

Romsey Road and Clifton Terrace: Transport Monitoring Report

To provide an evidence base for the monitoring of Experimental Traffic Regulation Order on Romsey Road and Clifton Terrace, Winchester.

On behalf of Strategic Transport, **Hampshire County Council**

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Key findings

This report has been prepared by Hampshire's Traded Services for Hampshire County Council's Strategic Transport team to present data collected from transport surveys concerning the implementation an Experimental Traffic Regulation Order (ETRO) on Romsey Road and Clifton Terrace, Winchester, and the associated new pedestrian crossing.

Comparing the pedestrian and cyclist January 2024 (pre-scheme implementation) data with May 2024 (post-scheme implementation) data reveals that:

- Pedestrian numbers crossing Romsey Road at the crossing point have increased from 986 (northbound and southbound) to 1061 after the scheme had been installed for a number of months.
- The number of people crossing informally west of Clifton Terrace has decreased by 64 people on a daily average.
- There has been no change on a typical day for cyclists using Clifton Terrace. There has been a small decrease in cyclists on Romsey Road, of 15 cyclists on average per day.

When comparing traffic volumes from January 2024 (pre-scheme) data with May 2024 (post-scheme) data shows:

- Clifton Terrace average flows have decreased; the average number of vehicles using Clifton Terrace has decreased from 715 northbound to 0, and from 1314 to 1032 southbound
- There is a small increase in traffic flow on Clifton Road (136), Clifton Hill (42), West End Terrace (138), Greenhill Road (115), and Elm Road (33), however the increase in traffic flow is fairly evenly distributed.
- There is not a significant total increase in traffic flows when compared to pre-scheme flows.
- Speed changes are negligible, with only a 2mph average change on one site

From the user intercept survey, improvements in safety and ease of crossing were reported regarding the new temporary pedestrian crossing:

- People feel Romsey Road is safer to cross: 20% of survey respondents said the road was safe to cross before the crossing was installed, compared to 83% who said it was safe to cross after the crossing was installed.

- People feel Romsey Road is easier to cross: 16% of survey respondents said it was easy to cross the road before the crossing was installed, 83% reported it was easy to cross since the installation.
- Respondents who cycled in the area reported that they felt safer cycling on Clifton Terrace since the contraflow cycle lane was installed. 46% reported it was safe prior to the contraflow lane and 59% reported it was safe after the contraflow lane was installed.

Fewer respondents cycled than walked, the most frequent cyclist comments from the survey are summarised below:

- Nearly half (48%) of respondents reported that the layout of the junction changes had made cycling difficult to navigate.
- Most comments related to the lack of access to St James' Terrace from Clifton Road (due to the acute angle of the temporary kerbing and lack of a dropped kerb)
- Cyclists felt it was difficult turning right into Clifton Terrace from Romsey Road
- Manoeuvres are made difficult by the acute angle of the temporary kerbing.

Through vehicle observation surveys, driver behaviour is positive with very few occasions of vehicles on Romsey Road blocking vehicles exiting Clifton Terrace.

Background and Introduction

This report has been prepared by Hampshire's Traded Services for Hampshire County Council's Strategic Transport team to present data collected from transport surveys concerning the implementation an Experimental Traffic Regulation Order (ETRO) on Romsey Road and Clifton Terrace, Winchester.

The Romsey Road-Clifton Terrace Scheme ETRO project looks to provide a traffic signal-controlled crossing of Romsey Road at the junction with Clifton Terrace in Winchester and includes the following key elements:

- To provide a safe and improved crossing for pedestrians and vulnerable users. The trial road layout changes will include a cycle contraflow lane (going against the vehicular flow of traffic) along Clifton Terrace.
- Clifton Terrace will be made "No Entry" from Romsey Road and traffic (except for cycles) and vehicles would only be permitted to turn right when exiting from Clifton Terrace.
- Vehicles will also be prohibited from entering Clifton Hill from Clifton Terrace. Cycles will be permitted.
- Vehicles travelling from Clifton Hill will only be permitted to turn right into Clifton Terrace. Cycles will be permitted.
- A section of on-street parking will be relocated from the southern section of Clifton Terrace to the northern section of Clifton Terrace, near Allison Way.

More information about the scheme can be found on the [Hampshire County Council web page](#).

Monitoring has been carried out on a scheme for Romsey Road and Clifton Terrace, aimed at making walking and cycling more accessible, comfortable, and safer. These changes have been introduced using an Experimental Traffic Regulation Order (ETRO), with the outcomes of monitoring, feedback from the public, and other stakeholders such as cycling groups, formal responses to the ETRO, and ongoing review of the design implemented as part of the trial will all inform a decision about whether to make the scheme permanent or not.

Methodology

The purpose of this monitoring report is to help understand whether the scheme is effective in making walking and cycling more comfortable and safer as well the potential impacts of the scheme such as increased traffic in other areas. Below are the key aspects the monitoring plan covers:

- User experience;
- Impact on walking and cycling;
- Impact on traffic flows and journey times;
- Impact on air quality;
- Impact on collisions.

The objectives and descriptions are labelled below in Table 1:

Assessment	Summary
User Experience	<ul style="list-style-type: none"> ▪ Has the introduction of the scheme led to any changes in travel behaviour (mode / route / frequency of travel)? ▪ Has the introduction of the scheme led to changes in experience of walking and cycling in the area (journey safety, comfort, interaction with other modes)?
Impact on walking and cycling	<ul style="list-style-type: none"> ▪ What are the impacts on cycle flows at the crossing and on Romsey Road and Clifton Terrace? ▪ What are the impacts on pedestrian flows at the crossing and on Romsey Road and Clifton Terrace?
Impact on traffic flows and journey times	<ul style="list-style-type: none"> ▪ What are the impacts on traffic flow on Romsey Road and Clifton Terrace and roads immediately surrounding the scheme? ▪ How do impacts on traffic flow vary by vehicle type? ▪ How do impacts on traffic flow vary by time period? ▪ Did traffic flows change during the experiment? ▪ What are the impacts on road-user journey times on Romsey Road?
Impact on air quality	<ul style="list-style-type: none"> ▪ What are the impacts on air quality based on change at specific air quality monitoring sites along Romsey Road?
Impact on collisions	<ul style="list-style-type: none"> ▪ What are the impacts by road / user?

Table 1: Objectives and Summary for the Romsey Road and Clifton Terrace ETRO Scheme

Data Collection

To assess the impact of the ETRO scheme, a series of measures have been monitored. The objectives outlined in Table 1 have been monitored through a series of surveys, as seen in Table 2:

Measure	Data Used	Date completed
Permanent Traffic Counters	<ul style="list-style-type: none"> ▪ Andover Road ▪ Chilbolton Avenue ▪ St James Lane 	Pre-scheme data collected: January 24 During-scheme data collected: May 2024
Traffic flows (non-permanent counters).	<ul style="list-style-type: none"> ▪ Romsey Road/ Clifton Terrace/ Clifton Road ▪ Carfax junction ▪ Stockbridge Road/ Berewecke Road/ Cheriton Road junction ▪ Romsey Road/ Chilbolton Avenue/ Kerrfield junction ▪ B3044 City Road/ St Pauls Hill/ Elm Road/ B3049 Stockbridge Road junction ▪ Greenhill Road 	Pre-scheme data collected: January 24 During-scheme data collected: May 2024
Automated Traffic Counters (collected over 7-day period)	<ul style="list-style-type: none"> ▪ Romsey Road ▪ Clifton Terrace ▪ Clifton Hill ▪ Clifton Road ▪ West End Terrace ▪ Elm Road ▪ Greenhill Road 	Pre-scheme data collected: January 24 During-scheme data collected: May 2024
Pedestrian flows	<ul style="list-style-type: none"> ▪ Romsey Road ▪ Clifton Terrace 	Pre-scheme data collected: January 24 During-scheme data May 2024 using Vivacity Cameras.
Air quality	Air quality monitoring (Covering NO2, PM10, PM2.5), carried out by Winchester City Council, at four points along Romsey Road.	Continuous data to be available early 2025.
Road Collisions /accidents via PIC statistics	<ul style="list-style-type: none"> ▪ Romsey Road ▪ Clifton Terrace ▪ Clifton Hill ▪ Clifton Road ▪ West End Terrace ▪ Elm Road ▪ Greenhill Road 	Pre-scheme data collected: January 24 During-scheme data collected: May 2024
User experience: Intercept surveys	<ul style="list-style-type: none"> ▪ Romsey Road ▪ Clifton Terrace 	May 2024
Driver behaviour observation survey	Manual survey of Romsey Road and Clifton Terrace to observe how easy it is for vehicles to exit Clifton Terrace.	July 2024
Road-user journey times	▪ Romsey Road (using existing Bluetooth data monitoring).	Issues with the Bluetooth sensors meant journey time data could not be collected on Romsey Road. However, anecdotally there have been no reports of congestion in the area.
Turning Counts	<ul style="list-style-type: none"> ▪ Romsey Road ▪ Clifton Terrace ▪ Clifton Road 	Pre-scheme data collected: January 24 During-scheme data collected: May 2024

Table 2: Monitoring Key Objectives and Impacts of the ETRO

In addition to the above monitoring a Vivacity Camera has been installed at the new crossing. Vivacity Camera's have the ability to record data in near real time. The Vivacity cameras were utilised on 22nd May 2024 and 1st July 2024; however, the data is collected on an on-going basis including:

- Pedestrian counts;
- Cycle counts;
- Vehicle counts on Clifton Terrace and Romsey Road;
- Vehicle and people tracking to understand how people and drivers navigate the junction.

The Vivacity Cameras have been used to check data collected is representative and to enable on-going monitoring of the scheme.

Timelines and Location

The monitoring has been informed by various traffic, cyclist and pedestrian counts and surveys including interviews with cyclists and pedestrians. Timescales for monitoring, including collection of baseline data, are summarised in Table 3, with exact dates given in other parts of the report.

Activity	Monitoring Period
Pre-scheme data collection	31 st January
Post-scheme data collection	22 nd May 2024; 25 th July

Table 3: Methodology for Romsey Road and Clifton Terrace

The approximate locations of these surveys, as well as other permanent traffic and air quality monitoring sites, in the vicinity of the scheme, are shown in Figure 1.

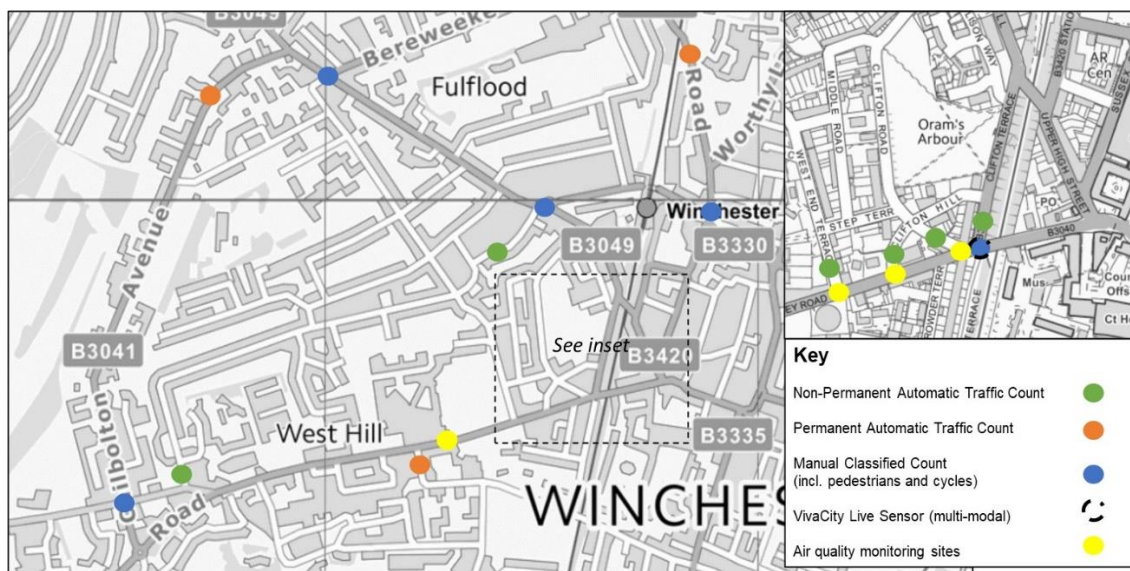


Figure 1: Traffic, Cycle, Pedestrian and Air Quality Monitoring Sites

Caveats to Monitoring

There are some caveats associated with the data from the ETRO scheme:

- The Permanent Automated Traffic Count data provides data from January 2022 until May 2024, and shows peaks and troughs within the graphs synonymous with events such as roadworks and school holidays. In addition, during this period there has been a continued response to Covid-19 and general increase in traffic. Whilst the data is not necessarily impacted by these events, these are declared in the caveats.
- The data for journey times across Romsey Road was expected to be collected via Bluetooth sensors. However, the Bluetooth sensors developed faults and therefore this data is unavailable.
- Cycle flow data was not collected prior to May 2024 on St James' Terrace
- The observational turning count and exit surveys was taken during the final week of term and therefore school related traffic was likely lower than a typical day; however, it was representative of a typical Tuesday in terms of Annual Average Daily Traffic and Volume data. An error with the queue length survey meant that the 15:00-17:00 survey was re-collected on 25 July 2024 instead of 23 July 2024

Walking and Cycling Counts

In order to assess whether the ETRO has promoted more active travel usage, pedestrian flows have been included in the data collection.

Methodology

Changes in pedestrian and cycle flows

- What are the impacts on cycle flows at the crossing and on Romsey Road and Clifton Terrace?
- What are the impacts on pedestrian flows at the crossing and on Romsey Road and Clifton Terrace?

User experience feedback

- Has the introduction of the scheme led to any changes in travel behaviour (mode / route / frequency of travel)?
- Has the introduction of the scheme led to changes in experience of walking and cycling in the area (journey safety, comfort, interaction with other modes)?

Two sets of pedestrian counts have been collected in relation to this scheme across the following dates:

- January 2024: before the ETRO scheme was installed, to gather pre-scheme baseline data.
- May 2024: post-ETRO data to establish the impacts of the ETRO

Each of these counts recorded pedestrians travelling east and westbound on Romsey Road, or north and southbound on Clifton Terrace/St James Terrace, and average combined two-way data is presented in Table 3 below. The data covers 12-hour periods (07:00-19:00). The full survey data is available in Appendix 1.

Figure 1 above details the location of each of the pedestrian flow count sites; the locations are listed below:

- Romsey Road; east of Clifton Terrace;
- Romsey Road; west of proposed crossing location;
- Clifton Terrace; near junction with Romsey Road.

Pedestrian Data

The outputs from pedestrian flow counts are detailed in the table below, showing 12-hour 7am-7pm average weekday flows:

Location	Baseline: January 2024	During- scheme: May 2024	Difference / Change in Count
Romsey Road (east of Clifton Terrace at approx. location of new crossing) northbound	469	488	+19
Romsey Road (east of Clifton Terrace at approx. location of new crossing) southbound	517	573	+56
Romsey Road (just west of the location of new crossing) northbound	75	33	-42
Romsey Road (just west of the location of new crossing) southbound	42	30	-12
Total crossing Romsey Road	1,103	1,124	+21
Clifton Terrace (near junction with Romsey Road) eastbound	21	34	+13
Clifton Terrace (near junction with Romsey Road) westbound	24	44	+20

Table 4: Pedestrian Flow Counts Outputs

Table 4 shows pedestrian northbound and southbound movements at the primary crossing location increased from 986 to 1061 after the scheme had been installed for three months. With the scheme in place, more people were choosing to walk on Romsey Road and use the crossing facilities than prior to when the crossing was in place. A 19-person increase northbound, and a 56-person increase southbound is seen with the crossing in place, as well as a decrease of 42 people northbound and 12 people southbound just west of Clifton Terrace. There is a slight increase in people crossing across Clifton Terrace by 20 westbound and 13 eastbound. This shows that people are less likely to cross outside of the crossing on Romsey Road.

Cycling Data

The outputs from cycling flow counts collected using turning counts are detailed in the table below:

	Baseline January 2024	During-Scheme May 2024	Difference and Change in Flow
Romsey Road (near Clifton Terrace/Clifton Road)	96	81	-15
Clifton Terrace	30	30	0
Clifton Road (near Romsey Road)	19	7	-12
St. James' Terrace	--	37	--
Romsey Rd East -> Clifton Terrace	7	8	-1
Romsey Rd West -> Clifton Terrace	4	8	+4
Romsey Rd East -> Romsey Rd West	24	25	+1
Romsey Rd West -> Romsey Rd East	33	24	-9

Table 5: Cycle Flows and Turning Counts

When comparing January 2024 (pre-scheme implementation) with May 2024 (post-realisation) Table 5 shows that there has been limited change in the cycle flow numbers. Therefore, there has been little impact in cycle flows. The changes in experience are detailed within the user intercept survey analysis.

The full cycle turning counts can be found in the Appendix.

Traffic Survey Data

Methodology

Traffic Survey data has been collected, as seen in Table 6 and Figure 2 below. Traffic survey data has been collected in two ways:

- Traffic Flow Counters
- Manual classified counts, including turning counts

These are to assess the impact that the ETRO scheme will have on traffic flow, asking:

Changes in traffic flow and fleet composition

- What are the impacts on traffic flow on Romsey Road and Clifton Terrace and roads immediately surrounding the scheme?
- How do impacts on traffic flow vary by vehicle type?
- How do impacts on traffic flow vary by time-period?
- Did traffic flows change during the experiment?

Changes in road-user journey times

- What are the impacts on road-user journey times on Romsey Road?

Road user queue lengths have been monitored to show an 'average' queue length, 'maximum' queue length, and average wait times at the crossing for vehicles and road users on Clifton Terrace.

Automated Traffic Counts – Volume

Automated Traffic Counts (ATCs) are counts over a period of time to capture the speed, volume, and classification of vehicles at fixed locations, and to assess trends such as peak AM and PM times. They typically involve tubes being placed across the road, but sometimes a camera is used. Each count was undertaken over a 7-day period and recorded the traffic over each 24-hour stretch.

ATCs were taken to provide comparative data in and around Romsey Road and Clifton Terrace. The data produced is to show where and when traffic is busiest in terms of flow, speed, and volume, to help assess whether the crossing on Romsey Road and one way traffic flow on Clifton Terrace directly impacted and/or displaced traffic.

This data is collected to answer the following objectives:

- Has the introduction of the scheme led to any changes in travel behaviour (mode / route / frequency of travel)?
- What are the impacts on traffic flow on Romsey Road and Clifton Terrace and roads immediately surrounding the scheme?

- How do impacts on traffic flow vary by vehicle type?
- How do impacts on traffic flow vary by time period?
- Did traffic flows change during the experiment?
- What are the impacts on road-user journey times on Romsey Road?

ATCs have been taken in five locations:

- Clifton Terrace;
- Clifton Hill;
- West End Terrace;
- Greenhill Road;
- Elm Road.

Comparison of the flow and volume of before and after the ETRO scheme on Romsey Road and Clifton Terrace has been undertaken. Data recorded in January 2024 was taken before the ETRO will be in place as 'baseline data' to compare to after the ETRO is implemented. The figures are shown in the table below:

The 12-hour (7am-7pm) average weekday flow is presented below:

Traffic Flow	January 2024 (before scheme)	May 2024 (with scheme)	Difference
Clifton Terrace (northbound)	715	0	-715
Clifton Terrace (southbound)	1314	1032	-282
Clifton Hill (northbound)	75	120	+45
Clifton Hill (southbound)	74	71	-3
West End Terrace (northbound)	414	482	+68
West End Terrace (southbound)	363	433	+70
Greenhill Road (northbound)	608	678	+70
Greenhill Road (southbound)	747	792	+45
Elm Road (westbound)	421	345	+14
Elm Road (eastbound)	251	270	+19
Clifton Road (northbound)	97	187	+90
Clifton Road (southbound)	74	120	+46

Table 6: Traffic Flows surrounding the scheme

Table 4 shows that average flows have increased on all roads other than Clifton Terrace. Although these increase in flows are not considered significant compared to pre-scheme flows, the highest increases are seen on Clifton Road and the recorded highest increase in volume of 90 per day in the 12-hour average Monday-Friday.

There are less significant increases from the surrounding roads, with an increase of only 3% northbound (14) and 7% southbound (19) on Elm Road during the same period (and Elm Road witnesses a 24.9% decrease on an average 12-hour Saturday period. Clifton Hill experienced a significant 60% increase (45), and a slight decrease of 4% (-3). West End Terrace's increase was 16.4% northbound (68), 19.3% southbound (70). Clifton Terrace's southbound movements decrease by 21.5% (282), and 100% northbound due to the one-way system in place as part of the ETRO.

Despite there being an increase on surrounding roads such as West End Terrace, and Clifton Road, the increase in volume is small and not considered to impact on traffic flows on these roads. With an average increase of 49 cars northbound, and 33 cars southbound in an average Monday-Friday 7am-7pm time frame (excluding Clifton Terrace) the ETRO crossing and one-way system does not significantly increase the flow or volume of traffic on surrounding roads. Therefore, the impacts on traffic flow are fairly evenly distributed across surrounding roads.

Automated Traffic Counts – Speed

Automated Traffic Counters (ATCs) were also used to record the speeds on each of the roads within the ETRO. ATCs were taken to provide comparative data in and around Romsey Road and Clifton Terrace. The data produced is to show where and when traffic is busiest in terms of flow, speed, and volume, to help assess whether the crossing on Romsey Road and one way traffic flow on Clifton Terrace directly impacted and/or displaced traffic.

Permanent Automated Traffic Counters

Similar to Automated Traffic Counts (ATCs), Permanent Automated Traffic Counters are placed to capture the volume of vehicles at fixed locations to assess trends such as peak AM and PM times. Each counter records over a 24-hour period to show monthly total counts.

This data is collected to answer the following objectives:

- To understand changes in traffic flow beyond the immediate area of scheme (including for comparison).

Permanent Automated Traffic Counts were in place at three locations:

- Andover Road;
- Chilbolton Avenue;
- St James Lane.

Data from a permanent automated traffic counter has been presented below for each month from July 2023 to July 2024. The scheme was introduced in March 2024. This data is collected across the year to include a period of time before the ETRO was in place as 'baseline data' to compare to after the ETRO is implemented. The results are shown in the figure below:

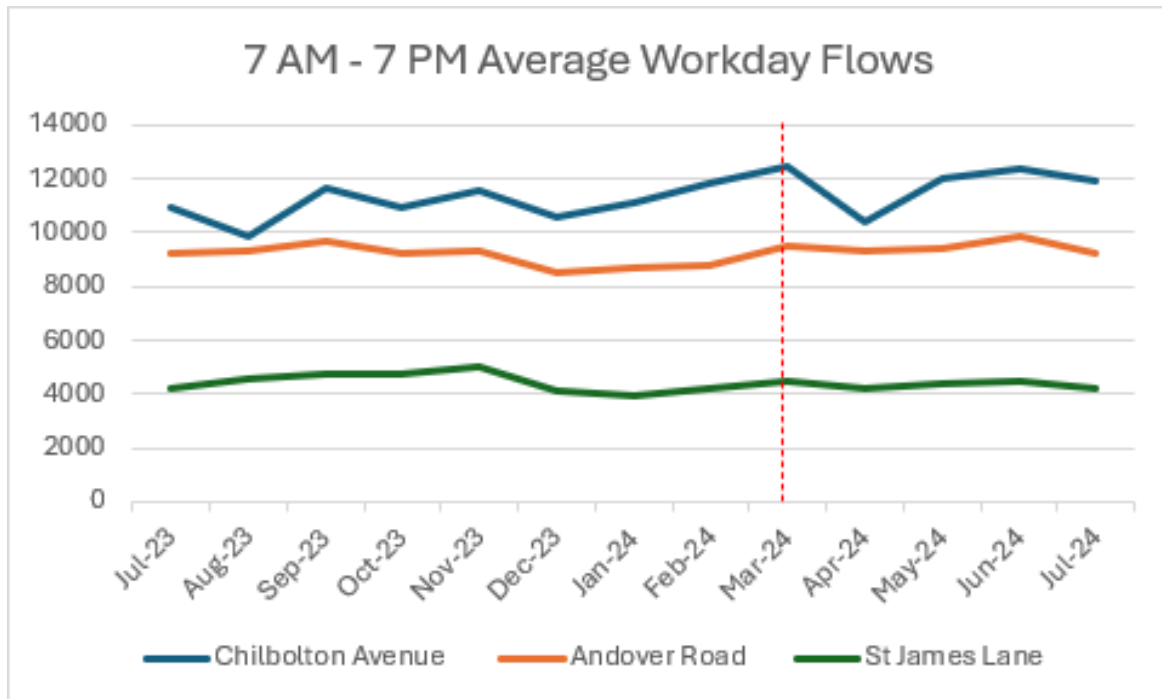


Figure 2: Permanent Automated Traffic Counters displaying a 7am-7pm average workday on Chilbolton Avenue, Andover Road, and St James Lane.

The data presented on the graph above shows traffic volumes since July 2023 (as baseline data) until July 2024 and marked with a red dotted line shows when the ETRO was introduced on Clifton Terrace. There has not been an obvious change in traffic volume across these roads following the introduction of the trial scheme. There is a dip in traffic volumes on Chilbolton Avenue from July 2023 to August 2023, in which is thought due to footway maintenance roadworks taking place on Chilbolton Avenue from 9th May to 25th August 2023.

There is also a dip in traffic volumes after the introduction of the ETRO in March 2024 for Chilbolton Avenue, and a subsequent slight increase in traffic flow along Chilbolton Avenue after a trough in April 2024, increasing until June 2024 to approximately 12,000 vehicles in a 7am-7pm workday period; this is likely to be attributed to the easter holidays in line with other seasonal variation.

The traffic flows on surrounding roads Andover Road and St James' Lane experience traffic flows post-scheme implementation that are broadly in line with the traffic flow trend before the implementation of the ETRO scheme on both roads. Post-introduction data of the ETRO has shown a decline of traffic flows on Chilbolton Avenue.

Manual Classified Counts

Manual Classified Counters are collected by hand over a 12-hour period each time to sample various classifications of vehicles.

This data is collected to answer the following objectives:

- Has the introduction of the scheme led to any changes in travel behaviour (mode / route / frequency of travel)?
- What are the impacts on traffic flow on Romsey Road and Clifton Terrace and roads immediately surrounding the scheme?
- How do impacts on traffic flow vary by vehicle type?
- How do impacts on traffic flow vary by time period?
- Did traffic flows change during the experiment?
- What are the impacts on road-user journey times on Romsey Road?

Manual Classified Counts were undertaken in three locations:

- Clifton Terrace;
- Romsey Road;
- Clifton Road.

Road Name	Baseline January 2024	Post-Realisation figure (if known) May 2024	Difference and Change in Flow
Romsey Road (near Clifton Terrace/Clifton Road)	Car: 83% LGV: 11% HGV: 1% Bus: 3% Motorcycle: 1% Bicycle: 1%	Car: 84% LGV: 10% HGV: 1% Bus: 3% Motorcycle: 2% Bicycle: 1%	Car: +1% LGV: -1% HGV: 0% Bus: 0% Motorcycle: +1% Bicycle: 0%
Clifton Terrace	Car: 87% LGV: 10% HGV: 0% Bus: 0% Motorcycle: 1% Bicycle: 2%	Car: 85% LGV: 10% HGV: 0% Bus: 0% Motorcycle: 1% Bicycle: 3%	Car: -2% LGV: 0% HGV: 0% Bus: 0% Motorcycle: 0% Bicycle: +1%
Clifton Road (near Romsey Road)	Car: 80% LGV: 16% HGV: 0% Bus: 0% Motorcycle: 1% Bicycle: 3%	Car: 79% LGV: 16% HGV: 0% Bus: 0% Motorcycle: 2% Bicycle: 3%	Car: -1% LGV: 0% HGV: 0% Bus: 0% Motorcycle: +1% Bicycle: 0%

Table 7: Manual Classified Counts for ETRO

Table 7 above displays data collected from the manual classified counts that show baseline data (original data before the ETRO was in place) and the post-realisation figure of the ETRO in place on Clifton Terrace and Romsey Road. When comparing January 2024 (pre-implementation) with May 2024 (post-implementation) Table 5 shows that there is no significant change in the proportion of different types of vehicles using the roads within the trial scheme, and no change in lower goods vehicles or heavy goods vehicles. None of the roads experience an increase or decrease in bus services, bus numbers or frequency, and no routes have been changed. The slight increase in the share of bicycles and wheeled movements (now to 3%) is likely due to the average decrease in the volume of motorised vehicles when compared to the October 2022 and January 2024 baseline data collected above.

Observational Surveys

During the course of the trial, it was decided having additional data on the impact of vehicles exiting Clifton Terrace would be beneficial. Therefore, additional observation surveys were undertaken to understand the length of vehicle queues on Clifton Terrace and how easy it was for vehicles to exit Clifton Terrace onto Romsey Road.

Methodology

The surveys were taken on a Tuesday and Thursday to avoid more 'common' work from home days and assess a more typical sample of road user wait times and queue lengths when exiting Clifton Terrace.

Collected on Tuesday 23 July 2024 and Thursday 25 July 2024, the surveys were completed at a series of times throughout the day:

- 07:00-09:00;
- 11:00-13:00;
- 15:00-17:00.

Queue Length Survey

The number of vehicles queuing to turn right from Clifton Terrace onto Romsey Road has been monitored over a period of 24-hours on a typical working day; to assess how easy it is to exit Clifton Terrace onto Romsey Road.

	Survey		Vivacity (dwell times)	
	Average Queue Length (number of vehicles)	Max Queue Length (number of vehicles)	Average Wait (seconds)	85% Percentile Wait (seconds)
0700-0900	1.0	3	10.5	19
1500-1700	2.5	6	11.5	23

Table 8: Queue Lengths: Clifton Terrace onto Romsey Road

As shown in Table 6 above, the queue lengths range from one to six vehicles at a given time on Clifton Terrace. The wait times and queue lengths are quite low, which suggests that with the ETRO in place, both Clifton Terrace and Romsey Road are not negatively impacted by vehicle queues; drivers are able to exit Clifton Terrace relatively quickly, and this suggests that there is not a build-up of vehicles.

Driver Behaviour and Exit Survey

When undertaking the surveys for the ETRO, an observational survey that examined driver behaviour was conducted to observe whether the ETRO made it difficult to leave Clifton Terrace with the crossing on Romsey Road in place. The survey considered six scenarios that would cover all eventualities drivers that may face when leaving Clifton Terrace to join Romsey Road.

The observations are displayed below:



Figure 3: Vehicle Observational Survey

	1	2	3	4	5	6	
	No queuing traffic	Vehicle leave space behind	Vehicle leave space in front	Vehicles leave gap	No queuing traffic	Exit blocked	Total
Pedestrian crossing	Red	Red	Red	Red	Green	Either	
0700-0900	25	3	15	4	89	5	141
1100-1300	5	1	11	2	101	0	120
1500-1700	26	19	18	5	176	4	248
Total	56	23	44	11	366	9	509
%	11.0%	4.5%	8.6%	2.2%	71.9%	1.8%	

Table 9: Vehicle Exit Survey Results

As shown in Table 7, the observational survey shows that 71.9% of vehicles exit Clifton Terrace while the pedestrian crossing lights are on green and by giving way to traffic. In other instances, the followed most likely experience is to have a red light with no queued traffic, as seen with a total of 56 instances across the survey period. It was observed rare for a vehicle to be blocked when attempting to turn onto Romsey Road.

Over the six-hour survey period, a total of 9 vehicles were temporarily blocked from exiting Clifton Terrace onto Romsey Road. It was observed when completing the exit survey that when vehicles on Romsey Road are approaching are twice as likely to leave space in front of them to let vehicles travelling from Clifton Terrace onto Romsey Road.

The majority of vehicles (83%) exit Clifton Terrace without interaction from other vehicles stopped at traffic lights on Romsey Road.

Speeds

Speeds have been collected to monitor if the ETRO on Romsey Road and Clifton Terrace is impacting the speed that vehicles travel in the scheme area.

Methodology

The surveys were undertaken alongside the volume counts to reflect common “work from home” days and assess a more ‘typical’ sample of road-users that typically take Romsey Road Clifton Terrace, and the surrounding roads to drive.

The survey data was collected on:

- Week commencing 13 January 2024 (pre-scheme and baseline); and
- Week commencing 18 May 2024 (during scheme).

Each of these speed counts were taken over one typical week via ATC in the locations below:

- Clifton Terrace;
- Clifton Road;
- Clifton Hill;
- West End Terrace;
- Elm Road;
- Greenhill Road.

Below shows the average speed from the ATC counts across the various time periods. These are based on a 12-hour (7am-7pm) 7-day mean average.

Traffic Flow	January 2024 weekday mean average (mph)	May 2024 (with scheme) (mph)	Change (mph)
Clifton Terrace (northbound)	15.9	n/a	n/a
Clifton Terrace (southbound)	15.4	16.8	+1.4
Clifton Road (northbound)	11	10.8	-0.2
Clifton Road (southbound)	11	10.3	-0.7

Traffic Flow	January 2024 weekday mean average (mph)	May 2024 (with scheme) (mph)	Change (mph)
Clifton Hill (northbound)	13.2	13.3	+0.1
Clifton Hill (southbound)	13.4	14.4	+1
West End Terrace (northbound)	15	15.5	+0.5
West End Terrace (southbound)	14.5	14.9	+0.4
Elm Road (westbound)	18.3	16.2	-2.1
Elm Road (eastbound)	17.5	17.6	+0.1
Greenhill Road (northbound)	16	16.3	+0.3
Greenhill Road (southbound)	16.8	17.5	+0.7

Table 10: average speeds for Clifton Terrace and surrounding roads

As shown in Table 9, the speed increases and decreases have been negligible, which suggests that the speeds have not been impacted by the introduction of the scheme.

On the roads listed above, none of these have speeds above their speed limits, which suggests that none of the roads are impacted by high speeds inside or outside of the scheme being in place.

Air Quality

Emissions are monitored in an air quality management area (AQMA) by Winchester City Council (WCC). This AQMA includes the lower part of Romsey Road in which the new crossing is located.

While these emissions are being monitored, a full data set for before (2023) and after (2024) will only be available in 2025.

Road Collisions

The objective highlighting personal and road user safety is detailed below:

- What are the impacts by road on the user?

To assess this, the number of reported road collisions is being monitored by reviewing 'personal injury collision' (PIC) statistics from Hampshire Constabulary. Each recorded collision is assessed against whether the weather conditions and visibility, driver error, pedestrian or cyclist error, or road layout is attributed to being the cause of the collision. The number of collisions will be compared to the data prior to the ETRO being in place to assess the impact of the road design on users. The map of personal injury collisions is presented below, with a key of 'fatal,' 'serious,' and 'slight' injuries, and whether or not they have involved a pedestrian. A full report of the collision data can be found in the appendix.

The data available ranges from 1st April 2019 to 31st April 2024. The data presented below shows PIC data collected from pre-scheme implementation and post-realisation of the ETRO.



Figure 4: PIC Data for Clifton Terrace and the surrounding area

Road Name	Baseline Dec 22-Feb 24 Collision Record	During-scheme Mar 24 - Apr 24 Collision Record
Clifton Road	Slight: 0 Severe: 0 Fatal: 0 Total: 0	Slight: 0 Severe: 0 Fatal: 0 Total: 0
Clifton Terrace	Slight: 0 Severe: 0 Fatal: 0 Total: 0	Slight: 0 Severe: 0 Fatal: 0 Total: 0
Elm Road	Slight: 0 Severe: 0 Fatal: 0 Total: 0	Slight: 0 Severe: 0 Fatal: 0 Total: 0
Greenhill Road	Slight: 0 Severe: 0 Fatal: 0 Total: 0	Slight: 0 Severe: 0 Fatal: 0 Total: 0
West End Terrace	Slight: 0 Severe: 0 Fatal: 0 Total: 0	Slight: 0 Severe: 0 Fatal: 0 Total: 0
Romsey Road	Slight: 0 Severe: 0 Fatal: 0 Total: 0	Slight: 0 Severe: 0 Fatal: 0 Total: 0
Clifton Hill	Slight: 0 Severe: 0 Fatal: 0 Total: 0	Slight: 0 Severe: 0 Fatal: 0 Total: 0

Table 1111: PIC data for the Clifton Terrace/Romsey Road junction

Following the collision record in Table 9 above, collision data will be monitored throughout the ETRO scheme to compare the number of collisions pre-scheme, during scheme, and post-scheme.

There are four collisions that fall within or just outside of the ETRO scheme area. Each of these collisions took place on Romsey Road, but only one has a potential contributory factor towards road layout, whereby a pedestrian was struck by a car when on a very narrow footway. There have been no collisions in relation to road layout and design along Clifton Terrace. There have been no collisions within the ETRO scheme area since 2022.

The final and complete details of the PIC incident data is available in the appendix.

User Intercept Survey

The purpose of this engagement exercise was to monitor the scheme and understand the benefits and wider impacts. Specifically, this engagement activity sought to understand:

- changes in travel behaviour;
- perceptions in road safety and comfort.

Hampshire County Council carried out an engagement exercise through use of an intercept survey, a survey where people are stopped in the street when using the crossing. The intercept surveys were carried out on 7, 11, and 21 May, covering the hours of 8 am to 6pm between the three days. Any passers-by who were interested in the survey but didn't have time to stop were given details on how to access the survey online.

In total, 227 responses were collected. 173 were recorded via the intercept survey and 54 were received via the online feedback form. 192 people were making their journey on foot, and 40 people were making their journey by bicycle when they were intercepted. Six people's journeys consisted of both walking and cycling on the day they were stopped. The vast majority of respondents travelled along Clifton Terrace or Romsey Road at least once a week (92%), 59% of whom travelled the route 5 days a week or more.

Ease of crossing the road

Respondents reported that Romsey Road was easier to cross after the installation of the pedestrian crossing. 16% said the road was easy to cross before the crossing was installed, compared to 83% of respondents who reported it was easy to cross after the crossing was put in place.

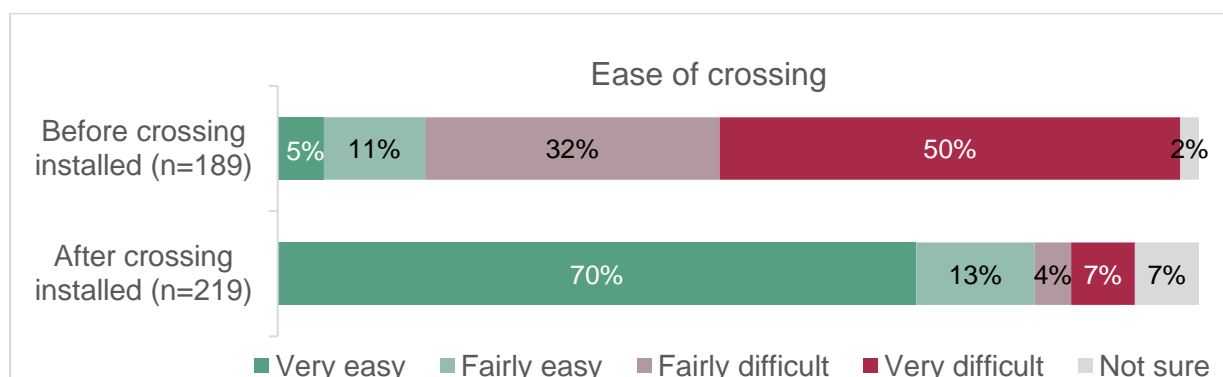


Figure 5: Ease of Crossing the Road User Intercept Survey

Safety of crossing of the road

The installation of the crossing improved the feeling of safety according to the survey respondents. 20% felt it was safe to cross the road before the crossing was put in place, this increased to 83% when respondents were asked about safety crossing the road after the pedestrian crossing was installed.

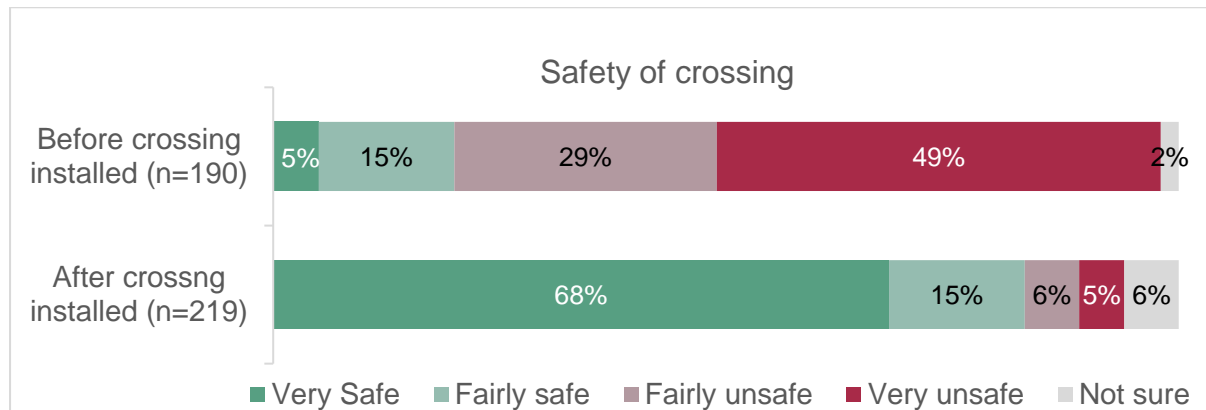


Figure 6: Safety of Crossing the Road User Intercept Survey

The response from people who cycle in the area was mixed. There was a significant decrease in the number of respondents who felt that it was not safe to cycle along Clifton Terrace since the installation of the contraflow cycle lane (54% to 31%), but there were a number of concerns raised about it.

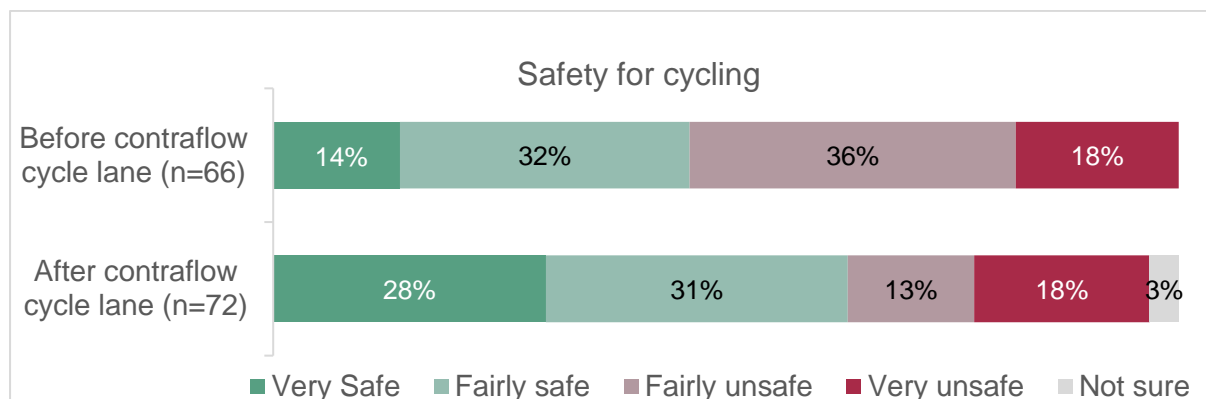


Figure 7: Safety of Cycling User Intercept Survey

The most common dislike about the new crossing was that it delayed vehicle journeys (32 respondents). 24 respondents said that the lights took too long to change, and ten people said it was confusing and not very good for cycling. The most frequent comment made was that people liked the crossing (41 respondents). 22 respondents commented on the increased safety now the crossing was in place, but the same number felt that the changes to the junction were not good for those who cycle.

The full report for the User Intercept survey can be found in appendix.