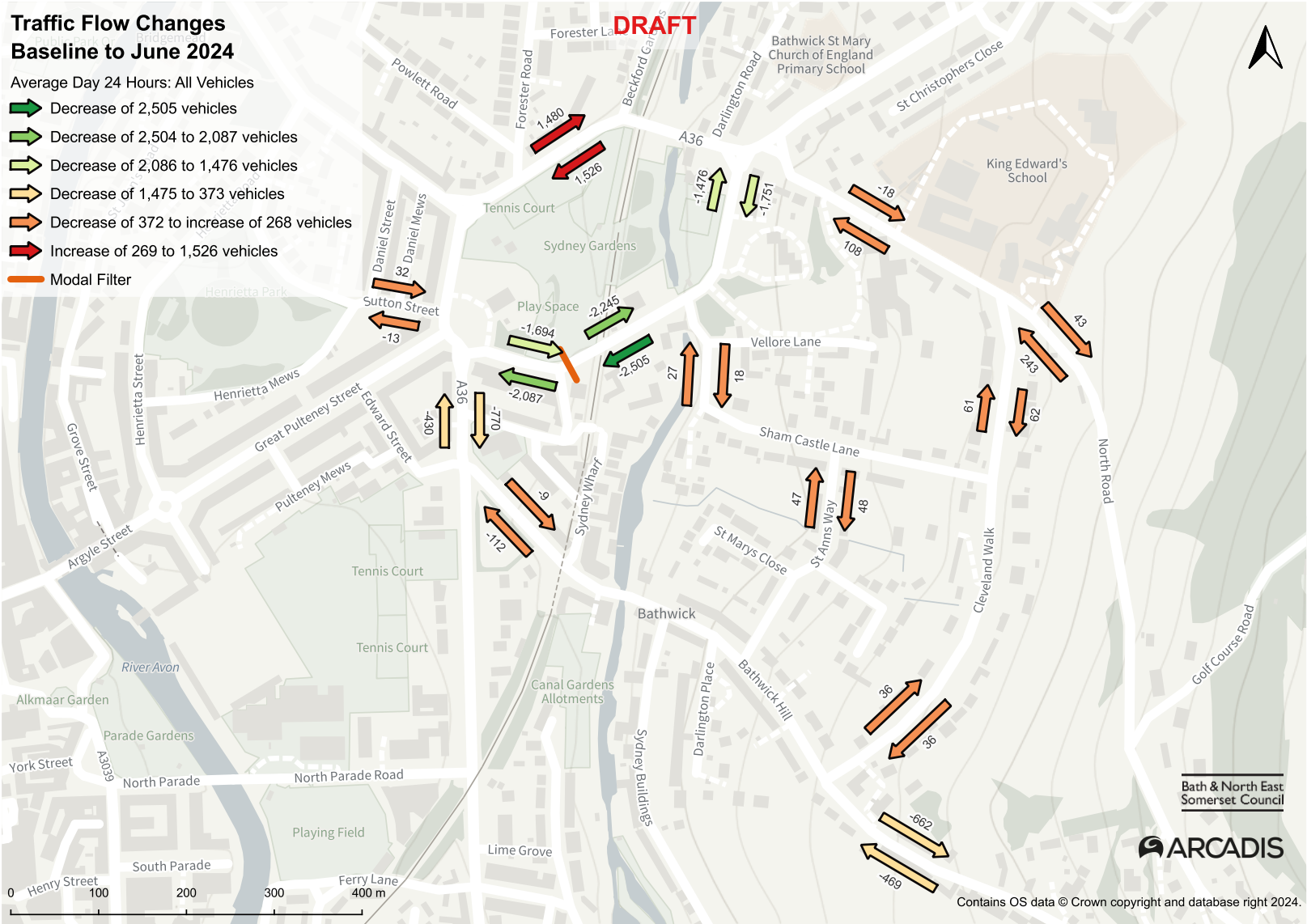
- 3.2.21 Absolute and percentage changes in motor vehicle traffic flows between the baseline and in-trial survey periods are tabulated in Table 6.
- 3.2.22 Absolute changes in motor vehicle traffic flows between the baseline and June 2024 / July 2024 / November 2024 are mapped in Figure 7, Figure 8 and Figure 9. Percentage changes in motor vehicle traffic flows between the baseline and June 2024 / July 2024 / November 2024 in Figure 10, Figure 11 and Figure 12 respectively.

Table 6: Absolute and Percentage Changes in 7-Day Average Motor Vehicle Traffic Flows (across both directions)

Road	Count No.	Absolute Change in Traffic Flows Baseline to June 2024	Absolute Change in Traffic Flows Baseline to July 2024	Absolute Change in Traffic Flows Baseline to November 2024	Percentage Change in Traffic Flows Baseline to June 2024	Percentage Change in Traffic Flows Baseline to July 2024	Percentage Change in Traffic Flows Baseline to November 2024
A36 Beckford Road, between Bathwick Street and Warminster Road	L4	3,006	2,697	2,599	40%	36%	35%
A36 Darlington Street, between Bathwick Hill Roundabout and Sydney Place	L13	-1,200	-1,278	-1,311	-7%	-8%	-8%
Bathwick Hill, east of Cleveland Walk	L9	-1,131	-413	-404	-21%	-8%	-7%
Bathwick Hill, between Bathwick Hill Roundabout and Raby Place	L10	-121	-278	-310	-2%	-4%	-5%
Cleveland Walk, northeast of Bathwick Hill	L8	72	-153	87	11%	-24%	14%
Cleveland Walk, south of North Road	L7	124	-143	99	22%	-25%	17%
North Road, east of Cleveland Walk	L6	286	-372	538	12%	-16%	23%
North Road, west of King Edward's School	L5	90	-887	441	3%	-28%	14%
Sham Castle Lane, south of Vellore Lane	L12	45	45	43	35%	35%	33%
St Anns Way, south of Sham Castle Lane	L11	95	50	54	52%	27%	29%
Sutton Street, between A36 Sydney Place and Henrietta Gardens	L14	19	80	28	2%	10%	4%
New Sydney Place, east of A36 Darlington Street	L3	-3,781	-3,825	-4,027	-85%	-86%	-90%

Road	Count No.	Absolute Change in Traffic Flows Baseline to June 2024	Absolute Change in Traffic Flows Baseline to July 2024	Absolute Change in Traffic Flows Baseline to November 2024	Percentage Change in Traffic Flows Baseline to June 2024	Percentage Change in Traffic Flows Baseline to July 2024	Percentage Change in Traffic Flows Baseline to November 2024
Sydney Road, between Sydney Place and Sham Castle Lane	L1	-4,750	-4,625	-4,679	-100%	-97%	-98%
Sydney Road, south of A36 Beckford Road	L2	-3,226	-3,146	-3,166	-70%	-68%	-69%

Figure 7: Absolute Changes in 7-Day Average Motor Vehicle Traffic Flows between Baseline and June 2024



Traffic Flow Changes
Baseline to July 2024

Average Day 24 Hours: All Vehicles

- Decrease of 2,503 vehicles
- Decrease of 2,502 to 2,115 vehicles
- Decrease of 2,114 to 895 vehicles
- Decrease of 894 to 300 vehicles
- Decrease of 299 to increase of 49 vehicles
- Increase of 50 to 1,368 vehicles
- Modal Filter

DRAFT

Streets shown include: Powlett Road, Forester Road, Beckford Canals, Darlington Road, St Christophers Close, King Edward's School, Vellore Lane, Sham Castle Lane, North Road, Cleveland Walk, Golf Course Road, Bathwick Hill, Bathwick Place, Sydney Buildings, Lime Grove, Ferry Lane, South Parade, North Parade, York Street, Alkmaar Garden, Parade Gardens, River Avon, Argyle Street, Henrietta Street, Great Pulteney Street, Pulteney Mews, Tennis Court, Sydney Wharf, Canal Gardens Allotments, Bathwick, Vellore Lane, Sham Castle Lane, St Marys Close, St Anns Way, Cleveland Walk, North Road, Golf Course Road, Bathwick Hill, Bathwick Place, Sydney Buildings, Lime Grove, Ferry Lane, South Parade, North Parade, York Street, Alkmaar Garden, Parade Gardens, River Avon, Argyle Street, Henrietta Street, Great Pulteney Street, Pulteney Mews, Tennis Court, Sydney Wharf, Canal Gardens Allotments, Bathwick.

Scale: 0 to 400 m

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Traffic Flow Changes
Baseline to November 2024

Average Day 24 Hours: All Vehicles

- Decrease of 2,507 vehicles
- Decrease of 2,506 to 1,568 vehicles
- Decrease of 1,567 to 508 vehicles
- Decrease of 507 to 121 vehicles
- Decrease of 120 to increase of 367 vehicles
- Increase of 368 to 1,395 vehicles
- Modal Filter

DRAFT

Map showing traffic flow changes in the Bathwick area, including streets like North Parade, South Parade, and the River Avon. The map includes a scale bar (0 to 400m) and a north arrow.

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Figure 10: Percentage Changes in 7-Day Average Motor Vehicle Traffic Flows between Baseline and June 2024

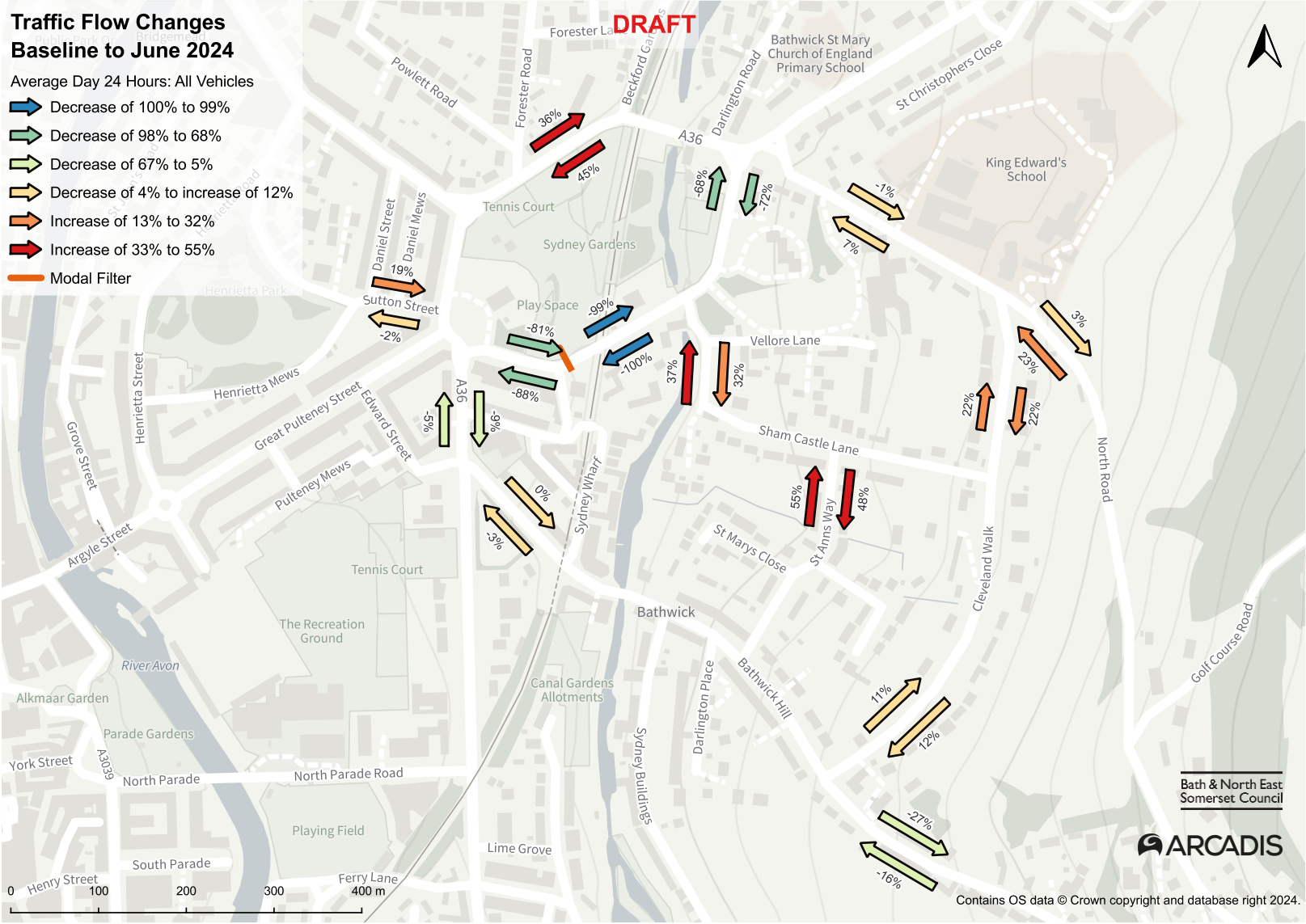
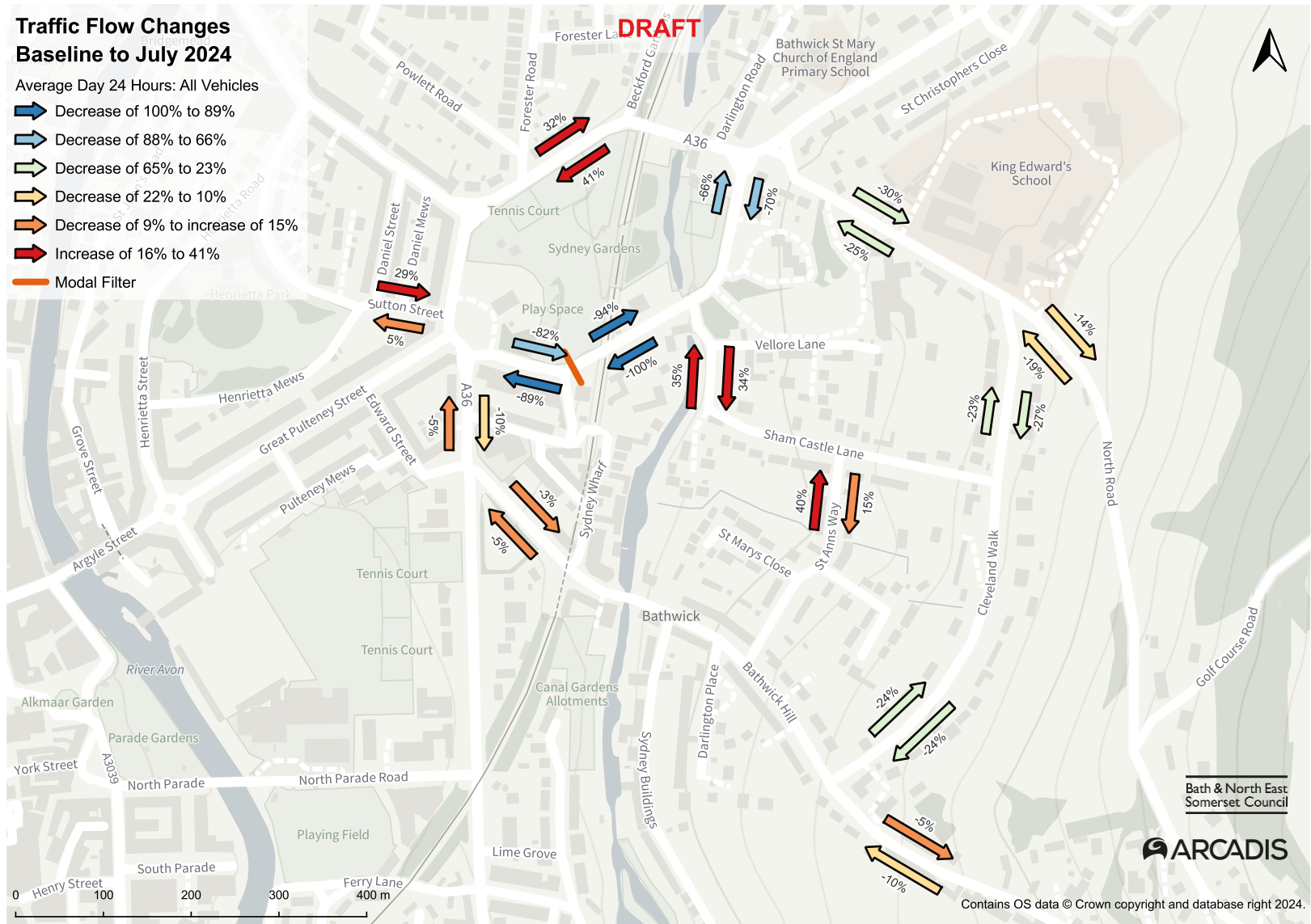


Figure 11: Percentage Changes in 7-Day Average Motor Vehicle Traffic Flows between Baseline and July 2024



Traffic Flow Changes
Baseline to November 2024

Average Day 24 Hours: All Vehicles

- Decrease of 100% to 88%
- Decrease of 87% to 65%
- Decrease of 64% to 4%
- Decrease of 3% to increase of 19%
- Increase of 20% to 30%
- Increase of 31% to 43%
- Modal Filter

DRAFT

0 100 200 300 400 m

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- 3.2.23 Considering the absolute changes in motor vehicle traffic flows between the baseline and the in-trial periods, on average the largest decrease in traffic flows in both June 2024, July 2024, and November 2024 was on Sydney Road, at the location of the through-traffic restriction, with a decrease of 4,750 vehicles per day in June 2024, 4,625 vehicles per day in July 2024, and 4,679 vehicles per day in November 2024.
- 3.2.24 The second largest decrease was found on New Sydney Place, east of the A36 Darlington Street, with a reduction of 3,781 vehicles per day in June 2024, a reduction of 3,825 vehicles per day in July 2024, and a reduction of 4,027 vehicles per day in November 2024.
- 3.2.25 This was followed by Sydney Road, south of the A36 Beckford Road, with a decrease of 3,226 vehicles per day in June 2024, 3,146 vehicles per day in July 2024, and 3,166 vehicles per day in November 2024.
- 3.2.26 The largest increase in motor vehicle traffic flows was observed on the A36 Beckford Road, with an increase of 3,006 vehicles per day in June 2024, 2,697 vehicles per day in July 2024, and 2,599 vehicles per day in November 2024. On average, 10,070 to 10,476 vehicles per day used the A36 Beckford Road during the in-trial monitoring periods, compared with 7,471 vehicles per day during the baseline.
- 3.2.27 The mean change in motor vehicles flows across all the other roads in the study area was a reduction of 521 vehicles per day in June 2024, a reduction of 335 vehicles per day in July 2024, and a reduction of 715 vehicles per day in November 2024.
- 3.2.28 Considering the percentage changes in motor vehicle traffic flows between the baseline and the in-trial periods, the greatest decrease in June 2024 was a reduction of 100% on Sydney Road, at the location of the through-traffic restriction. This was followed by New Sydney Place, east of the A36 Darlington Street, with a reduction of 85%, and Sydney Road, south of the A36 Beckford Road, with a reduction of 70%.
- 3.2.29 In June 2024, the greatest percentage increase in motor vehicle traffic flows was found on St Anns Way, with a 52% increase (albeit equating to 95 vehicles per day, or less than four per hour), followed by the A36 Beckford Road, with a 40% increase.
- 3.2.30 Across all roads in the study area, the overall 7-day average change in motor vehicle traffic flows between the baseline and June 2024 was a reduction of 18%.
- 3.2.31 The greatest percentage decrease between the baseline and July 2024 was a reduction of 97% on Sydney Road, at the location of the through-traffic restriction, followed by a reduction of 86% on New Sydney Place, east of the A36 Darlington Street, and a reduction of 68% on Sydney Road, south of the A36 Beckford Road.
- 3.2.32 In July 2024, the greatest percentage increase in motor vehicle traffic flows was found on the A36 Beckford Road, with an increase of 36%, followed by Sham Castle Lane, with an increase of 35% (albeit equating to 45 vehicles per day, or circa two per hour).
- 3.2.33 Across all roads in the study area, the overall 7-day average change in motor vehicle traffic flows between the baseline and July 2024 was a reduction of 21%.

- 3.2.34 The greatest percentage decrease between the baseline and November 2024 was a reduction of 98% on Sydney, at the location of the through-traffic restriction. This was followed by a reduction of 90% on New Sydney Place, east of the A36 Darlington Street, and a reduction of 69% on Sydney Road, south of the A36 Beckford Road.
- 3.2.35 In November 2024, the greatest percentage increase in motor vehicle traffic flows was found on the A36 Beckford Road, with an increase of 35%, followed by Sham Castle Lane, with an increase of 33% (albeit equating to 43 vehicles per day, or circa two per hour).
- 3.2.36 Across all roads in the study area, the overall 7-day average change in motor vehicle traffic flows between the baseline and November 2024 was a reduction of 17%.

Active Travel Flows

Baseline

- 3.2.37 Baseline (25 September 2023 to 01 October 2023) active travel flows on Sydney Road (adjacent to the bridge over the railway line), per average day across the 7 days, are presented in a graph in Figure 13 and set out in Table 7.

Figure 13: Baseline Active Travel Flows (7-Day Average)

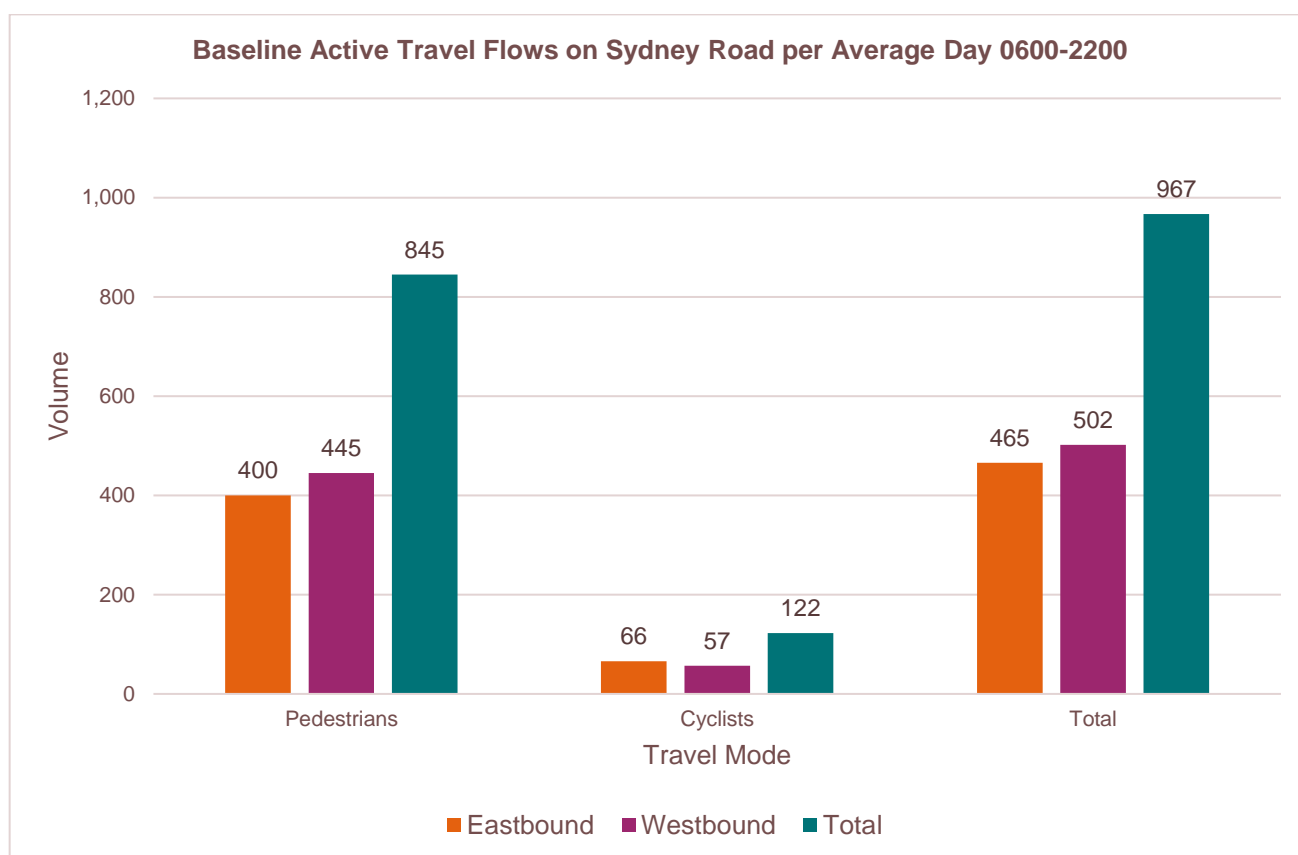


Table 7: Baseline Active Travel Flows (7-Day Average 0600-2200)

Mode	Eastbound	Westbound	Total
Pedestrians	405	445	845
Cyclists	66	57	122
Total	465	502	967

3.2.38 The data shows that Sydney Road was used by 967 active travel users per average day in the baseline, of which 87% (845) were pedestrians and 13% (122) were cyclists. The flows were broadly similar per direction, with a slightly higher proportion of pedestrians travelling westbound a slightly higher proportion of cyclists travelling eastbound.

In-Trial

3.2.39 In-trial active travel flow data is set out below in the form of a graph and table for each of the three monitoring periods, followed by a comparison with the baseline data in section 3.2.42.

3.2.40 In-trial active travel flows monitored in the same position on Sydney Road (adjacent to the bridge over the railway line), per average day across the 7 days, are presented in a graph in Figure 14, Figure 15 and Figure 16 for June 2024 (03 June 2024 to 09 June 2024), July 2024 (13 July 2024 to 19 July 2024) and November 2024 (02 November 2024 to 08 November 2024) respectively and set out in Table 8.

Figure 14: June 2024 In-Trial Active Travel Flows (7-Day Average)

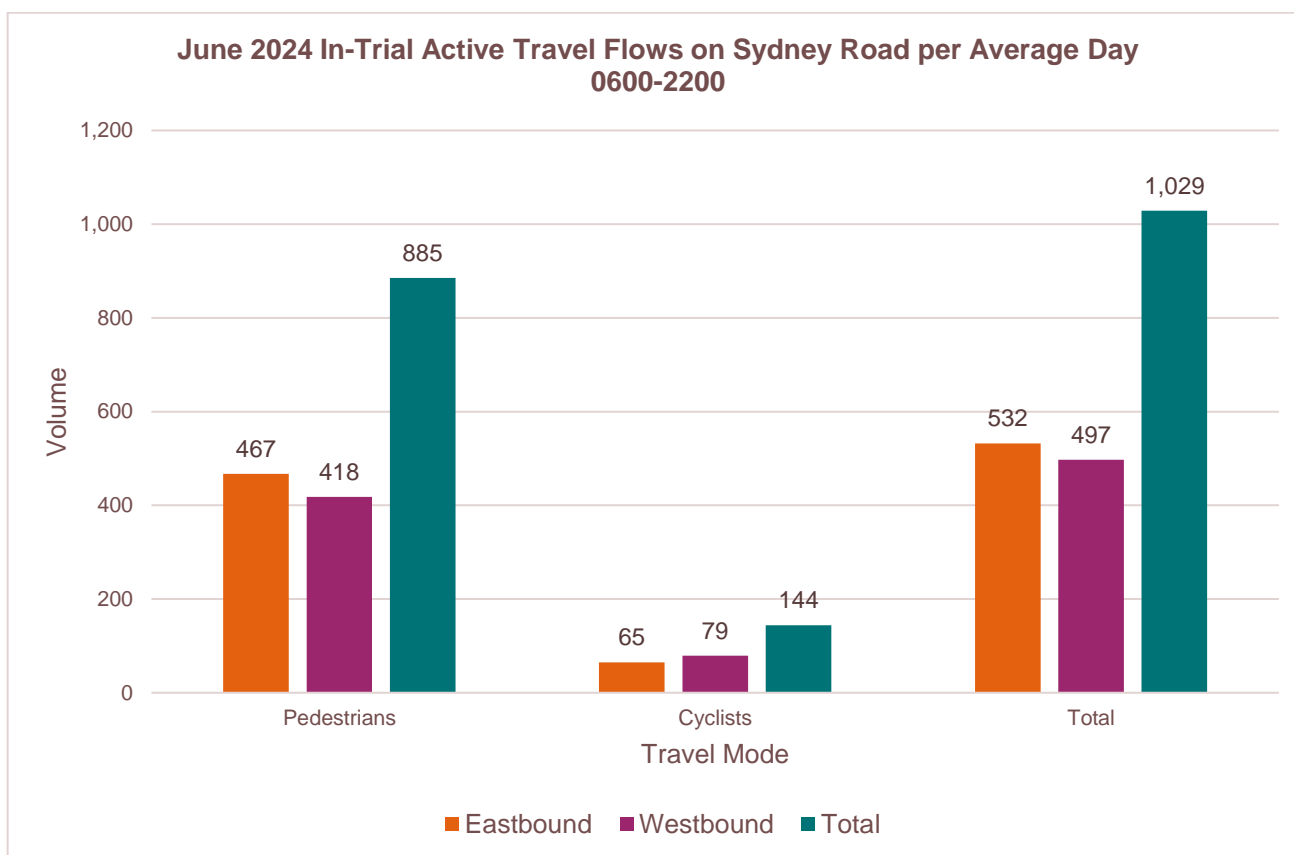


Figure 15: July 2024 In-Trial Active Travel Flows (7-Day Average)

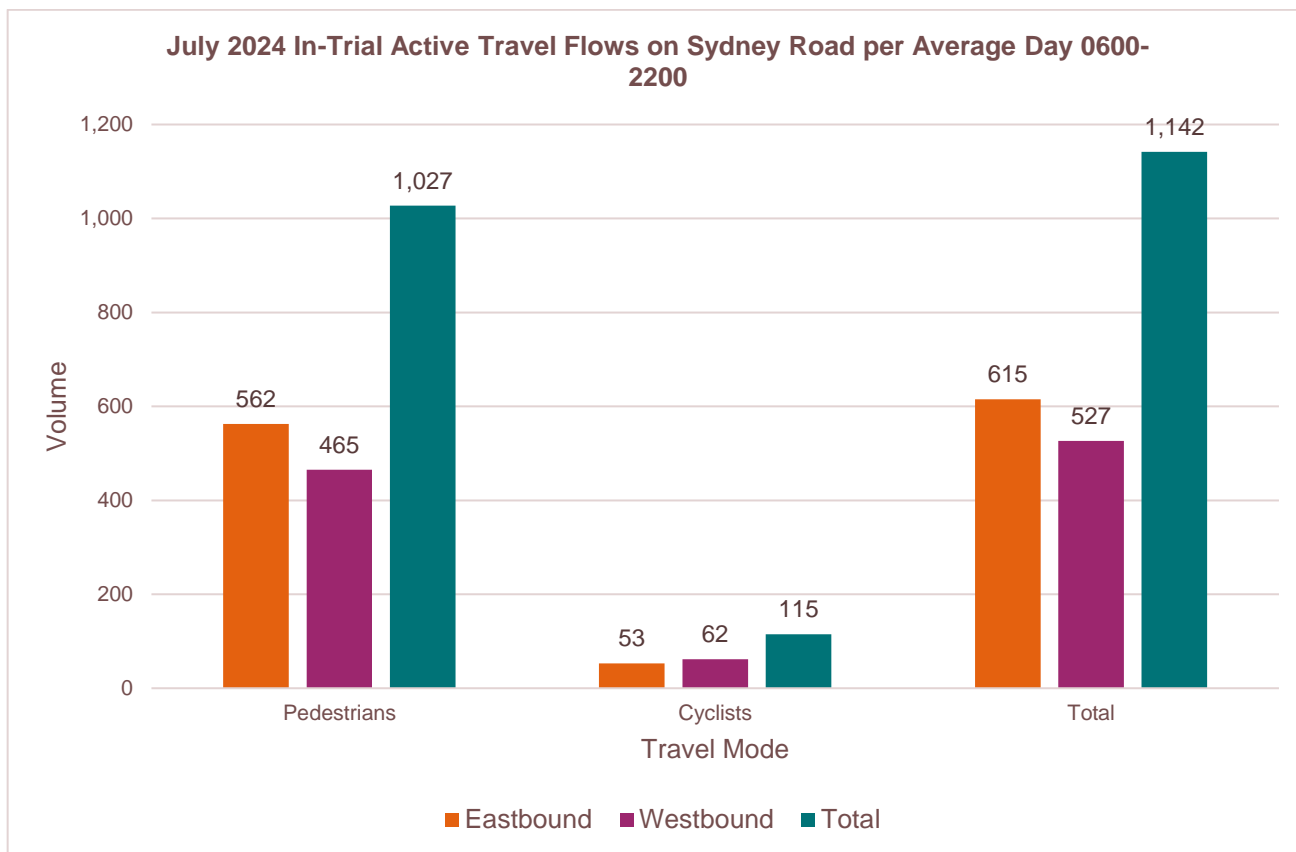


Figure 16: November 2024 In-Trial Active Travel Flows (7-Day Average)

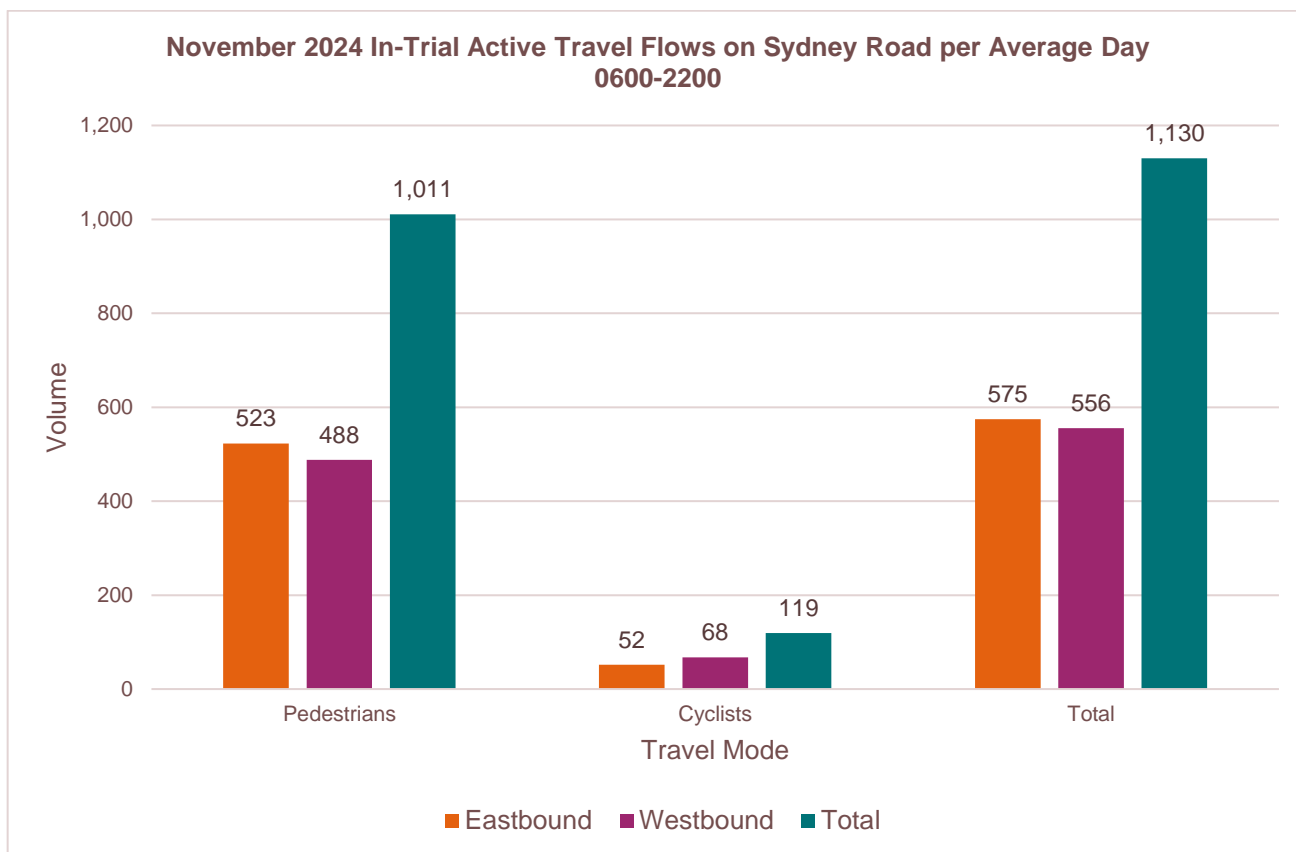


Table 8: In-Trial Active Travel Flows (7-Day Average)

Mode	June 2024 Eastbound	June 2024 Westbound	June 2024 Total	July 2024 Eastbound	July 2024 Westbound	July 2024 Total	November 2024 Eastbound	November 2024 Westbound	November 2024 Total
Pedestrians	467	418	885	562	465	1,027	523	488	1,011
Cyclists	65	79	144	53	62	115	52	68	119
Total	532	497	1,029	615	527	1,142	575	556	1,130

3.2.41 The data shows that, per average day, Sydney Road was used by 1,029 active travellers in June 2024, 1,142 in July 2024, and 1,130 in November 2024. The number of pedestrians increased between June 2024 and July 2024 whereas the number of cyclists decreased. The number of pedestrians decreased between July 2024 and November 2024 whereas the number of cyclists increased. During all in-trial periods, there were more eastbound active travellers than westbound.

Comparison of Results

3.2.42 A comparison of 7-day average active travel flows on Sydney Road between the baseline and two in-trial periods is presented in a graph in Figure 17 and set out in Table 9.

Figure 17: Comparison of Active Travel Flows on Sydney Road (7-Day Average)

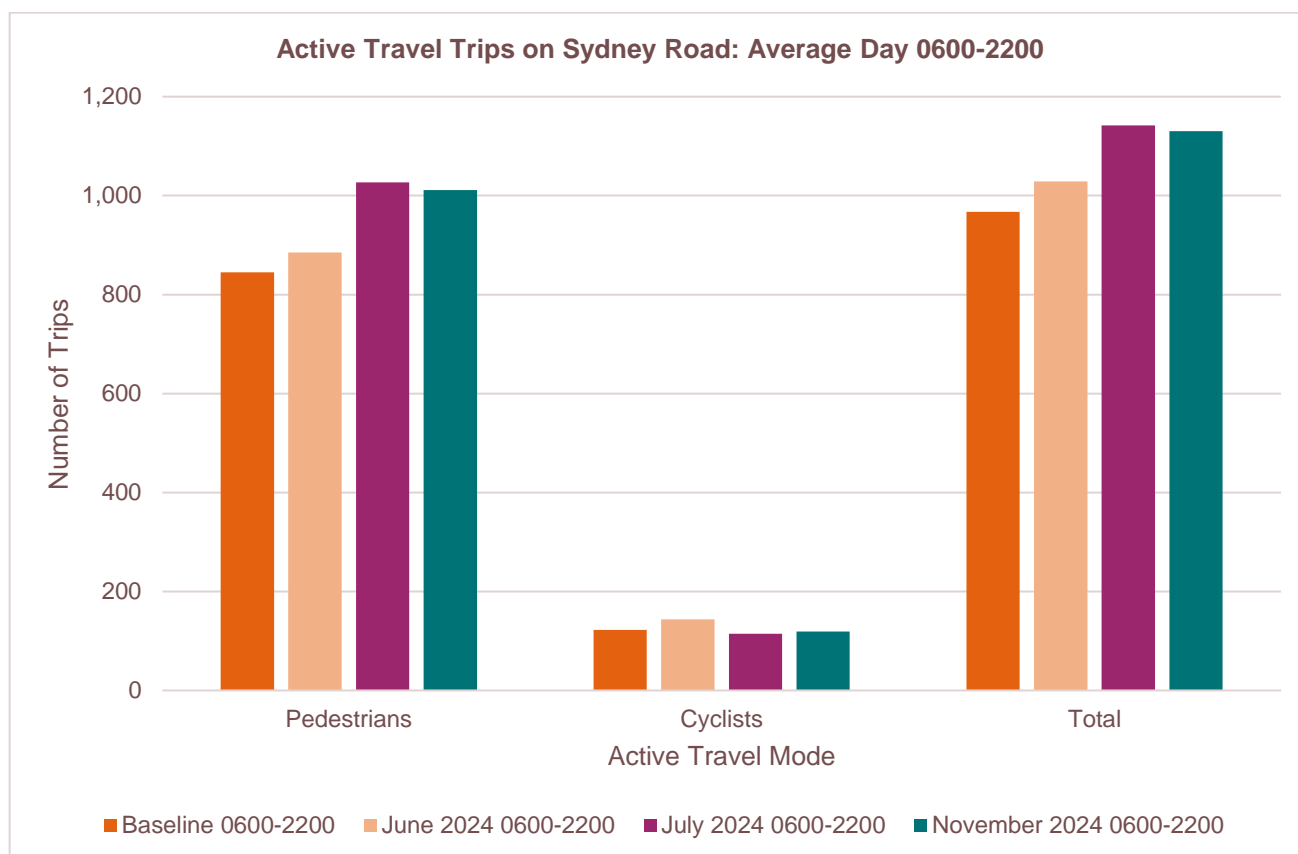


Table 9: Comparison of Active Travel Flows on Sydney Road (7-Day Average)

Mode	Baseline	June 2024	July 2024	November 2024
Pedestrians	845	885	1,027	1,011
Cyclists	122	144	115	119
Total	967	1,029	1,142	1,130

3.2.43 The comparison of active travel flows on Sydney Road shows that the number of active travellers per average day increased from 967 in the baseline to 1,029 in June 2024, 1,142 in July 2024, and 1,130 in November 2024.

- 3.2.44 Compared with the baseline, pedestrian flows increased by 40 pedestrians per day in June 2024; by 182 per day in July 2024; and by 166 per day in November 2024. Cyclist flows increased from the baseline by 22 cyclists per day in June 2024. In July 2024, cyclist flows decreased by 7 cyclists per day, when compared with the baseline, and in November 2024, cyclist flows decreased by 3 cyclists per day when compared with the baseline.
- 3.2.45 Overall, the number of active travellers (pedestrians and cyclists) per day was higher than the baseline during all three in-trial monitoring periods.

Origin Destination Data

Baseline

- 3.2.46 The ANPR survey on New Sydney Place and Sydney Road, as set out in Table 1, matched an average of 3,711 motor vehicles between 0600-2200 per average day across the 7 days, i.e. individual vehicles that were recorded both entering and leaving during the survey period of 25 September 2023 to 01 October 2023. On average, 4,357 vehicles per day passed through each of the survey sites, giving a match rate of 85%.
- 3.2.47 Of the matched vehicles, 3,259 per day passed between New Sydney Place and Sydney Road with a journey time of less than three minutes. This means that 88% of matched vehicles passed through New Sydney Place and Sydney Road in less than three minutes, thereby using these streets as a through route. Of all vehicles travelling along New Sydney Place and Sydney Road, 75% were matched as passing through with a journey time of less than three minutes.
- 3.2.48 A further 93 vehicles per day entered and departed from the same point with a journey time of less than three minutes, i.e. vehicles dropping off or picking up.

Queue Lengths

Baseline

- 3.2.49 Baseline (19 March 2024 and 26 March 2024) queue lengths in PCUs, as defined in Chapter 2, at the key junctions within the study area, as set out in Table 1, are summarised in Table 10.

Table 10: Baseline Queue Lengths (Average Weekday 0700-0900 & 1400-1730)

Arm	Ref.	Mean	Median	Max
A36 Beckford Road / A36 Warminster Road / Sydney Road				
A36 Warminster Road NE	Q1 Q2	1.0	0.0	8.3
Sydney Road S	Q10	0.9	0.0	6.0
A36 Beckford Road W	Q3	2.2	0.3	14.2
A36 Bathwick Street / A36 Beckford Road / A36 Sydney Place				
A36 Beckford Road NE	Q4 Q5	1.8	0.0	10.5

Arm	Ref.	Mean	Median	Max
A36 Sydney Place S	Q6 Q7	2.1	0.0	13.2
A36 Darlington Street / A36 Sydney Place / Sydney Place				
Sydney Place E	Q9	0.4	0.0	4.5
A36 Darlington Street S	Q8	0.3	0.0	3.5

3.2.50 The data shows that mean and median queues were negligible across the study area, with mean queue lengths typically being less than 2.0 PCUs and median queue lengths typically being zero, meaning that typically two or fewer vehicles were queuing.

3.2.51 Maximum queue lengths varied across the study area, with the highest recorded queue length of 14.2 PCUs (around 14 cars) recorded on the A36 Beckford Road SW arm at junction of the A36 Beckford Road / A36 Warminster Road / Sydney Road.

3.2.52 The data suggests that the maximum queue lengths were generally short lived as the mean and median queue lengths were significantly less than the maximum. For example, on the A36 Beckford Road SW, the maximum queue length was 14.2 PCUs (around 14 cars) however the mean and median were only 2.2 PCUs (around 2 cars) and 0.3 PCUs (no queue) respectively.

In-Trial

3.2.53 In-trial (05 June 2024, 06 June 2024 and 17 July 2024) queue lengths in PCUs (as defined in Chapter 2) at the key junctions within the study area are summarised in Table 11.

Table 11: In-Trial Queue Lengths (Average Weekday 0700-0900 & 1400-1730)

Arm	Ref.	Mean	Median	Max
A36 Beckford Road / A36 Warminster Road / Sydney Road				
A36 Warminster Road NE	Q1 Q2	1.6	0.0	13.1
Sydney Road S	Q10	0.1	0.0	1.3
A36 Beckford Road W	Q3	2.6	0.2	18.4
A36 Bathwick Street / A36 Beckford Road / A36 Sydney Place				
A36 Beckford Road NE	Q4 Q5	3.4	0.0	17.2
A36 Sydney Place S	Q6 Q7	3.3	0.2	17.4
A36 Darlington Street / A36 Sydney Place / Sydney Place				
Sydney Place E	Q9	0.0	0.0	0.7
A36 Darlington Street S	Q8	0.1	0.0	1.7

- 3.2.54 The data shows that median queue lengths were negligible across the study area, whilst mean queue lengths were typically around 3 PCUs or less, i.e. around three cars or less.
- 3.2.55 Maximum queue lengths varied across the study area, with the highest recorded queue length of 18.4 PCUs (around 18 cars) recorded on the A36 Beckford Road SW arm of the A36 Beckford Road / A36 Warminster Road / Sydney Road junction. Maximum queue lengths of around 17 PCUs (circa 17 cars) were also recorded on the A36 Beckford Road NE and A36 Sydney Place S arms of the A36 Bathwick Street / A36 Beckford Road / A36 Sydney Place junction.
- 3.2.56 As with the baseline data, the in-trial results suggest that the maximum queue lengths were generally short lived as the mean and median queue lengths were significantly less than the maximum. For example, on the A36 Sydney Place S, the maximum queue length was 17.4 PCUs (around 17 cars) however the mean and median were only 3.3 PCUs (around 3 cars) and 0.2 PCUs (no queue) respectively

Comparison

- 3.2.57 The change in queue lengths (in PCUs) between the baseline and the in-trial periods is set out in Table 12.

Table 12: Change in Queue Lengths (Average Weekday 0700-0900 & 1400-1730)

Arm	Ref.	Mean	Median	Max
A36 Beckford Road / A36 Warminster Road / Sydney Road				
A36 Warminster Road NE	Q1 Q2	0.6	0.0	4.8
Sydney Road S	Q10	-0.8	0.0	-4.7
A36 Beckford Road W	Q3	0.3	-0.1	4.3
A36 Bathwick Street / A36 Beckford Road / A36 Sydney Place				
A36 Beckford Road NE	Q4 Q5	1.6	0.0	6.7
A36 Sydney Place S	Q6 Q7	1.3	0.2	4.3
A36 Darlington Street / A36 Sydney Place / Sydney Place				
Sydney Place E	Q9	-0.3	0.0	-3.8
A36 Darlington Street S	Q8	-0.2	0.0	-1.8

- 3.2.58 The mean change in queue lengths ranged from an increase of 1.6 PCUs (around two cars) on the A36 Beckford Road NE to a decrease of 0.8 PCUs (around one car) on Sydney Road SE. Overall, the mean changes in queue lengths were negligible. Median changes in queue lengths were also negligible, with all changes being less than one PCU, or around one car.
- 3.2.59 The maximum increase in queue lengths was found on the A36 Beckford Road NE. However, the median change in queue lengths on this arm was zero, suggesting that the general operation of this arm did not significantly change.

3.2.60 The maximum decrease in queue lengths was found on the Sydney Road SE, with a reduction of 4.7 PCUs, or around five cars.

Travel Times

Journeys

- 3.2.61 Travel time data for journeys has been compared for two sets of time periods. Firstly, data is compared for the whole months of June 2023 (baseline), June 2024 (in-trial), and November 2024 (in-trial). The travel time data is based on GPS tracking data, which does not involve physical surveying, therefore allowing a larger sample size to be collected.
- 3.2.62 Secondly, data is compared for one week in the baseline (25 September 2023 to 01 October 2023) and one week in-trial (03 June 2024 to 09 June 2024). These weeks correspond with the weeks of the motor vehicle traffic flow and active travel flow surveying, providing a complete dataset for these weeks.
- 3.2.63 North-eastbound journey times, for motor vehicle traffic between the A36 Darlington Street and the A36 Warminster Road via Beckford Road or Sydney Road, in June 2023 (baseline), and the in-trial months of June 2024 and November 2024, are set out in Table 13. The calculated changes for journeys via Sydney Road assume that drivers rerouted via Beckford Road in June 2024 and November 2024.

Table 13: North-eastbound Journey Times between A36 Darlington Street and A36 Warminster Road (June 2023, June 2024 and November 2024)

Period	Via Beckford Road Mean Travel Time (secs)	Via Beckford Road Median Travel Time (secs)	Via Sydney Road Mean Travel Time (secs)	Via Sydney Road Median Travel Time (secs)
June 2023 (baseline)	109.5	104.5	68.5	64.6
June 2024 (in-trial)	109.4	104.8	-	-
November 2024 (in-trial)	108.0	104.0	-	-
Change June 2023 to June 2024	-0.1	0.3	40.9	40.2
Change June 2023 to November 2024	-1.5	-0.5	39.5	39.4

- 3.2.64 The data shows that, for north-eastbound motor vehicle traffic, average journey times between A36 Darlington Street and the A36 Warminster Road via Beckford Road were 105 to 110 seconds before the trial in June 2023, i.e. 1.7 to 1.8 minutes, and were broadly unchanged in June 2024 and November 2024, with mean and median journey time being roughly one second shorter or longer.

3.2.65 Average journey times via Sydney Road were 65 to 69 seconds in June 2023 (i.e. just over a minute). On the assumption that drivers who previously travelled via Sydney Road in June 2023 instead rerouted via Beckford Road in June 2024 and November 2024, these drivers would have experienced a 39 to 41 second increase in journey times on average.

3.2.66 South-westbound journey times, for motor vehicle traffic between the A36 Warminster Road and the A36 Darlington Street via Beckford Road or Sydney Road, in June 2023 (pre-trial) and June 2024 (post-trial), are set out in Table 14. The calculated changes for journeys via Sydney Road assume that drivers rerouted via Beckford Road in June 2024 and November 2024.

Table 14: South-westbound Journey Times between A36 Warminster Road and A36 Darlington Street (June 2023, June 2024 and November 2024)

Period	Via Beckford Road Mean Travel Time (secs)	Via Beckford Road Median Travel Time (secs)	Via Sydney Road Mean Travel Time (secs)	Via Sydney Road Median Travel Time (secs)
June 2023 (pre-trial)	88.5	81.8	62.6	59.3
June 2024	89.5	83.0	-	-
November 2024	93.0	84.0	-	-
Change June 2023 to June 2024	1.0	1.3	27.0	23.7
Change June 2023 to November 2024	4.5	2.2	30.4	24.7

3.2.67 The data shows that, for south-westbound motor vehicle traffic, average journey times via Beckford Road were 82 to 89 seconds in June 2023 (i.e. 1.36 to 1.48 minutes) and were broadly unchanged post-trial in June 2024, with a one second increase in mean and median journey times. They were slightly longer in November 2024, with a four second increase in mean journey times and a two second increase in median journey times.

3.2.68 Average journey times via Sydney Road were 59 to 63 seconds in June 2023. On the assumption that drivers who previously travelled via Sydney Road in June 2023 instead rerouted via Beckford Road in June 2024 and November 2024, these drivers would have experienced a 24 to 31 second increase in journey times on average.

3.2.69 North-eastbound journey times for motor vehicle traffic between the A36 Darlington Street and the A36 Warminster Road via Beckford Road or Sydney Road, for the baseline survey period of 25 September 2023 to 01 October 2023, and the in-trial period of 03 June 2024 to 09 June 2024, are set out in Table 15 below. The calculated changes for journeys via Sydney Road assume that drivers rerouted via Beckford Road in June 2024.

Table 15: North-eastbound Journey Times between A36 Darlington Street and A36 Warminster Road (25 September 2023 to 01 October 2023 & 03 June 2024 to 09 June 2024)

Period	Via Beckford Road Mean Travel Time (secs)	Via Beckford Road Median Travel Time (secs)	Via Sydney Road Mean Travel Time (secs)	Via Sydney Road Median Travel Time (secs)
Baseline	107.2	101.7	69.9	65.1
In-Trial	109.4	104.3	-	-
Change	2.2	2.6	39.5	39.1

- 3.2.70 The data shows that north-eastbound journeys via Beckford Road had average journey times of 102-107 seconds (1.7 to 1.8 minutes) during this baseline (pre-trial) period, increasing by around two seconds during the in-trial survey period. Average journey times via Sydney Road were between 65 and 70 seconds during the baseline (pre-trial) period. On the assumption that drivers who previously travelled via Sydney Road during November 23 (pre-trial) instead rerouted via Beckford Road during the in-trial period, these drivers would have experienced a 39 to 40 second increase in journey times on average.
- 3.2.71 South-westbound journey times for motor vehicle traffic between the A36 Warminster Road and the A36 Darlington Street via Beckford Road or Sydney Road, for the baseline survey period of 25 September to 1 October 2023, and the in-trial period of 3 June to 9 June 2024, are set out in Table 16 below. The calculated changes for journeys via Sydney Road assume that drivers rerouted via Beckford Road in June 2024.

Table 16: South-westbound Journey Times between A36 Warminster Road and A36 Darlington Street (25 September 2023 to 01 October 2023 & 03 June 2024 to 09 June 2024)

Period	Via Beckford Road Mean Travel Time (secs)	Via Beckford Road Median Travel Time (secs)	Via Sydney Road Mean Travel Time (secs)	Via Sydney Road Median Travel Time (secs)
Baseline	88.4	79.7	66.0	61.5
In-Trial	88.6	83.5	-	-
Change	0.2	3.8	22.7	22.0

- 3.2.72 The data shows that south-westbound journeys via Beckford Road had average journey times of 80 to 88 seconds (1.3 to 1.46 minutes) during this baseline (pre-trial) period, increasing by between zero and four seconds during the in-trial survey period. Average journey times via Sydney Road were between 62 and 66 seconds in the baseline. On the assumption that drivers who previously travelled via Sydney Road in the baseline instead rerouted via Beckford Road during the in-trial period, these drivers would have experienced a 22 to 23 second increase in journey times on average.

Roads – Monthly Analysis

- 3.2.73 Travel times for motor vehicle traffic on roads in June 2023 (baseline), June 2024 and November 2024¹ (in-trial) are set out in Table 17. This data represents the average of all vehicles at all times of the day and days of the month.

¹ The travel times for November 2024 are based on data from 02 November 2024 to 08 November 2024. This is due to the reclosure of the A36 at Limpley Stoke and the consequential impacts on traffic on the A36.

Table 17: Travel Times on Roads (June 2023, June 2024 & November 2024)

Road	Direction	June 2023 Baseline	June 2023 Baseline	June 2024 In-Trial	June 2024 In-Trial	November 2024 In-Trial	November 2024 In-Trial	Change June 2023 to June 2024	Change June 2023 to June 2024	Change June 2023 to November 2024	Change June 2023 to November 2024
		Mean Travel Time (secs)	Median Travel Time (secs)	Mean Travel Time (secs)	Median Travel Time (secs)	Mean Travel Time (secs)	Median Travel Time (secs)	Mean Travel Time (secs)	Median Travel Time (secs)	Mean Travel Time (secs)	Median Travel Time (secs)
A36 Bathwick Street	Eastbound	28.6	21.8	32.6	23.5	38.0	29.0	3.9	1.8	9.4	7.2
A36 Bathwick Street	Westbound	35.9	19.1	46.6	20.9	49.0	23.0	10.7	1.8	13.1	3.9
A36 Beckford Road	Eastbound	43.2	39.6	42.5	37.3	50.0	44.0	-0.6	-2.4	6.9	4.4
A36 Beckford Road	Westbound	55.7	49.7	55.6	46.8	60.2	53.7	-0.1	-2.9	4.5	4.0
A36 Darlington Street	Northbound	23.7	18.9	26.5	20.7	27.1	24.0	2.8	1.8	3.4	5.1
A36 Darlington Street	Southbound	18.1	15.0	18.0	14.6	22.0	17.0	-0.1	-0.4	3.9	2.0
A36 Sydney Place	Northbound	41.7	33.6	48.1	38.5	48.8	42.1	6.4	4.9	7.1	8.5
A36 Sydney Place	Southbound	21.1	16.4	23.7	18.1	27.0	22.0	2.6	1.8	5.9	5.7
A36 Warminster Road	Eastbound	27.6	25.8	27.3	25.6	29.0	27.0	-0.2	-0.2	1.4	1.2
A36 Warminster Road	Westbound	38.8	35.4	38.0	32.6	40.0	36.1	-0.8	-2.8	1.2	0.7
Sydney Place	Eastbound	14.3	12.9	24.3	18.3	26.0	19.0	10.0	5.4	11.7	6.1
Sydney Place	Westbound	21.4	17.8	25.1	20.2	24.0	22.0	3.6	2.4	2.6	4.2
Sydney Road	Northbound	48.0	43.9	56.5	50.9	71.0	57.0	8.5	7.1	23.0	13.2
Sydney Road	Southbound	29.8	27.9	36.7	32.4	43.0	38.0	6.9	4.5	13.2	10.1

- 3.2.74 The data shows that changes in travel times between June 2023 and June 2024 were generally minimal across the roads within the study area, with no roads having a travel time change of more than ten seconds. The greatest increase in mean travel time was 10.7 seconds per vehicle on the A36 Bathwick Street eastbound, whilst the greatest decrease in mean travel time was 0.8 seconds per vehicle on the A36 Warminster Road westbound.
- 3.2.75 The greatest increase in median travel time during June 2024 was 7.1 seconds per vehicle on Sydney Road northbound, whilst the greatest decrease in median travel time was 2.9 seconds per vehicle on the A36 Beckford Road eastbound.
- 3.2.76 The greatest change in mean travel times between June 2023 and November 2024 was an increase in mean travel times on Sydney Road northbound of 23.0 seconds. This was followed by a mean increase of 13.2 seconds on Sydney Road southbound. No decreases in mean travel times were observed between June 2023 and November 2024.
- 3.2.77 The greatest increase in median travel time during November 2024 was 13.2 seconds on Sydney Road northbound, followed by 10.1 seconds on Sydney Road southbound. No decreases in median travel times were observed in November 2024.
- 3.2.78 The changes in travel times on Sydney Road are to be expected because it can no longer be used as a through route. Vehicles using Sydney Road during the in-trial monitoring periods would generally be accessing local properties and therefore would be expected to be travelling at slower speeds than vehicles that were previously using the road as a through route.
- 3.2.79 Excluding the roads that fall within the New Sydney Place and Sydney Road Liveable Neighbourhood, the greatest increase in mean travel times in November 2024 was 13.1 seconds on the A36 Bathwick Street westbound, followed by 9.4 seconds on the A36 Bathwick Street eastbound.

Roads – Peak Period Analysis

- 3.2.80 Travel times for motor vehicle traffic on roads during the hours of 0700-0900 and 1400-1800 (peak hours) on 19 March 2024 & 26 March 2024 (baseline, pre-trial) and 05 June 2024 & 06 June 2024 (in-trial) are set out in Table 18. These dates and times correspond with the queue length surveys, the results of which are considered at 3.2.49 to 3.2.60.

Table 18: Travel Times on Roads during peak hours (19 March 2024 & 26 March 2024 and 05 June 2024 & 06 June 2024: 0700-0900 & 1400-1800)

Road	Direction	19 March 2024 & 26 March 2024	19 March 2024 & 26 March 2024	05 June 2024 & 06 June 2024	05 June 2024 & 06 June 2024	Change	Change
		Mean Travel Time (secs)	Median Travel Time (secs)	Mean Travel Time (secs)	Median Travel Time (secs)	Mean Travel Time (secs)	Median Travel Time (secs)
A36 Bathwick Street	Eastbound	33.4	26.1	39.5	30.4	6.1	4.3
A36 Bathwick Street	Westbound	44.6	24.4	96.1	73.5	51.5	49.1
A36 Beckford Road	Eastbound	46.3	44.0	47.2	43.8	0.9	-0.2
A36 Beckford Road	Westbound	58.1	53.7	70.8	58.5	12.7	4.7
A36 Darlington Street	Northbound	25.3	22.0	32.6	26.7	7.3	4.7
A36 Darlington Street	Southbound	24.2	18.6	24.5	17.7	0.4	-0.9
A36 Sydney Place	Northbound	44.7	38.3	72.2	57.8	27.6	19.5
A36 Sydney Place	Southbound	25.8	20.0	29.1	23.8	3.2	3.8
A36 Warminster Road	Eastbound	28.8	26.8	28.6	26.3	-0.2	-0.4
A36 Warminster Road	Westbound	43.1	40.3	40.9	36.4	-2.2	-3.9

Road	Direction	19 March 2024 & 26 March 2024	19 March 2024 & 26 March 2024	05 June 2024 & 06 June 2024	05 June 2024 & 06 June 2024	Change	Change
		Mean Travel Time (secs)	Median Travel Time (secs)	Mean Travel Time (secs)	Median Travel Time (secs)	Mean Travel Time (secs)	Median Travel Time (secs)
Sydney Place	Eastbound	14.6	13.3	23.1	19.2	8.5	5.9
Sydney Place	Westbound	28.9	21.6	25.3	23.9	-3.6	2.2
Sydney Road	Northbound	54.9	51.1	54.00	54.9	-0.9	3.8
Sydney Road	Southbound	33.2	30.2	44.7	37.1	11.5	6.9

- 3.2.81 The greatest change in mean travel time for motor vehicles travelling during peak hours was recorded on the A36 Bathwick Street westbound, with an increase of 52 seconds per vehicle. This was followed by travel during peak hours on the A36 Sydney Place northbound, with an increase of 28 seconds per vehicle. Reductions in mean travel time (during peak hours) were recorded on the A36 Warminster Road eastbound; the A36 Warminster Road westbound; Sydney Place westbound; and Sydney Road northbound.
- 3.2.82 The greatest change in median travel time for motor vehicles travelling during peak hours was recorded on the A36 Bathwick Street westbound, with an increase of 49 seconds per vehicle. This was followed by the A36 Sydney Place northbound, with a peak-time journey increase of 20 seconds per vehicle. Reductions in median travel time were recorded on the A36 Beckford Road eastbound; the A36 Darlington Street southbound; the A36 Warminster Road eastbound; and the A36 Warminster Road westbound.

4 Summary and Conclusions

4.1 Summary

- 4.1.1 This report has been prepared by Arcadis on behalf of B&NES. It has set out the findings of traffic monitoring undertaken in association with the introduction of a through-traffic restriction on Sydney Road to discourage through motor vehicle traffic from the use of Sydney Place and Sydney Road.
- 4.1.2 The purpose of the monitoring has been to understand changes in motor vehicle and active travel flows since the implementation of the through traffic restriction. Baseline traffic data was collected in September 2023, February 2024, and March 2024 and comprised ATC data, temporary camera surveys, ANPR data, and queue length data. Additionally travel time data was obtained for both these periods and June 2023. In-trial data was collected in June 2024, July 2024 and November 2024. It comprised ATC data, temporary camera surveys, and queue length data. In addition, travel time data was obtained for these periods.
- 4.1.3 The analysis of baseline motor vehicle traffic flow data found that the A36 Darlington Street carried the highest traffic flows in the baseline, with a 7-day average of 16,529 vehicles per day. In the baseline, Sydney Place and Sydney Road were used by 4,466 to 4,770 motor vehicles per day
- 4.1.4 The origin destination data for Sydney Place and Sydney Road found that of all vehicles travelling along the two streets per day, 75% were matched as passing through with a journey time of less than three minutes. This equated to 3,259 through vehicular movements per day who did not appear to have a trip attractor or generator in the area.
- 4.1.5 During the in-trial surveys in June 2024, July 2024 and November 2024, the A36 Darlington Street once again carried the most vehicles. Traffic flows on Sydney Road, at the location of the through-traffic restriction, reduced to 20 motor vehicles per day in June 2024, and increased to 145 vehicles per day in July 2024, then reducing to 91 vehicles per day in November 2024.
- 4.1.6 Considering changes to 7-day average traffic flows between the baseline and in-trial periods, the largest decrease in traffic flows was found on Sydney Road, at the through-traffic restriction, followed by Sydney Place, east of the A36 Darlington Street, and Sydney Road, south of the A36 Beckford Road. The largest increase in motor vehicle traffic flow was observed on the A36 Beckford Road, with an increase of 3,006 vehicles per day in June 2024, 2,697 vehicles per day in July 2024, and 2,599 vehicles per day in November 2024.
- 4.1.7 When considering changes in 7-day average motor vehicle traffic flows in percentage terms, decreases of between -97% and -100% were observed on Sydney Road, at the through-traffic restriction, with corresponding reductions of 85% to 90% on Sydney Place, east of the A36 Darlington Street, and 68% to 70% on Sydney Road, south of the A36 Beckford Road. When compared with the baseline, traffic flows on the A36 Beckford Road increased by 40% in June 2024, by 36% in July 2024, and by 35% in November 2024.
- 4.1.8 Small increases in motor vehicle traffic flows were recorded on Sham Castle Lane and St Anns Way in June 2024, July 2024 and November 2024, however these were limited to less than 100 vehicles (circa four per hour) per day.

- 4.1.9 The analysis of active travel flows on Sydney Road found that the number of pedestrians and cyclists increased between the baseline and in-trial periods. The number of pedestrians increased by 182 per day between the baseline and July 2024. The number of cyclists increased in June 2024 but then decreased to slightly below the baseline in July 2024 and November 2024.
- 4.1.10 The comparison of queue length data before and after the implementation of the through traffic restriction found that average changes in queue lengths were negligible during the peak periods of 0700-0900 and 1400-1730. The greatest change in mean queue lengths during these peak times was less than two PCUs (or around two cars), whilst the greatest change in median queue lengths was less than one PCU (or around one car).
- 4.1.11 When considering changes in journey times between the A36 Warminster Road and A36 Darlington Street, it was found that when considering the months of June 2023 (pre-trial), June 2024 and November 2024, mean and median journey times via Beckford Road in both directions were broadly unchanged, with average increases of less than five seconds. For drivers who previously routed via Sydney Road, assuming they rerouted via Beckford Road in June 2024, these drivers would have experienced an increase in average journey times of 20-40 seconds when considering both directions.
- 4.1.12 Travel times on roads generally increased by ten seconds or less when comparing June 2023 with June 2024, with a number of roads showing decreases in average travel times. When comparing June 2023 with November 2024, the majority of roads again had an increase in average travel times of less than ten seconds.
- 4.1.13 When considering changes in travel times during peak periods, the greatest change was observed on the A36 Bathwick Street westbound, with a mean increase of 51.5 seconds and a median increase of 49.1 seconds, or less than one minute. It should be noted that this travel time is for vehicles travelling away from the New Sydney Place and Sydney Road area and therefore is unlikely to be related to the trial through-traffic restriction.
- 4.1.14 The second greatest change in travel times during peak periods was observed on the A36 Sydney Place northbound, with a mean increase of 27.6 seconds and a median increase of 19.5 seconds, or less than half a minute on average.

4.2 Conclusions

- 4.2.1 In overall summary, the survey data shows that the introduction of the through-traffic restriction has reduced motor vehicle traffic flows on Sydney Place and Sydney Road, with decreases of up to 100% at the through-traffic restriction and decreases of around 85% to 90% on New Sydney Place and 70% on Sydney Road. It would be expected that some vehicles would continue to use New Sydney Place and Sydney to access local properties, whilst some vehicles might continue onto Sham Castle Lane or Sydney Mews.
- 4.2.2 Smaller increases in traffic flows on the A36 Beckford Road were recorded, with increases of around 30 to 40% when compared with the baseline.
- 4.2.3 Walking and cycling generally increased, with the number of pedestrians and cyclists increasing by 18% when comparing July 2024 with the baseline, although the number of cyclists did slightly reduce during the latter in-trial periods.

- 4.2.4 Mean changes in average weekday queue lengths were negligible, with median changes in queue lengths also negligible.
- 4.2.5 Travel time changes following the implementation of the liveable neighbourhood have been minimal, with journey times for vehicles travelling between the A36 Warminster Road and the A36 Darlington Street via the A36 Beckford increasing by an average of five seconds or less.
- 4.2.6 During peak times, the greatest increase in travel times on roads was recorded on the A36 Bathwick Street westbound, however this could be attributed to a number of factors, including operational incidents and traffic management. Travel time changes on the A36 Sydney Place during peak times were, on average, less than half a minute, whilst travel time changes during peak times on the A36 Beckford Road were, on average, less than thirteen seconds.

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