Bath & North East Somerset Council

Improving People's Lives

Southlands (Weston) Through-traffic Restriction Trial 2022-23

Traffic monitoring data report

Prepared: November 2023

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Southlands (Weston): Through-traffic restriction trial

Traffic monitoring data report

1. Introduction

1.1. This report presents a comparison of traffic data collected before and after a through-traffic restriction trial was installed on Southlands in November 2022. The purpose is to understand how traffic flows changed with the trial in place.

1.2. The information will be used along with an air quality report, the consultation feedback, and consideration of the council's transport policy to inform a decision to either retain or remove the through-traffic restriction.

2. Aim of the trial

2.1. The through-traffic restriction (or modal filter) was installed under an experimental traffic regulation order (ETRO) in November 2022 for a minimum of six months, during which time we ran an ongoing public consultation.

2.2. The aim is to stop motorists using the residential street as an inappropriate short cut (or through route) and provide a safe, healthy environment for residents, pedestrians and cyclists.

2.3. The scheme does not restrict vehicle access to homes or businesses, but it may require drivers to take alternative routes. Turning areas are provided in front of the through-traffic restriction, which in this case takes the form of a set of planters.

2.4. The through-traffic restriction is just one of several measures proposed for the Southlands area 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. For details of the scheme go to: https://beta.bathnes.gov.uk/through-traffic-restriction-etro-consultation-current.

3. Purpose of traffic data monitoring

3.1. The purpose of baseline (pre-installation) and post-installation monitoring is to understand how traffic flows have changed, and to establish what impact the restriction had on:

- Traffic, walking and cycling volumes on Southlands
- Traffic volumes on neighbouring streets

4. About the monitoring

4.1. The through-traffic restriction trial started on 17 November 2022.

4.2. Baseline traffic data was collected for seven consecutive days from 3 October to 9 October 2022 to gain average daily counts over the course of a week before the trial started. The weather was dry and 12-17 degrees centigrade.

4.3. Post-installation traffic data was collected for seven consecutive days from 18 to 24 April 2023 (five months after the filter was installed). The weather was dry and between 6 to 12 degrees.

4.4. Additionally, post-installation traffic data was collected for seven consecutive days from 3 to 9 October 2023 (nine months after installation). The weather was dry with highs of 15 to 21 degrees.

4.5. Due to a fault during data collection between 3 and 9 October, post-installation traffic data collection for High Street was collected for seven consecutive days from 31 October to 9 November 2023.

4.6. By comparing post-installation average daily counts with baseline data, we can assess the impact of the trial.

4.7. We were careful not to collect data during school or university holidays or other times that impact significantly on average traffic flows.

5. Method

5.1. In October 2022, April 2023, and again in October 2023 we deployed the following survey methods for seven consecutive days in and around Southlands, with the exception of October 2023, when we did not use Automatic Number Plate Recognition (ANPR) cameras to monitor traffic-traffic on Southlands due to the restriction being in place.

Automatic Number Plate Recognition (ANPR) cameras

5.2. During baseline monitoring in October 2022 and post-installation monitoring in April 2023, we placed ANPR cameras on Southlands (near 168 and 8 Southlands) from 06:00 to 22:00 hrs to collect the numbers of vehicles using the route as a through route (not stopping). Note: In April the cameras recorded the vehicles travelling up to the filter and turning.

5.3. The cameras recorded vehicle registration numbers so that we could count the unique vehicles using the road. If the vehicle appeared on both cameras within a short amount of time, we could infer that it was using Southlands as a through route and not stopping for a specific reason.

5.4. The positions of the ANPR cameras are marked on the map in Figure 1 below (A and B).

5.5. Please note that we did not use ANPR cameras on Southlands during the October 2023 monitoring period because the restriction prevented any motor vehicles from passing through.

Video camera capturing traffic traveling in each direction

5.6. Video cameras established the class of all passing traffic and the total numbers travelling in each direction per 15-minute interval between 06:00 to 22:00 hrs each day. The classes recorded were:

- Pedestrian/wheelchair/mobility scooter
- Pedal cycle
- Car
- Light goods vehicles
- Heavy goods vehicle
- Public passenger vehicle (up to 16 seats)
- Other

5.7. The position of the camera is marked on the map in Figure 1 below (C).

Automatic Traffic Count (ATC) tubes

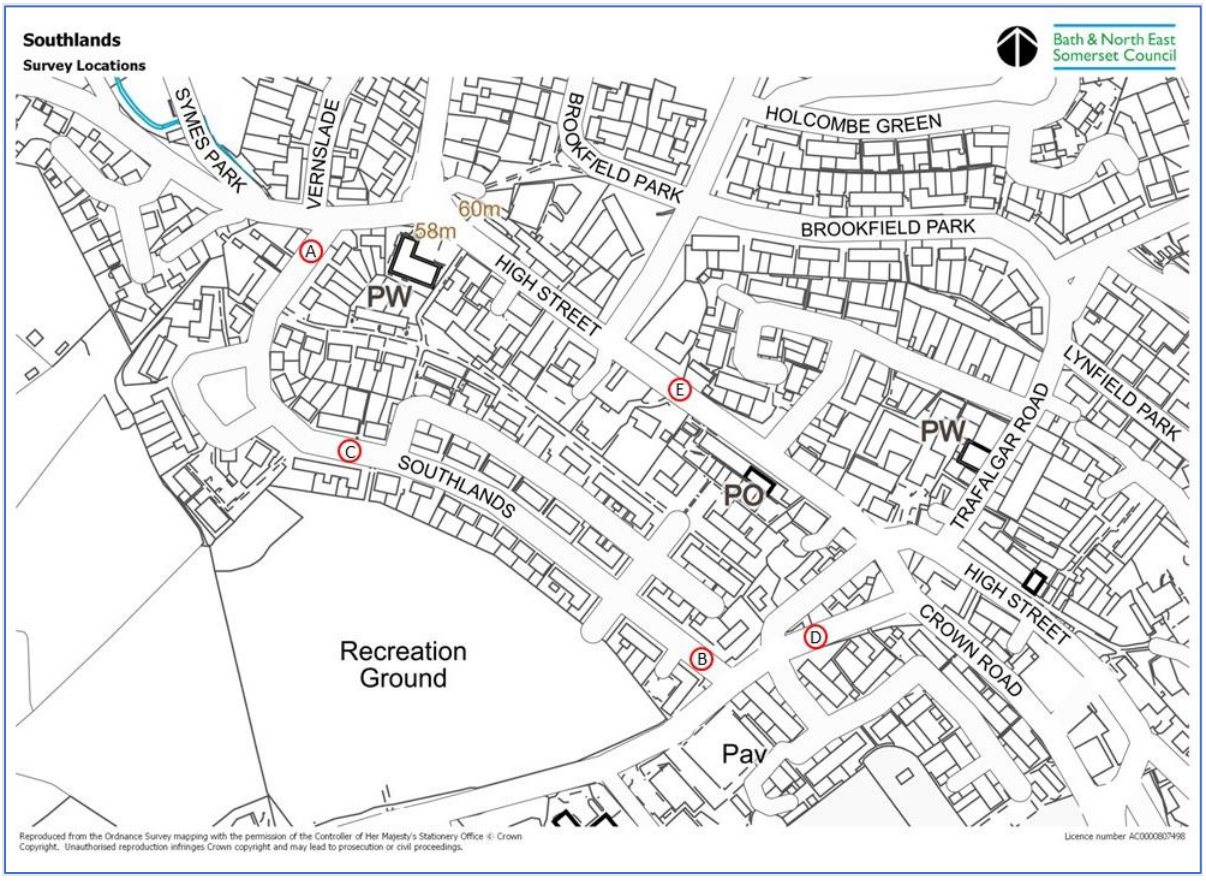
5.8. Established traffic counts in both directions over 24 hours for the 7 consecutive days of monitoring, including vehicle classification and speed data in 15-minute intervals. The position of the tubes are marked on the map in Figure 1 below (D and E).

6. Data presentation

6.1. Traffic data is presented as an average count over the full 7 days (taking account of weekends) and as an average count over 5 days (weekdays from Monday to Friday only).

6.2. We have used graphs to illustrate the changes in traffic flows across the three monitoring periods, comparing in the notes the October 2023 data with that collected in October 2022 (before the trial was installed). This is except for the Southlands ANPR data, where notes focus on comparing baseline data with post-installation data collected during April 2023. This is because ANPR cameras were not used in October 2023. Their purpose was to establish the unique vehicles using the road as a through-route, which was no longer possible. In April they were retained to count vehicles approaching the filter and turning.

Figure 1: Map showing location of cameras and automatic traffic count tubes on and around Southlands



Note: ANPR cameras A and B were not used during the third phase of monitoring in October 2023. All other survey methods and locations at A, B, E and F operated during baseline monitoring in October 2022 and post-installation monitoring in April 2023 and October 2023.

Figure 2: Map showing travel movements captured in data collection periods.

Note: Each coloured arrow represents a different travel movement which will be discussed in more detail below

7. Observations

7.1. Using the methods outlined above, we have presented the monitoring data in graphs for the purpose of comparison. This is followed by key observations.

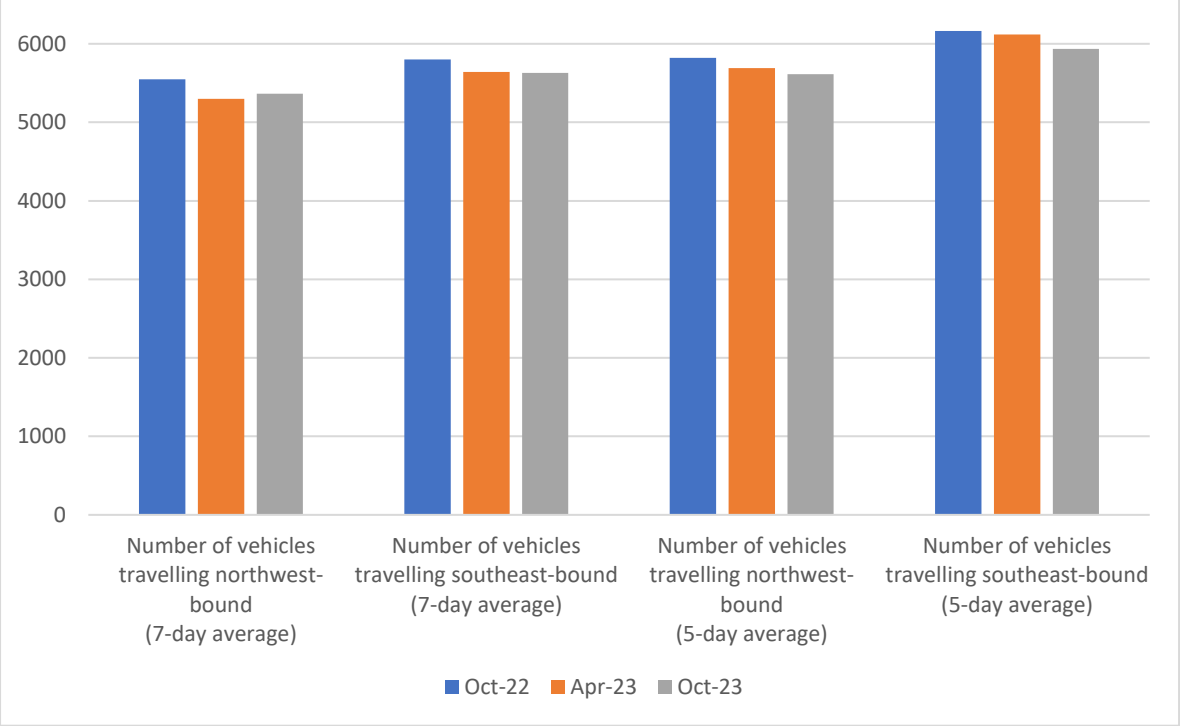
7.2. The baseline monitoring was performed from 3-9 October 2022. Post-installation monitoring was performed from18-24 April 2023 and again from 3-9 October 2023.

7.3. Weston High Street and Anchor Road area

Vehicles travelling on Weston High Street (both ways)

Figure 3: Average number of vehicles travelling on Weston High Street (both ways) each day during monitoring periods.

Illustrated by the black arrow on Figure 2.



Note: October 2023 data was collected between 31st October and 9th November 2023. See point 4.5 for details.

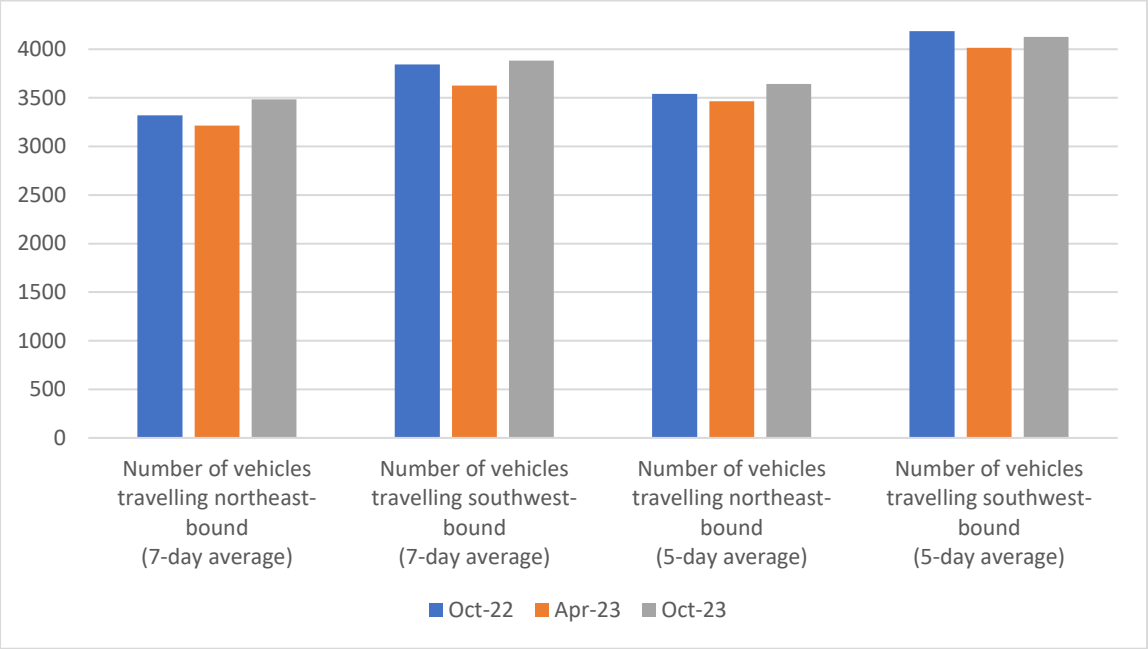
- On average, fewer vehicles travelled this route in the October 2023 monitoring period than in the October 2022 monitoring period.
- Compared to October 2022, 3% fewer vehicles per day travelled northwest bound on this route in October 2023 over the 7 days. This represents an average decrease of 184 vehicles per day.

- Compared to October 2022, 4% fewer vehicles per day travelled northwest bound on this route in October 2023 over the 5 days. This represents an average decrease of 208 vehicles per day.
- Compared to October 2022, 3% fewer vehicles per day travelled southeast bound on this route in October 2023 over the 7 days. This represents an average decrease of 171 vehicles per day.
- Compared to October 2022, 4% fewer vehicles per day travelled southeast bound on this route in October 2023 over the 5 days. This represents an average decrease of 226 vehicles per day.

Vehicles traveling on Anchor Road (both ways)

Figure 4: Average numbers of vehicles travelling on Anchor Road (both ways) each day during monitoring periods.

Illustrated by the purple arrow in Figure 2.



- On average, more vehicles travelled this route in the October 2023 monitoring period than in the October 2022 monitoring period.
- Compared to October 2022, 5% more vehicles per day travelled northeast bound on this route in October 2023 over the 7 days. This represents an average increase of 164 vehicles per day.
- Compared to October 2022, 3% more vehicles per day travelled northeast bound on this route in October 2023 over the 5 days. This represents an average increase of 104 vehicles per day.
- Compared to October 2022, 1% more vehicles per day travelled southwest bound on this route in October 2023 over the 7 days. This represents an average increase of 40 vehicles per day.

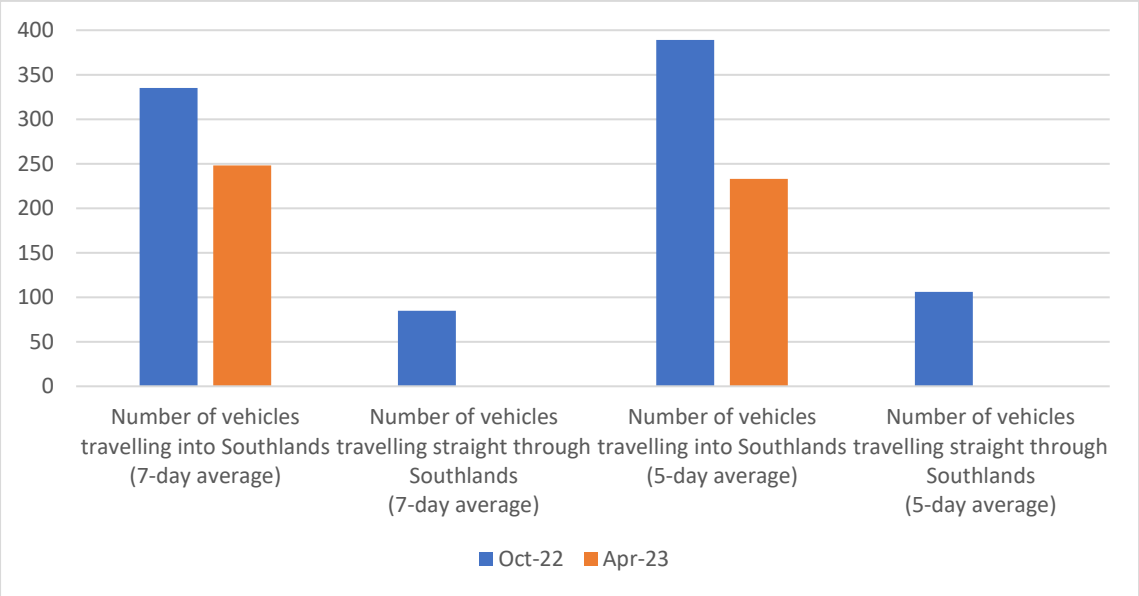
- Compared to October 2022, 1% fewer vehicles per day travelled southwest bound on this route in October 2023 over the 5 days. This represents an average decrease of 60 vehicles per day.

7.4. Southlands area

Vehicles travelling from Penn Hill Road/Anchor Road on to Southlands

Figure 5: Average number of vehicles travelling from Penn Hill Road/Anchor Road on to Southlands each day during monitoring periods.

Illustrated by the blue arrow in Figure 2.



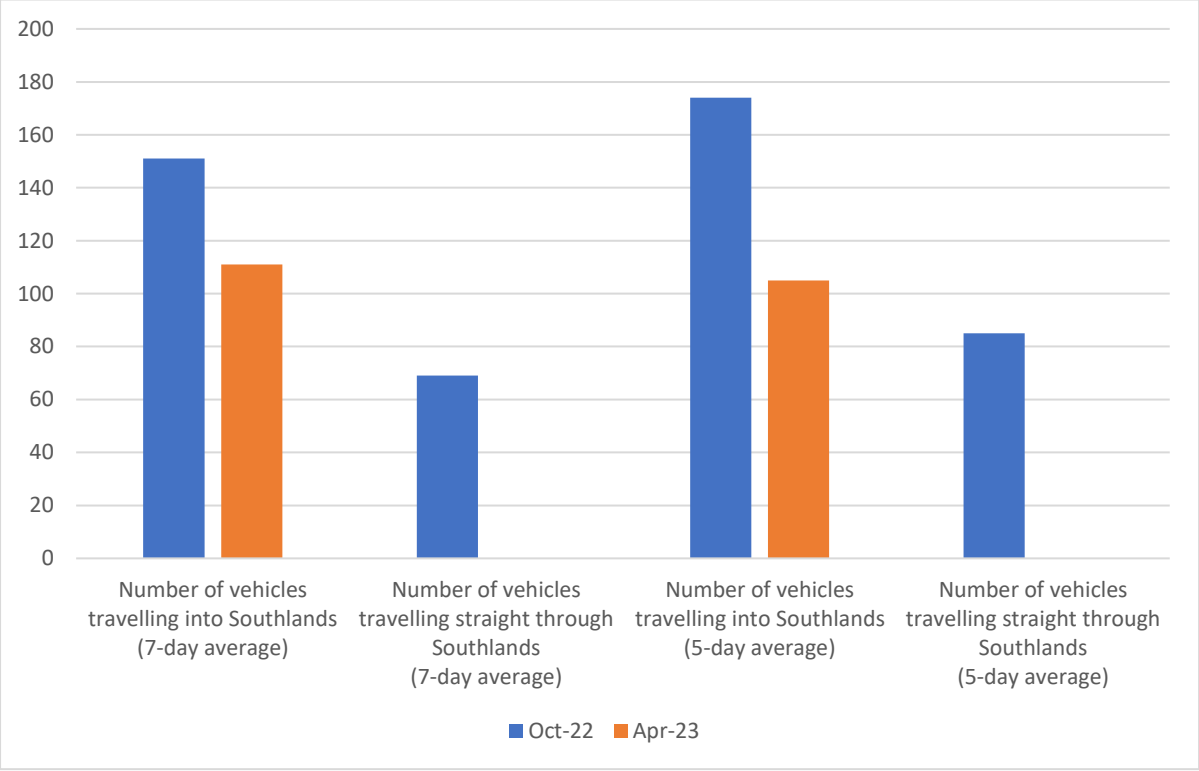
- During the 7-day monitoring period in October 2022, 361 vehicles (on average) travelled into Southlands from Penn Hill Road/Anchor Road each day. We captured 335 vehicle registration marks on cameras. Of these 335 vehicles, 85 (25%) travelled straight through within 10 minutes.
- During the 5-day (Mon-Fri) monitoring period in October 2022, 419 vehicles (on average) travelled into Southlands from Penn Hill Road/Anchor Road each day. We captured 389 vehicle registration marks on cameras. Of these 389 vehicles, 106 (27%) travelled straight through within 10 minutes.
- There was a 100% decrease in vehicles travelling straight through in April (over the 7 and 5-day monitoring period) due to the through-traffic restriction.
- During the 7-day monitoring period in April 2023 we know that on average, 248 vehicles travelled into Southlands (up to the filter) from Penn Hill Road/Anchor Road each day to visit properties or to park. This is a decrease of 87 vehicles compared with the 335 that turned into Southlands from Penn Hill Road/Anchor Road during the October 2022 monitoring period.

- During the 5-day monitoring period in April 2023 we know that on average 233 vehicles travelled into Southlands (up to the filter) from Penn Hill Road/Anchor Road each day to visit properties or park. This is a decrease of 156 vehicles compared with the 389 that turned into Southlands from Penn Hill Road/Anchor Road during the October 2022 monitoring period.

Vehicles travelling from Dean Hill Lane/High Street on to Southlands

Figure 6: Average number of vehicles travelling from Dean Hill Lane/High Street on to Southlands each day during monitoring periods.

Illustrated by the red arrow in Figure 2.



- During the 7-day monitoring period in October 2022, 179 vehicles (on average) travelled into Southlands from Dean Hill Lane/High Street each day. We captured 151 vehicle registration marks on cameras. Of these 151 vehicles, 69 (46%) travelled straight through within 10 minutes.
- During the 5-day (Mon-Fri) monitoring period in October 2022, 205 vehicles (on average) travelled into Southlands from Dean Hill Lane/High Street each day. We captured 174 vehicle registration marks on cameras. Of these 174 vehicles, 85 (49%) travelled straight through within 10 minutes.
- There was a 100% decrease in vehicles travelling straight through in April 2023 (over the 7 and 5-day monitoring period) due to the through-traffic restriction.
- During the 7-day monitoring period in April 2023 we know that on average, 111 vehicles travelled into Southlands (up to the filter) from Dean Hill Lane/High

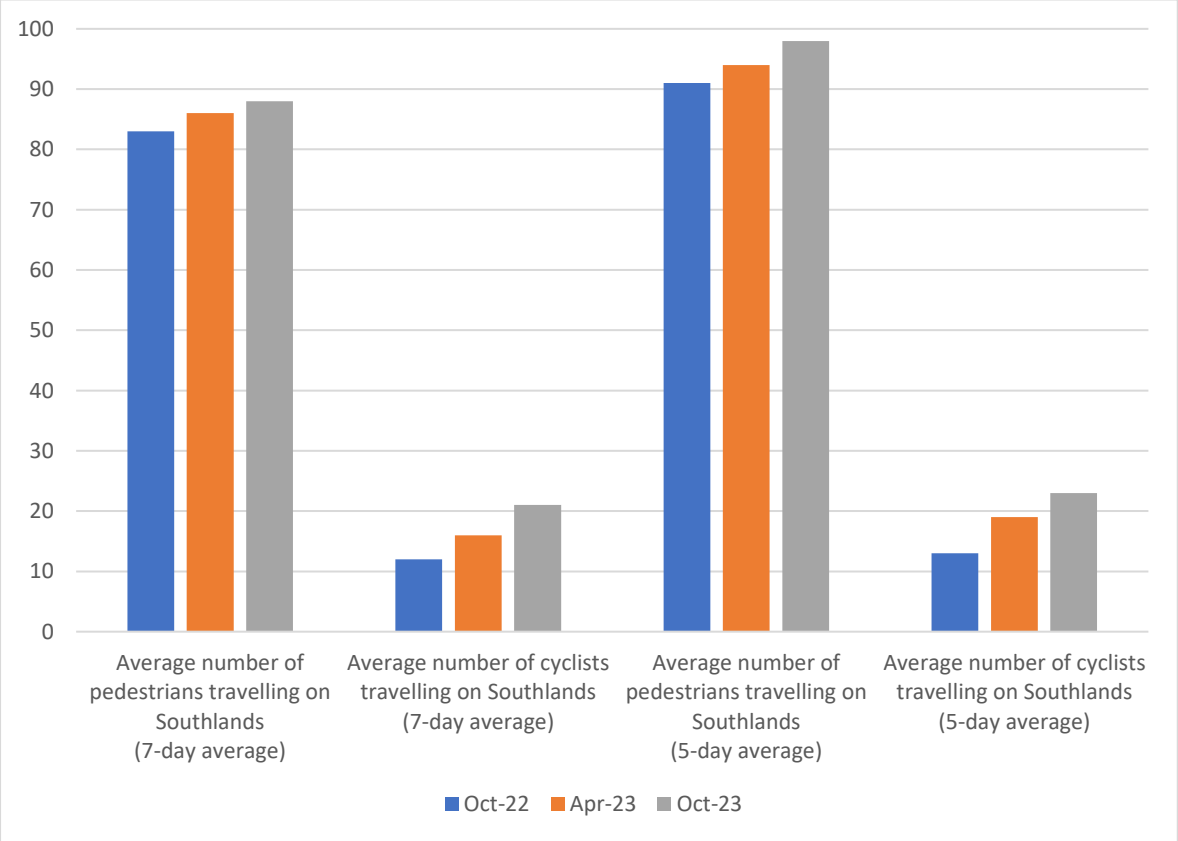
Street each day to visit properties or park. This is a decrease of 40 vehicles compared with the 151 that turned into Southlands from Dean Hill Lane/High Street during the October 2022 monitoring period.

- During the 5-day monitoring period in April 2023 we know that on average 105 vehicles travelled into Southlands (up to the filter) from Dean Hill Lane/High Street each day to visit properties or park. This is a decrease of 69 vehicles compared with the 174 that turned into Southlands from Dean Hill Lane/High Street during the October 2022 monitoring period.

Active Travel on Southlands towards Penn Hill Road/Anchor Road

Figure 7: Average number of pedestrians and cyclists travelling on Southlands towards Penn Hill Road/Anchor Road during the monitoring periods.

Illustrated by the green arrow in Figure 2.



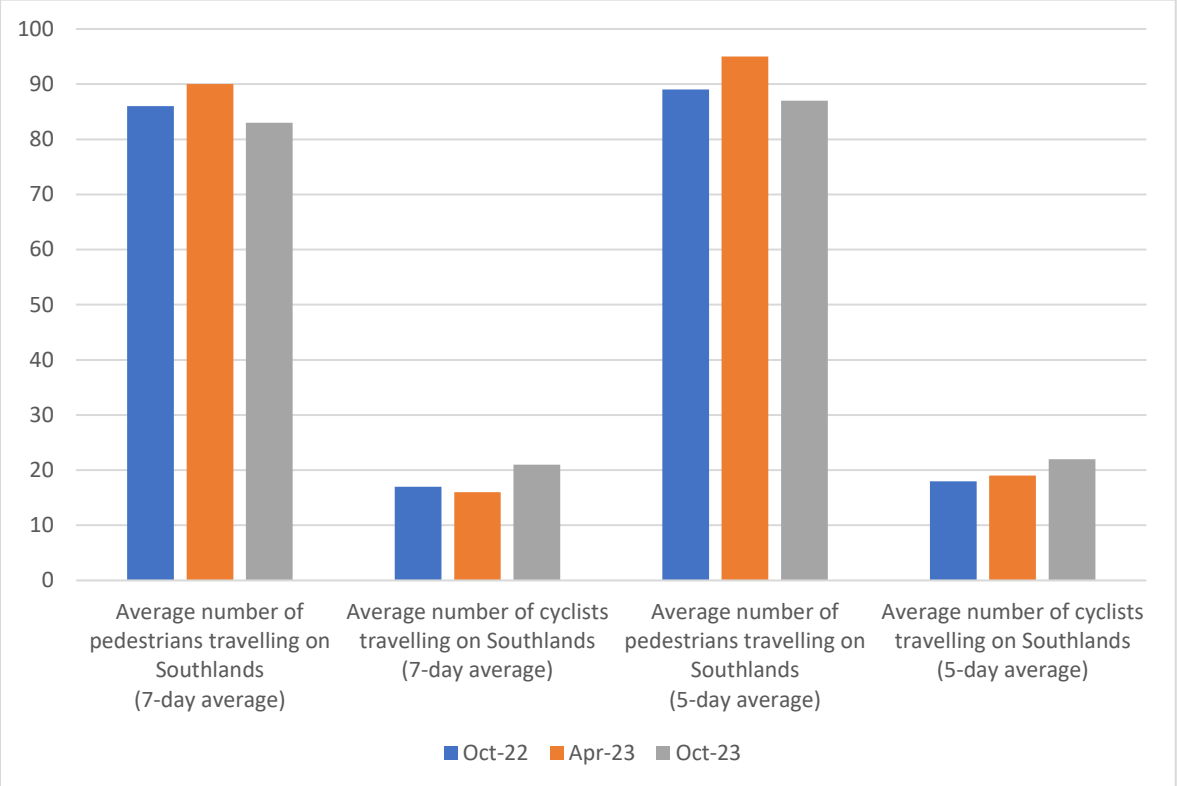
- On average, more pedestrians and cyclists travelled this route during the monitoring period in October 2023 compared to the baseline monitoring period in October 2022.
- Compared to October 2022, 6% more pedestrians per day travelled this route in October 2023 over the 7 days. This represents an average increase of 5 pedestrians per day.

- Compared to October 2022, 8% more pedestrians per day travelled this route in October 2023 over the 5 days (Mon to Fri). This represents an average increase of 7 pedestrians per day.
- Compared to October 2022, 75% more cyclists per day travelled this route in October 2023 over the 7 days. This represents an average increase of 9 cyclists per day.
- Compared to October 2022, 77% more cyclists travelled this route per day in October 2023 over the 5 days (Monday to Friday. This represents an average increase of 10 cyclists per day.

Active travel on Southlands towards Deanhill Lane/High Street

Figure 8: Average number of pedestrians and cyclists travelling on Southlands towards Deanhill Lane/High Street during the monitoring periods.

Illustrated by the yellow arrow in Figure 2.



- On average, fewer pedestrians but more cyclists travelled this route during the monitoring period in October 2023 compared to the baseline monitoring period in October 22.
- Compared to October 2022, 3% fewer pedestrians per day travelled this route in October 2023 over the 7 days. This represents an average decrease of 3 pedestrians.

- Compared to October 2022, 2% fewer pedestrians per day travelled this route in October 2023 over the 5 days (Monday to Friday) This represents an average decrease of 2 pedestrians per day.
- Compared to October 2022, 24% more cyclists per day travelled this route in October 2023 over the 7 days. This represents an average increase of 4 cyclists per day.
- Compared to October 2022, 22% more cyclists per day travelled this route in October 2023 over the 5 days (Monday to Friday) This represents an average increase of 4 cyclist per day.

8. Summary

8.1. This report presents a comparison of traffic data collected before and after a through-traffic restriction trial was installed on Southlands in November 2022. The purpose is to understand how traffic flows changed with the trial in place.

- Baseline traffic data was collected for seven consecutive days from 3 October to 9 October 2022 to gain average daily counts over the course of a week before the trial started.
- Post-installation traffic data was collected for seven consecutive days from 18 to 24 April 2023 (five months after the filter was installed).
- Additionally, post-installation traffic data was collected for seven consecutive days from 3 to 9 October 2023 (nine months after installation).

8.2. Based on the surveys described above, the following observations can be made based on the data which was collected:

- Based on ANPR surveys in 2022 just under half the vehicles entering Southlands from Dean Hill Lane / High Street were found to be using this route as a through route. Around a quarter of vehicles entering Southlands from Penn Hill Road / Anchor Road were found to be using the route as a through route.

- The trial has shown that following the implementation of the through-traffic restriction, there has been reduction to zero of through-traffic on Southlands, which was expected. The volume of traffic accessing either end of Southlands has also been reduced.

- The volume of traffic on Weston High Street also reduced following the implementation of the scheme. The reduction in traffic on this road was around 180 to 220 vehicles per day, or around 3 to 4% of average daily traffic.

- There was an average increase in the volume of traffic using Anchor Road, when comparing the pre-trial and post-trial October survey periods. In the north-eastern bound direction there was an increase of around 100 to 160 vehicles per day, or around 3 to 5%. In the southwestern bound

direction, there was a much smaller increase, of around 40 to 60 vehicles per day, equating to around a 1% increase. In the context of the total volume of traffic that uses this route, increases of 1 to 5% are not considered to be highly significant and can be interpreted as being within typical variance of traffic flow volumes.

- Walking and cycling trips on Southlands toward Penn Hill / Anchor Road increased following the introduction of the through-traffic restriction. The increase in cycling was around 75%, or around 10 cyclists, while the increase in walking was lower at around 7%, around 6 pedestrians.

- The impact of the through-traffic restriction on walking and cycling on Southlands towards Deanhill Lane / High Street is more mixed; on average fewer pedestrians but more cyclists used this route in October 2023 than in the pre-trial period in October 2022.

8.3. In overall summary, the survey data shows that the introduction of the restriction has reduced through-traffic on Southlands, without a significant increase in traffic volumes on the alternative routes surveyed. Indeed, one other route which has been surveyed has also experienced a reduction in traffic volumes following the implementation of the scheme. Walking and cycling has generally increased on Southlands although this varies by direction and by mode.