

Appendix 7 – Automatic Traffic Counts (ATCs) analysis

Permanent ATCs - speed and volume data analysis

The speed and volume data from permanent ATCs located in the Burnham area has been analysed for both phase 1 and phase 2 of the Burnham experimental scheme. Phase 1 compares data from before any scheme to data collected during the full closure of Station Road. Phase 2 compares the data collected before any scheme to that during the northbound opening of Station Road.

Summary

A summary table setting out the key speed and volume trends for each permanent ATC location was presented in the main report however, since then an additional two weeks data has been collected for phase 2 therefore, an updated summary table for the permanent ATCs is presented below.

Location of ATC	Traffic volume trends		Traffic speed trends	
	'Before / Phase 1'	'Before / Phase 2'	'Before / Phase 1'	'Before / Phase 2'
Dover Road (at bridge)	Overall there has been a rise in traffic levels since the week of the closure, in the region of +10%. As expected there is a dip in traffic levels over the Christmas period.	There has been a very slight decrease in traffic volumes along Dover Road since the introduction of the northbound scheme.	There are slight fluctuations in speed throughout the time before the full closure of Station Road and during the closure however, overall speeds have stayed relatively consistent with a rise over Christmas correlating with the reduction in traffic volume.	Speeds have stayed similar before any scheme and during the northbound only scheme.
A4 Bath Road (to the east of Huntercombe Spur roundabout)	Traffic levels before any scheme was introduced were approximately 7% higher than traffic levels at the time when Station Road was fully closed.	When comparing traffic levels before the closure of Station Road and during the northbound scheme it can be seen that levels have remained very similar with just a 1% average increase recorded.	Traffic speeds have fluctuated during this period, especially the AM peak speeds. Over the Christmas period there was a large decrease in the mean weekly speeds but an increase in the AM and PM peak speeds.	When comparing speeds along the road before Station Road was closed and during the northbound only scheme it can be seen that speeds are very similar, with only a very slight decrease noted.
A4 Bath Road (to the west of Stowe Road)	Traffic levels along this section of the Bath Road had risen by approximately 8%	When the full closure of Station Road moved to the northbound only scheme traffic levels	Mean speeds have fluctuated considerably over this time. An increase in speeds over the Christmas period	When comparing speeds before any scheme and during the northbound only scheme it has been noted that they have

	after the full closure of Station Road.	rose further so that they were 10% higher than levels before any scheme was in place.	was noted but overall there was a slight decrease in speeds.	stayed relatively consistent, although overall there has been a small decrease which is most obvious in the PM peak speeds.
Burnham Lane (to the south of the Buckingham Avenue junction, near the railway bridge)	Changes along Burnham Lane have been quite marked. There was a significant rise in traffic levels after the closure of Station Road. This increase is in the region of 31%. A large decrease in traffic levels however is observed in the week of and following the closure of the road.	The increase in traffic levels is even more apparent when comparing the levels before any scheme and during the northbound only scheme. Here the increase is in the region of 68%. This can be correlated with the reversal of Burnham Lane to southbound at the railway bridge, and the closure of Station Road to southbound traffic, increasing traffic on this new southbound section.	Speeds have stayed relatively consistent apart from a large decrease along the road the week that the full closure was implemented. Overall however there has been a slight rise in speeds.	The northbound scheme did not result in a significant change in speeds on Burnham Lane. A slight rise in the mean AM and PM peak speed is noted.
Buckingham Avenue (to the east of Henley Road)	Traffic levels along Buckingham Avenue have stayed relatively consistent. Overall there was a 1% decrease in traffic levels after the closure of Station Road, probably due to the effect of Christmas.	The increase in traffic levels after the re-opening of Station Road northbound compared to before any scheme was around 3%.	Traffic speeds along this road decreased slightly during the full closure of Station Road, this was most apparent in the PM mean speeds.	Speeds along this road during the northbound only scheme were almost identical to the time before any scheme was implemented.
Station Road (south of railway bridge)	After the full closure of Station Road, as would be expected traffic levels dropped off dramatically. An 87% decrease in levels was calculated.	Since the road has been re-opened northbound traffic levels have started to rise again, the decrease is now approximately 51%.	Traffic speeds along Station Road rose just after it was closed. During the closure speeds stayed consistent.	Since the re-opening of the road in a northbound direction speeds have risen. They are now around 5 mph faster than they were.

The below graphs illustrate the trends in vehicle volume and speed during both Phase 1 and Phase 2 at each ATC location.

**1. Dover Road
Phase 1**

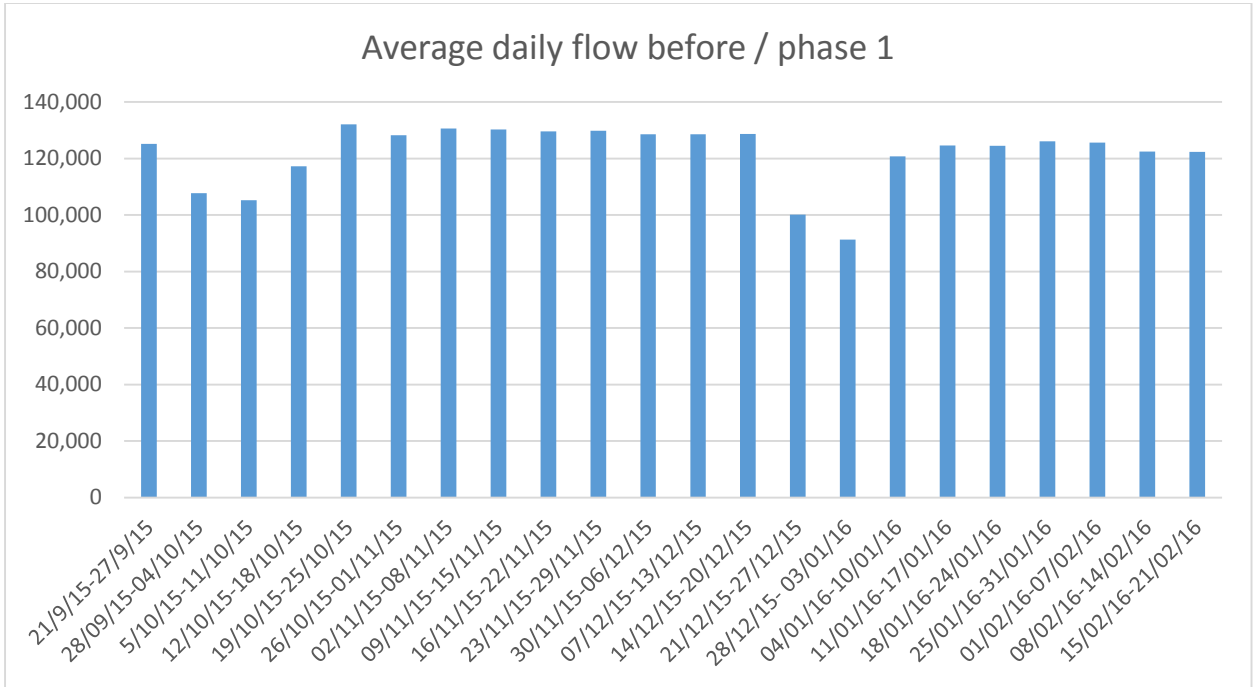


Figure 1: Average daily traffic flow data for Dover Road phase 1

The above graph shows that generally traffic volume levels have stayed at the same levels, although a small increase has been seen on the road since the week of the closure (12/10/15-18/10/15). This increase is in the region of 10%. At the end of December traffic levels are lower due to school and Christmas holidays etc. Since then traffic levels have risen again.

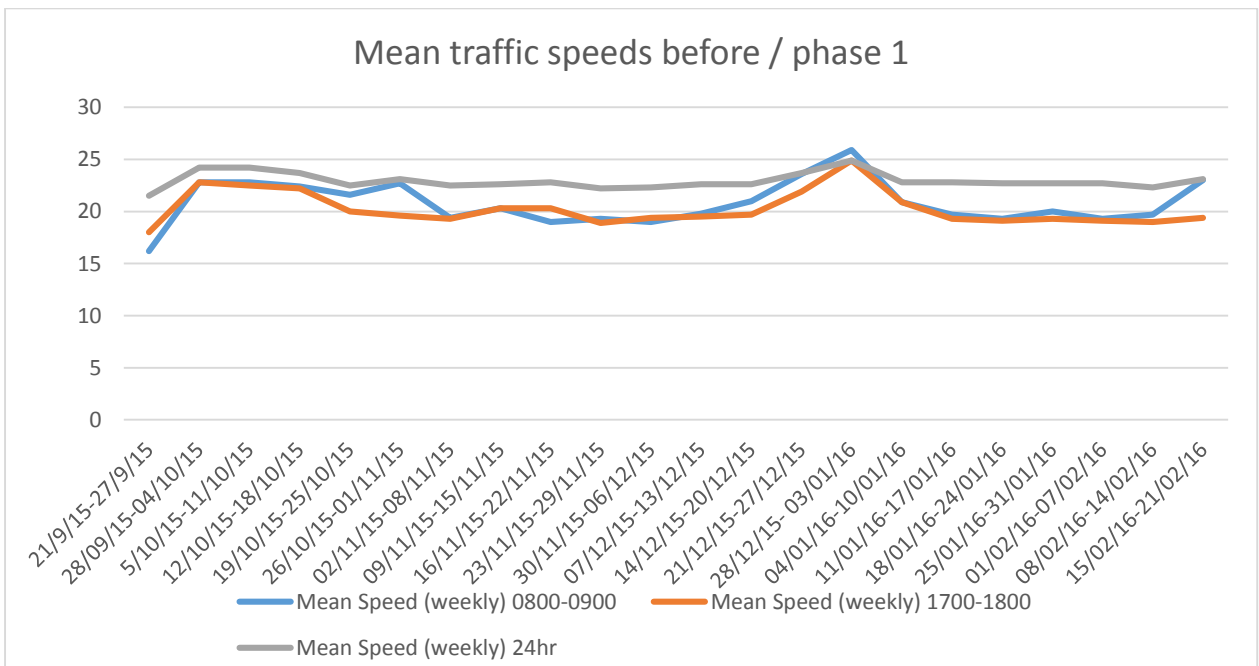


Figure 2: Mean traffic speed data for Dover Road phase 1

In the AM and PM peaks a small decrease in speeds has been observed since the introduction of phase 1 (increasing again towards the end of December due to the general drop in traffic volumes). The weekly mean speed has stayed approximately the same over the period.

Phase 2

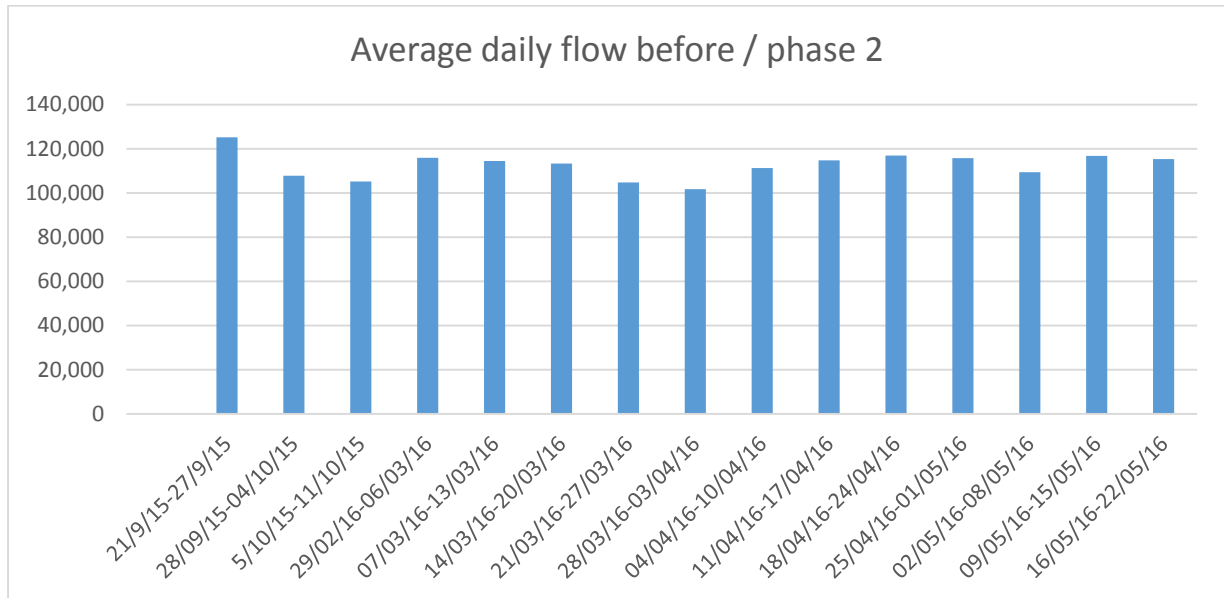


Figure 3: Average daily traffic flow data for Dover Road phase 2

When comparing the phase 2 data with that before any scheme was introduced a very slight decrease in traffic volumes has been observed.

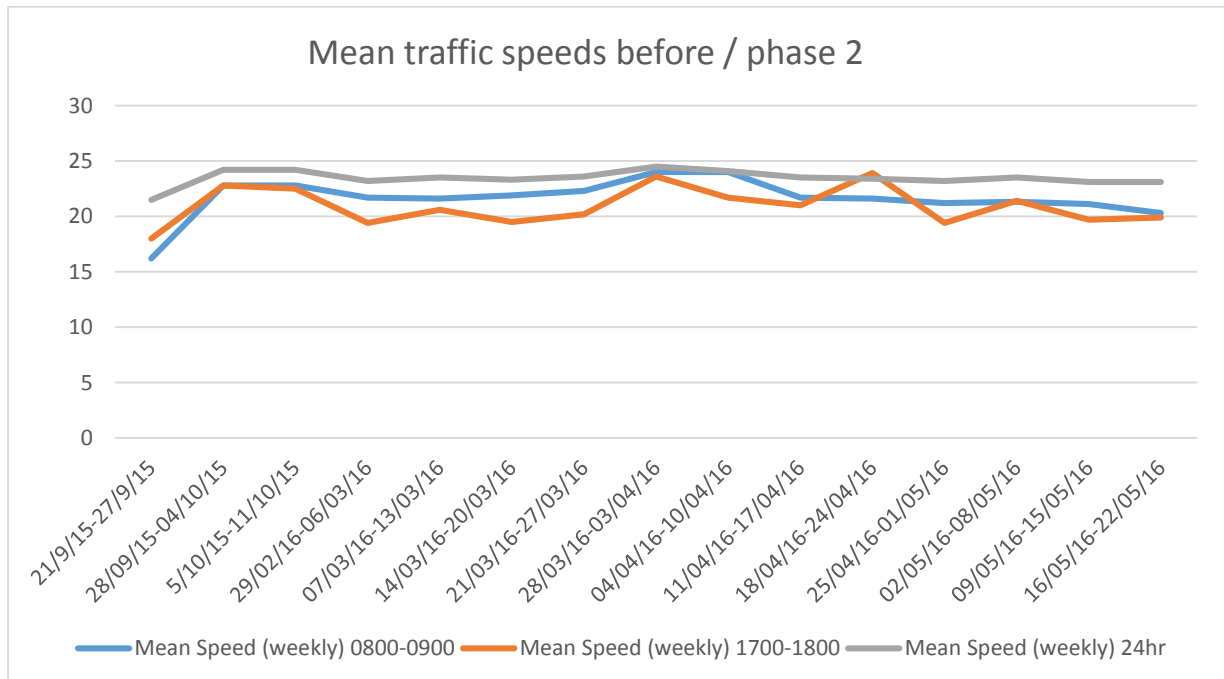


Figure 4: Mean traffic speed data for Dover Road phase 2

It can be seen when comparing the phase 2 northbound scheme data and the data before any scheme was introduced that speeds have stayed very similar overall with some fluctuation.

2. A4 Bath Road (to the east of Huntercombe Spur roundabout) Phase 1

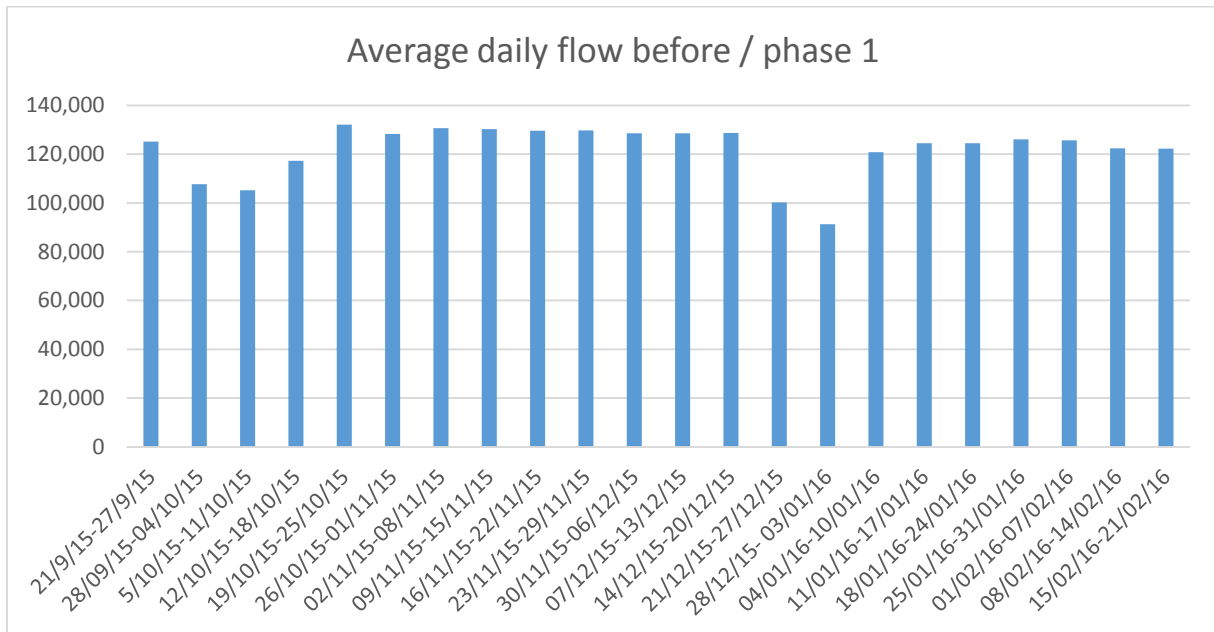


Figure 5: Average daily traffic flow data for A4 Bath Road (to the east of Huntercombe Spur roundabout) phase 1

The above graph shows relatively even levels of traffic over the period before and after the phase 1 introduction. There was a drop in the week that the closure was implemented but levels returned to almost the same levels as previously recorded. Again there has been a dip in traffic over the Christmas period. The average decrease in traffic since the scheme implementation is in the region of -7%.

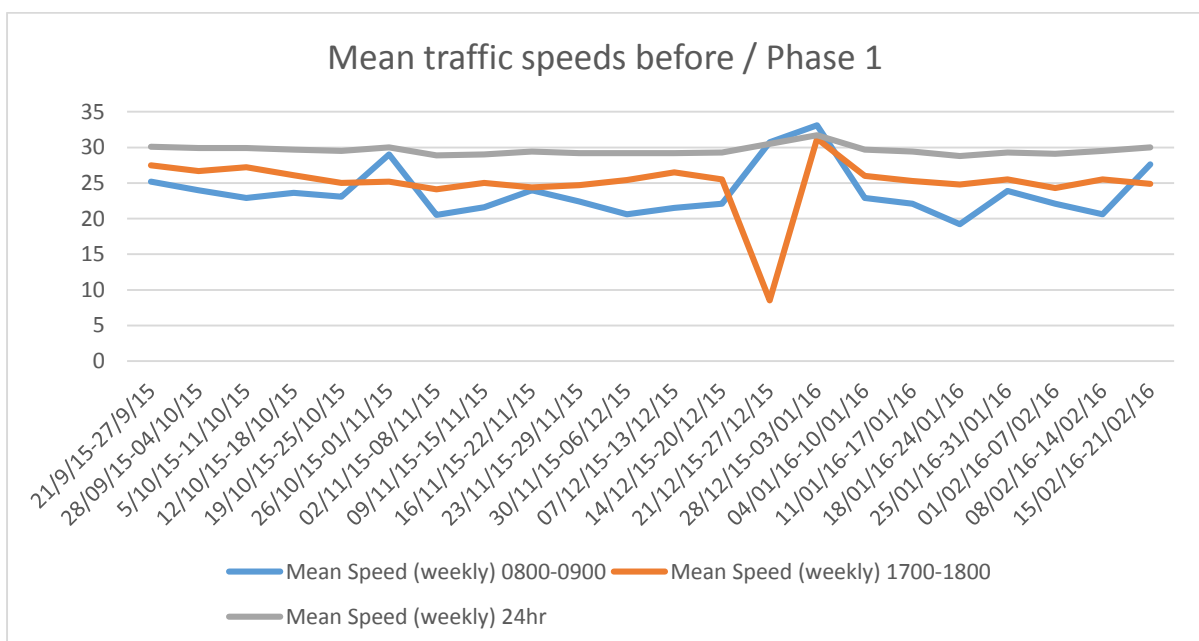


Figure 6: Mean traffic speed data for A4 Bath Road (to the east of Huntercombe Spur roundabout) phase 1

The mean weekly speed has fluctuated throughout this period, especially the AM peak mean speeds. Overall there has been a decrease in the PM peak mean speed but AM peak speeds and the 24h mean speed have stayed very similar.

Phase 2

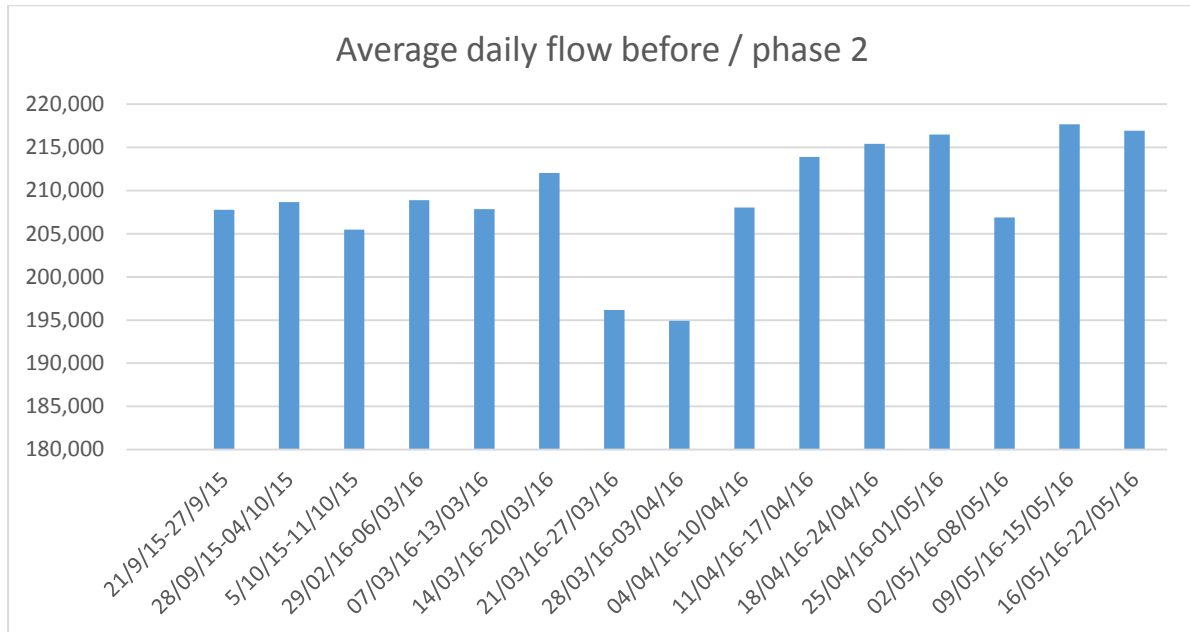


Figure 7: Average daily traffic flow data for A4 Bath Road (to the east of Huntercombe Spur roundabout) phase 2

Traffic levels before any scheme and the implementation of phase 2 have remained similar with just a 1% increase in traffic levels recorded.

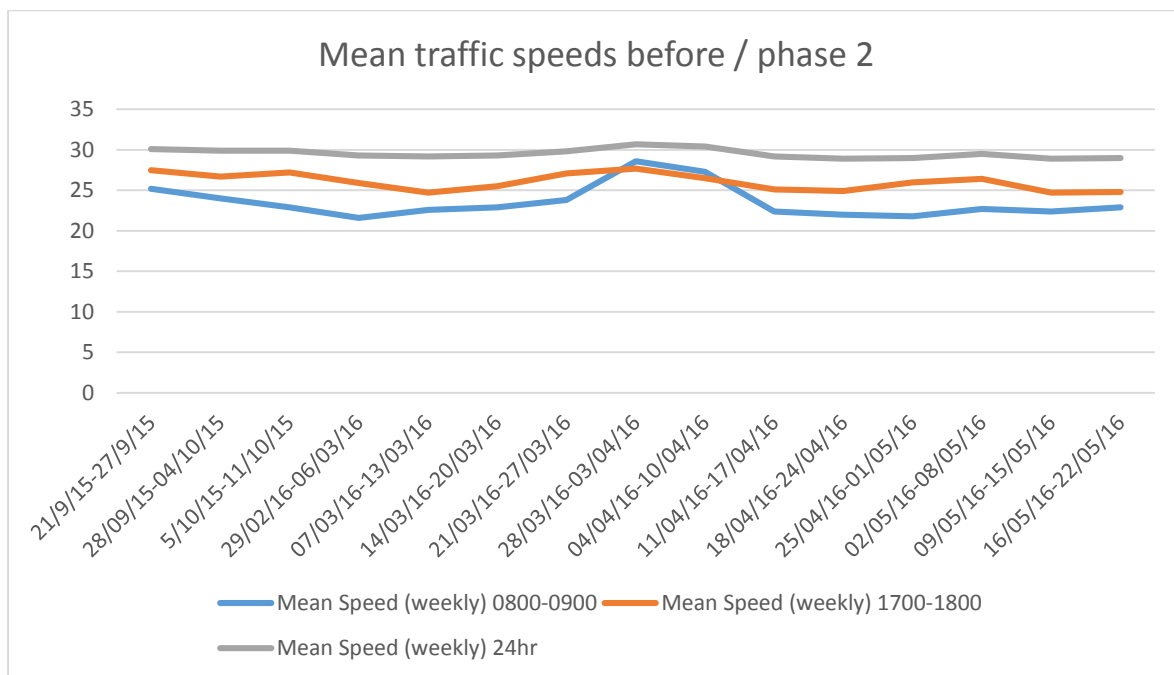


Figure 8: Mean traffic speed data for A4 Bath Road (to the east of Huntercombe Spur roundabout) phase 2

Speeds have stayed relatively consistent over time apart from a rise that coincides with the Easter holidays. Overall there has been a slight decrease in speeds.

3. A4 Bath Road (to the west of Stowe Road) Phase 1

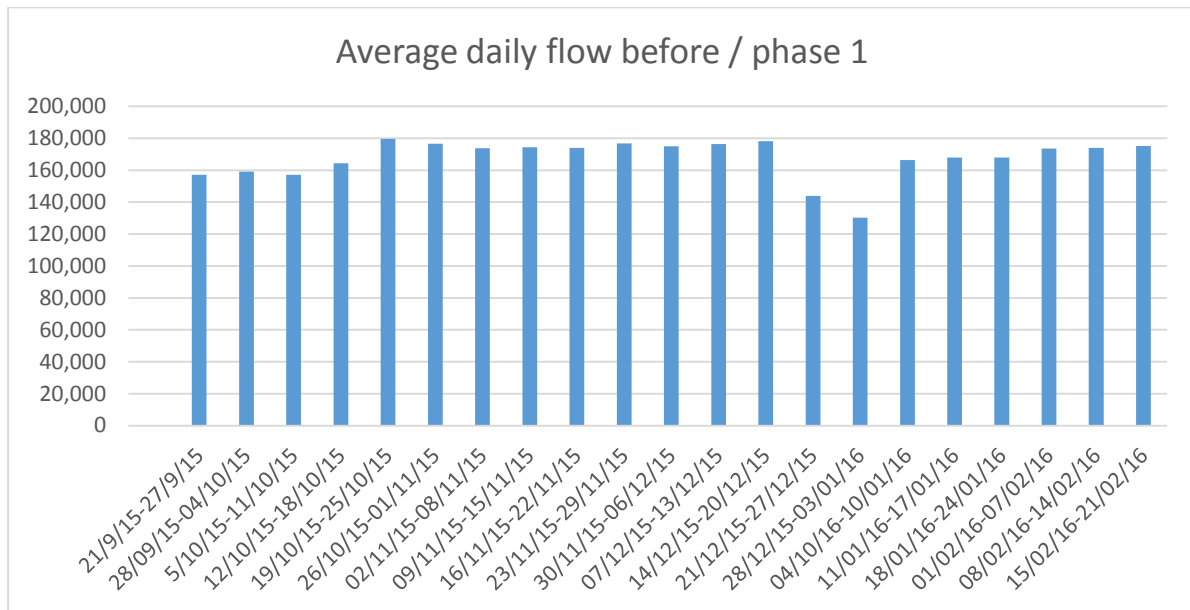


Figure 9: Average daily traffic flow data for A4 Bath Road (to the west of Stowe Road) phase 1

There has been an increase in traffic recorded along this section of the Bath Road since the week of the closure of Station Road. The volumes have fluctuated however the increase is in the region of 8% extra traffic.

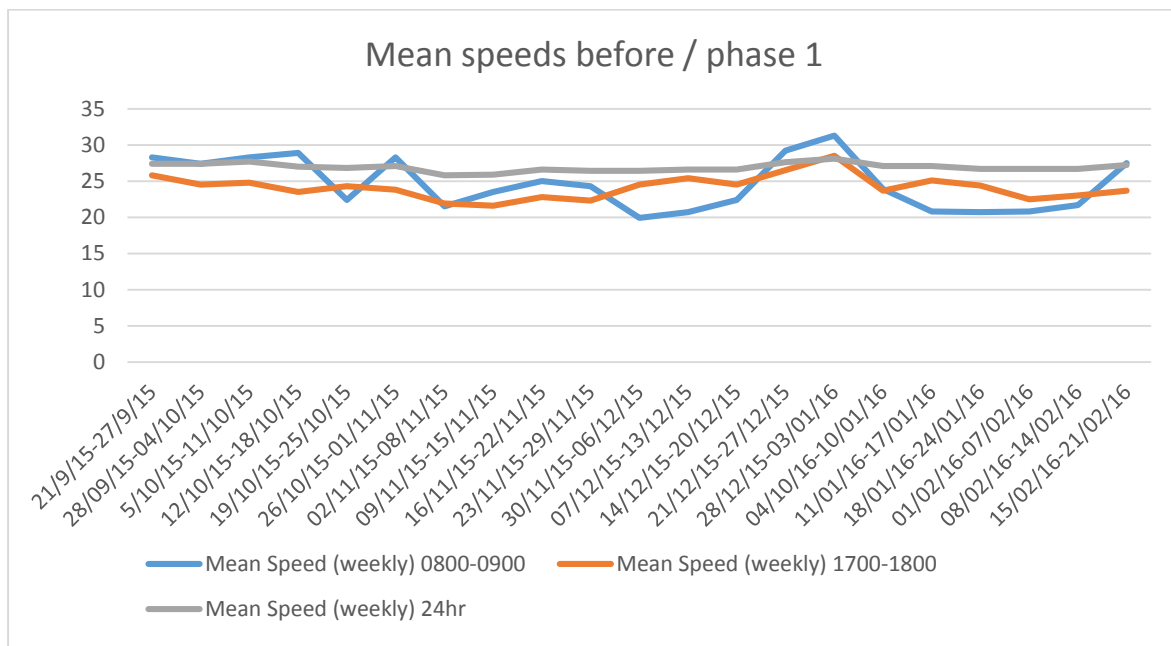


Figure 10: Mean traffic speed data for A4 Bath Road (to the west of Stowe Road) phase 1

There has been noticeable fluctuations in the mean speeds recorded along this section of the Bath Road. There has been a slight dip in the weekly mean speed and a noticeable dip in the AM and PM peak hour speeds.

Phase 2

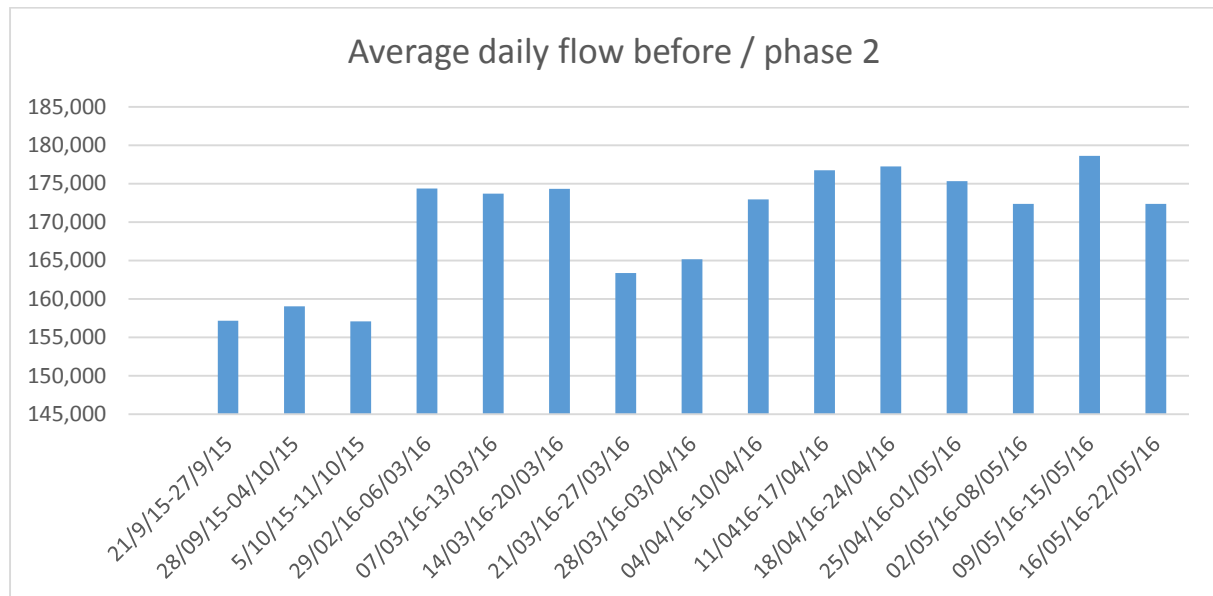


Figure 11: Average daily traffic flow data for A4 Bath Road (to the west of Stowe Road) phase 2

There has been a 10% rise in traffic along this road since the introduction of the northbound scheme.

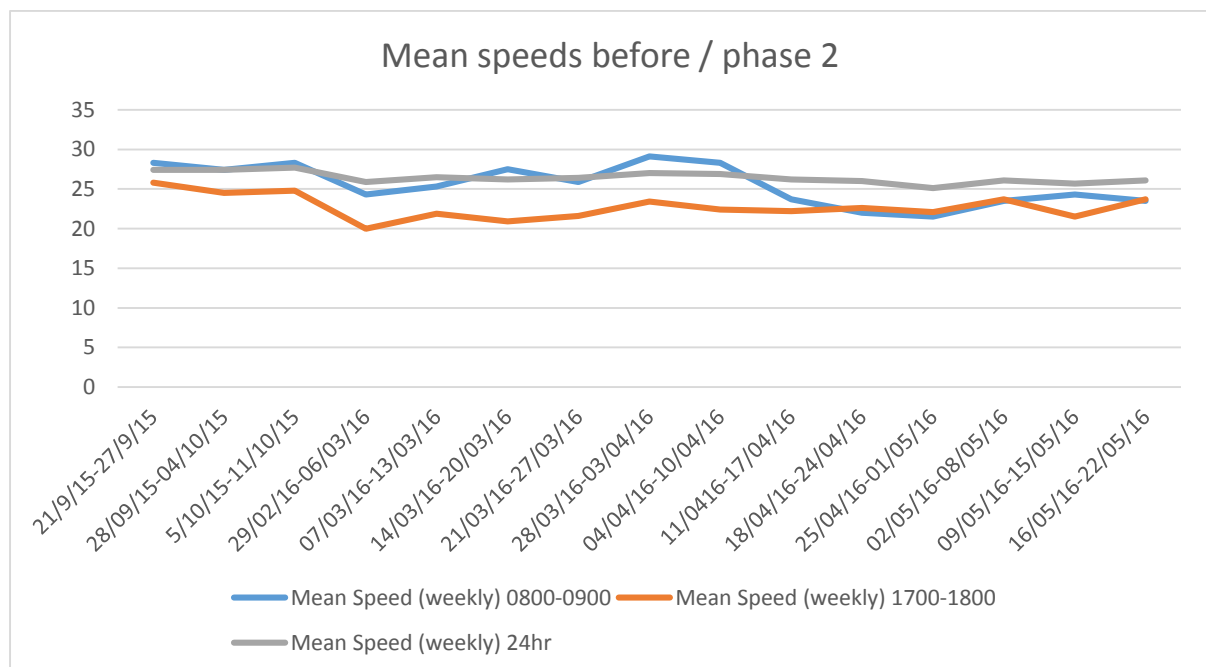


Figure 12: Mean traffic speed data for A4 Bath Road (to the west of Stowe Road) phase 2

A slight decrease in speeds has been observed when comparing the area before any scheme to the area after the introduction of the northbound scheme.

**4. Burnham Lane (to the south of the Buckingham Avenue junction, near the railway bridge)
Phase 1**

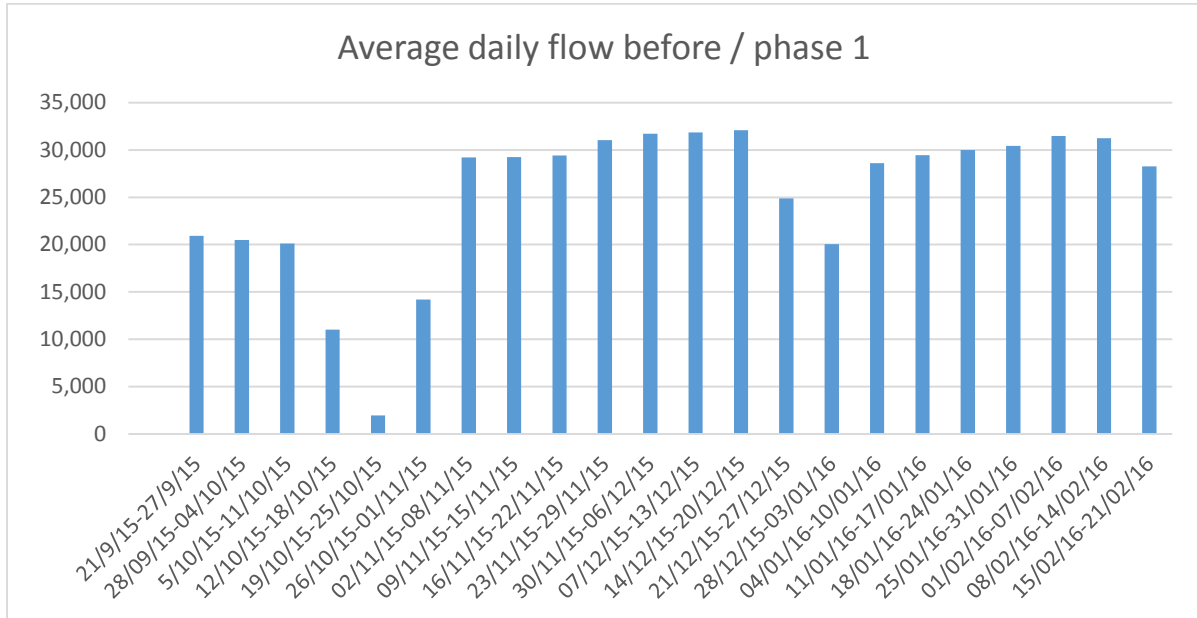


Figure 13: Average daily traffic flow data for Burnham Lane phase 1

As can be seen from the above graph, traffic volumes along Burnham Lane (under the railway bridge) have noticeably increased since the closure of Station Road. The week preceding the closure, the week of and the week after the closure saw a large decrease in traffic, however the following weeks had more traffic. The overall increase since the scheme is approximately 31%.

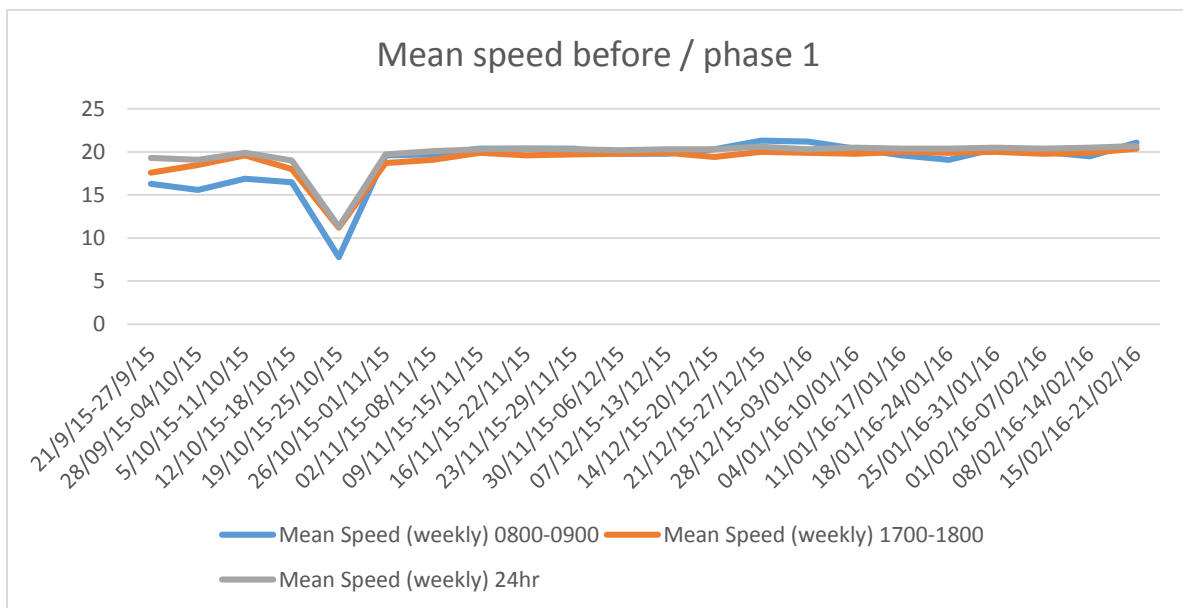


Figure 14: Mean traffic speed data for Burnham Lane phase 1

Apart from the week immediately following the road closure (in which there was a large drop in speeds), the speeds along Burnham Lane have stayed approximately the same both before and after the scheme.

Phase 2

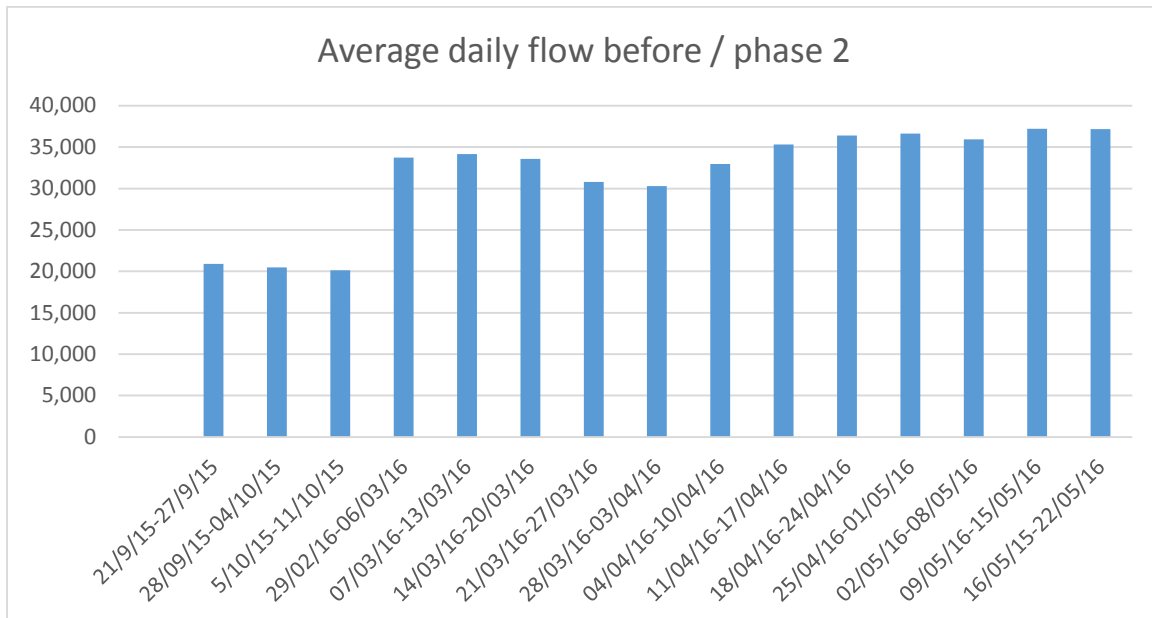


Figure 15: Average daily traffic flow data for Burnham Lane phase 2

The increase in traffic levels along this road is apparent. It is in the region of 66% additional traffic. This can be correlated with the reversal of Burnham Lane to southbound at the railway bridge and the closure of Station Road to southbound traffic.

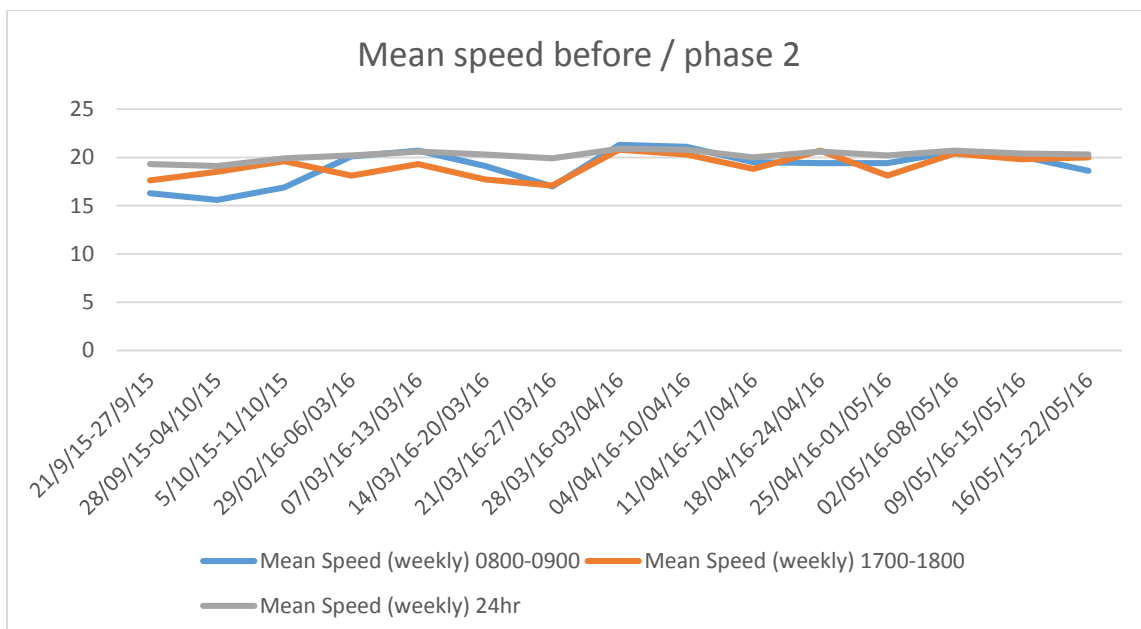


Figure 16: Mean traffic speed data for Burnham Lane phase 2

The northbound scheme has not resulted in a significant change in speeds along Burnham Lane. There has been a very slight increase in the mean AM and PM peak speeds.

5. Buckingham Avenue (to the east of Henley Road) Phase 1

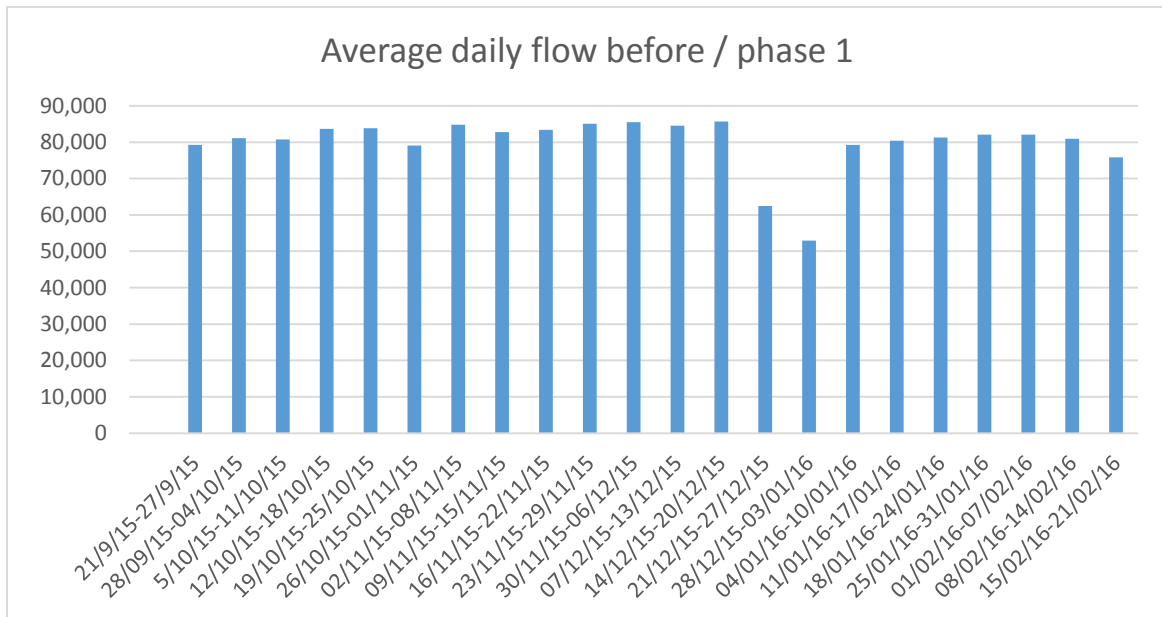


Figure 17: Average daily traffic flow data for Buckingham Avenue phase 1

Traffic volumes along Buckingham Avenue after the road closure have stayed very similar to those occurring before the closure. From the results a very slight decrease in traffic volume can be seen, around -1%.

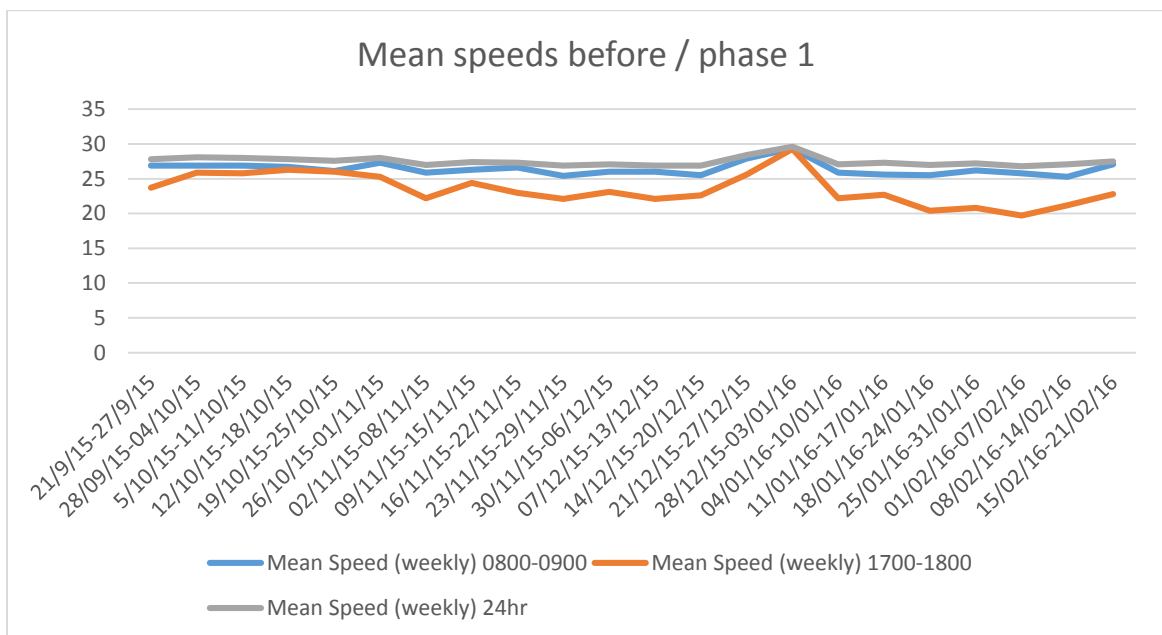


Figure 18: Mean traffic speed data for Buckingham Avenue phase 1

Traffic speeds have seen a very slight decrease since the closure of Station Road, apart from the most recent two weeks which due to the decrease in traffic because of Christmas have seen an increase in speeds. The decrease in traffic speed is most apparent in the PM peak hour, while the mean weekly speed and the AM peak hour have stayed more constant.

Phase 2

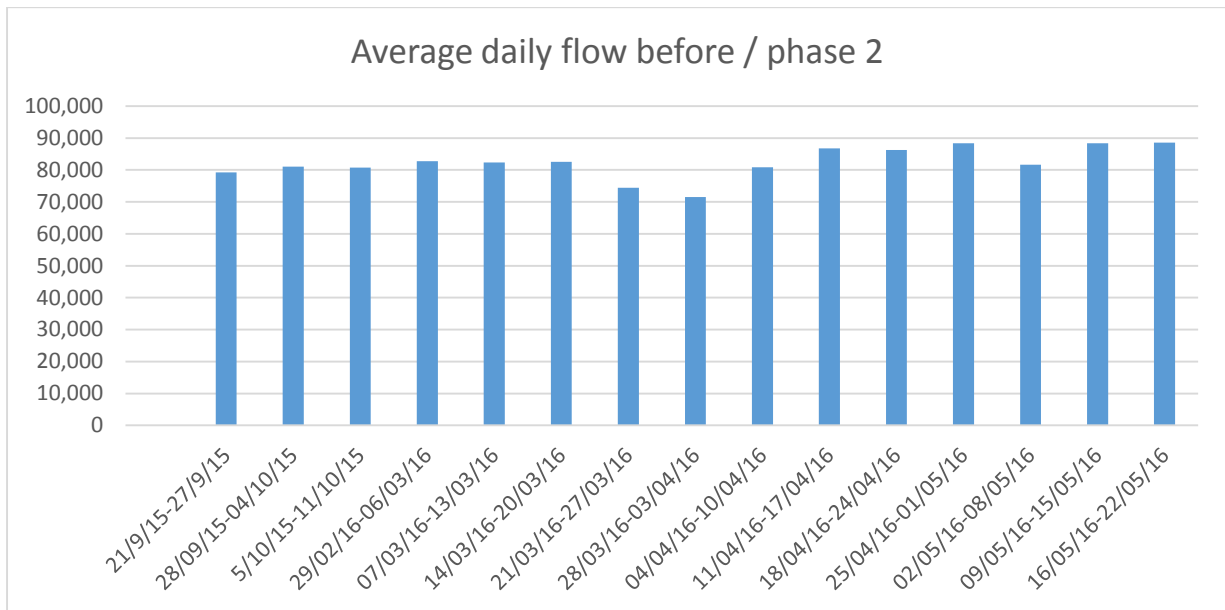


Figure 19: Average daily traffic flow data for Buckingham Avenue phase 2

Traffic volumes along Buckingham Avenue have stayed relatively consistent, there has been a slight increase in traffic volumes since the introduction of phase 2, but only in the region of 3%.

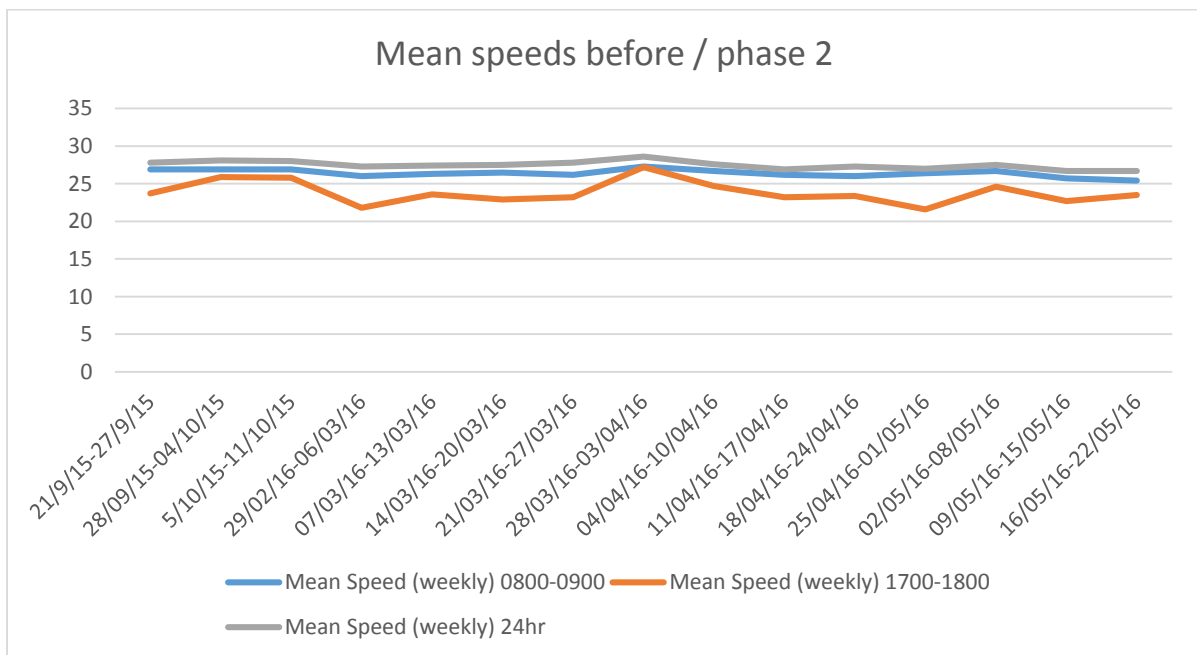


Figure 20: Mean traffic speed data for Buckingham Avenue phase 2

Traffic speeds are very similar during the phase 2 experiment to what they were before any scheme was introduced, with only a very slight decrease in the mean AM peak and mean 24 hour speeds observed.

6. Station Road (south of the railway bridge) Phase 1

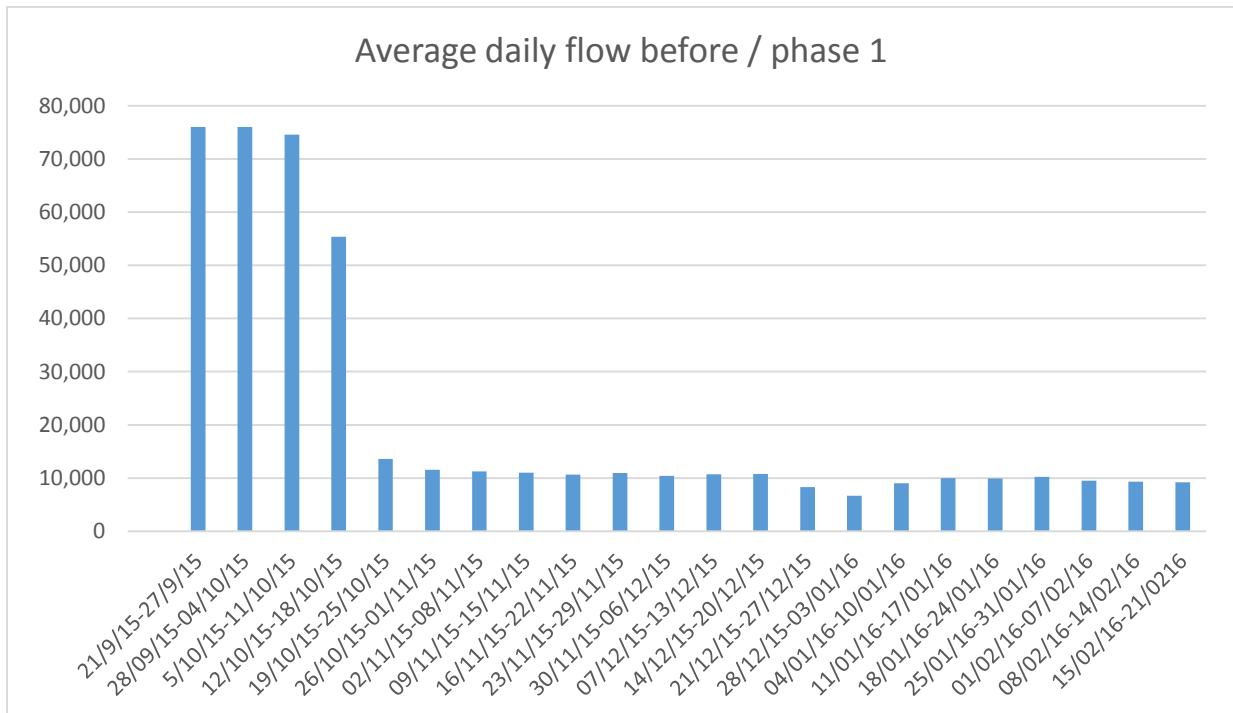


Figure 21: Average daily traffic flow data for Station Road Phase 1

It is clear from the graph that there was a huge drop in traffic volume along this road once phase 1 was implemented as would be expected. The drop in traffic volume was approximately 87%.

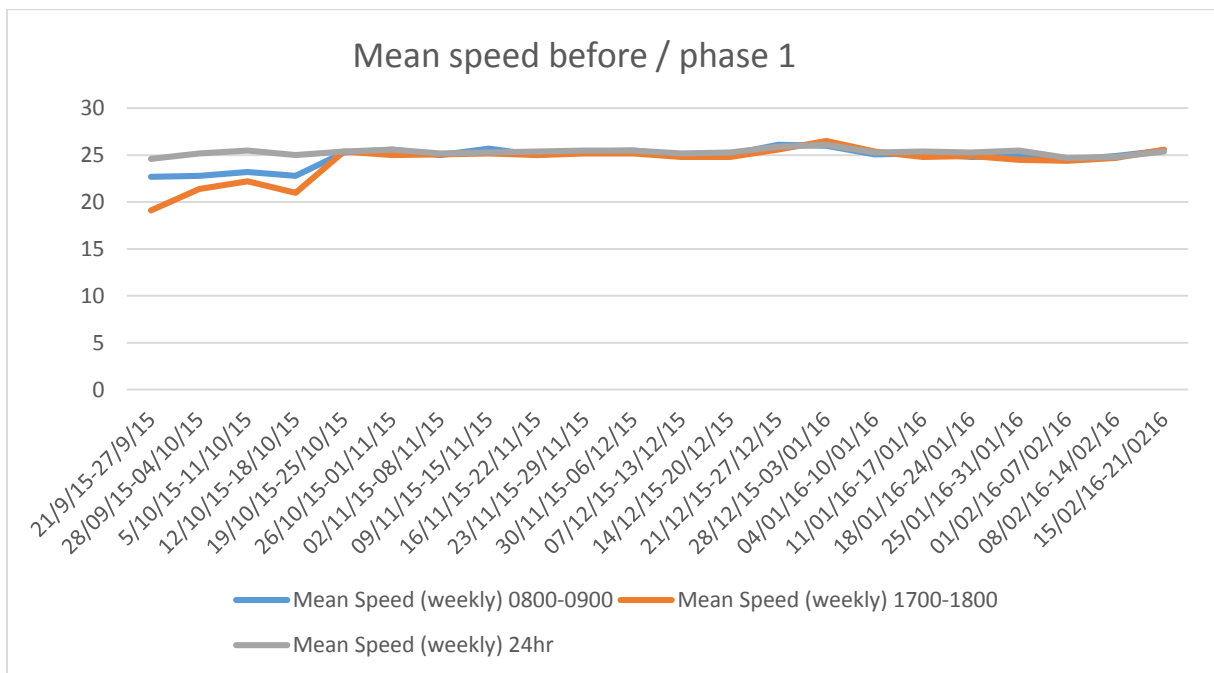


Figure 22: Mean traffic speed data for Station Road phase 1

Traffic speeds increased after the road was closed. After that, they stayed very consistent.

Phase 2

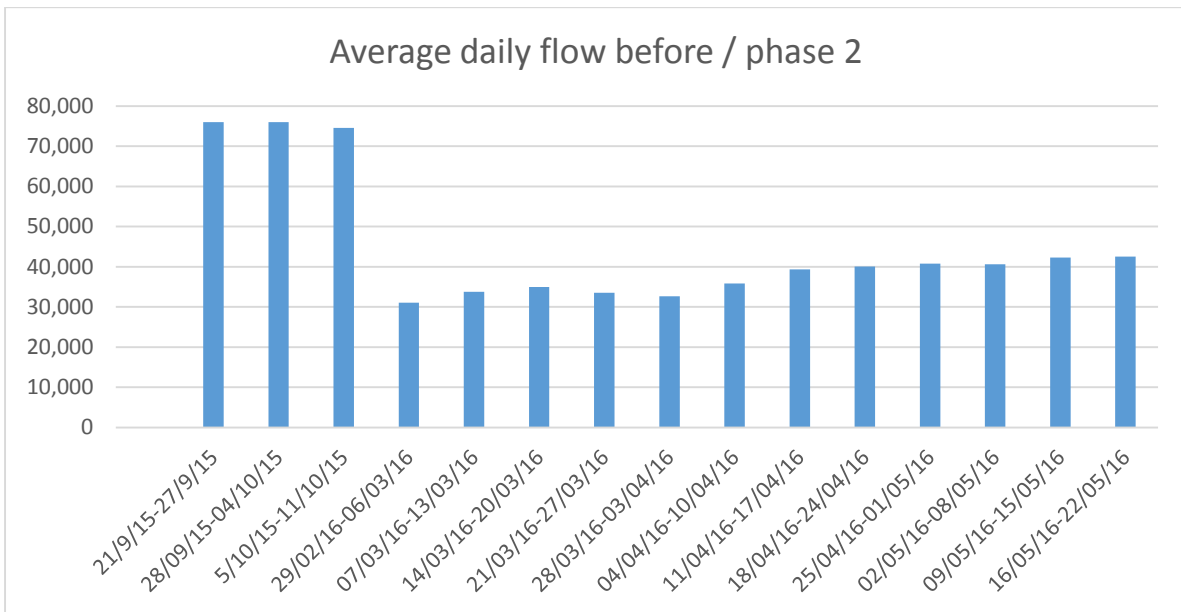


Figure 23: Average daily traffic flow data for Station Road Phase 2

There is a marked decrease in traffic flow along the road after the introduction of the northbound scheme. The decrease is in the region of 51% which is what would be expected when converting a road to one way.

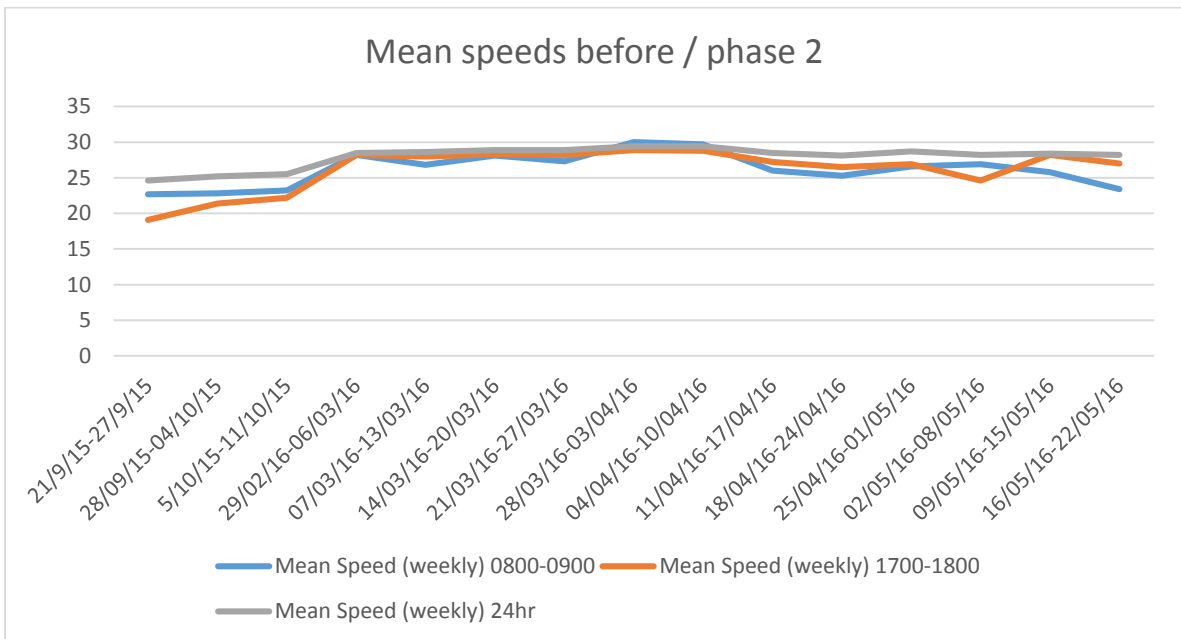


Figure 22: Mean traffic speed data for Station Road phase 2

Traffic speeds, when compared to the road before any closure took place, have risen with the introduction of the northbound only scheme. Since the change they have stayed relatively consistent.

Temporary ATCs - speed and volume data analysis

As with the permanent ATCs, speed and volume data has also been taken from temporary ATCs located around the Burnham area. Data was collected for two weeks before the closure (26/09/15 – 09/10/15), for four weeks after the full closure (16/11/15 – 13/12/15), and for one week during the northbound scheme (17/05/16-23/05/16). The data collected during phases 1 (full closure) and 2 (northbound) has then been compared to the data collected before any closure took place.

7. Huntercombe Lane North (north of railway bridge) Phase 1

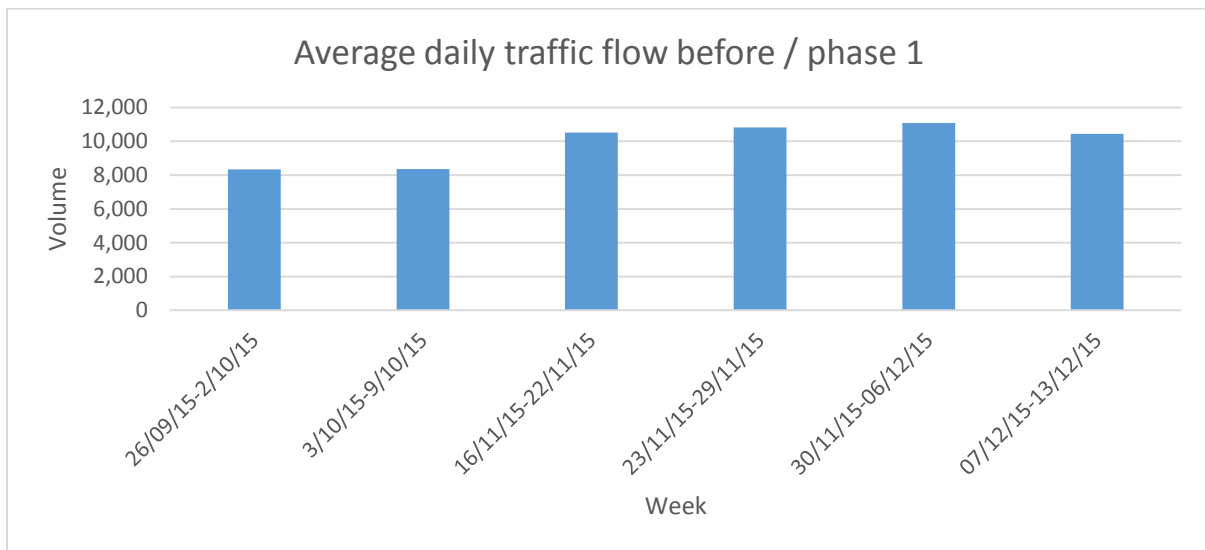


Figure 23: Average daily traffic flow data for Huntercombe Lane North phase 1

An increase in the average daily traffic flow along Huntercombe Lane North can be seen. The average increase since the scheme is approximately 29%.

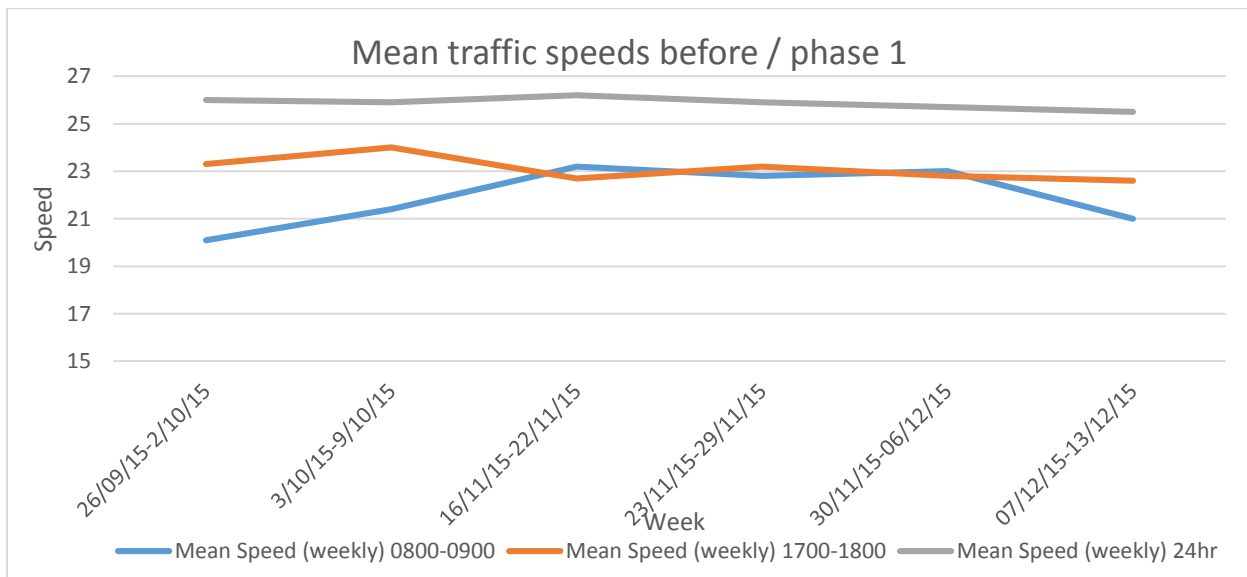


Figure 24: Mean speed data for Huntercombe Lane North phase 1

Mean weekly traffic speeds have stayed relatively constant over the surveyed period. Speeds in the AM peak hour have seen a slight decrease while speeds in the PM peak hour increased in the two weeks following the closure and fell again during December.

Phase 2

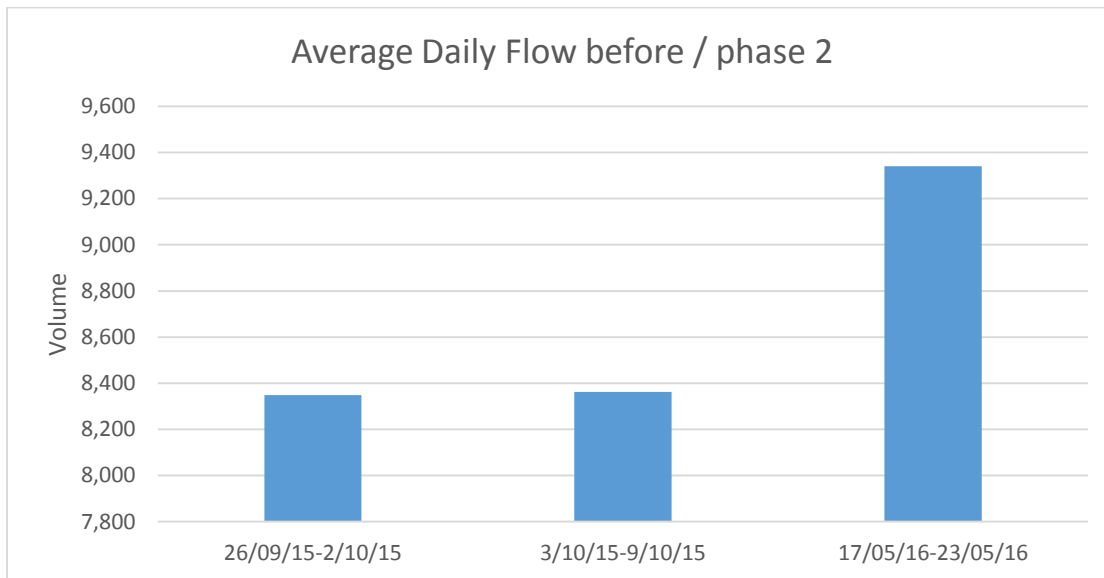


Figure 25: Average daily traffic flow data for Huntercombe Lane North phase 2

There has been an increase in the volume of traffic using Huntercombe Lane north since the introduction of phase 2. This increase is in the region of 12%.

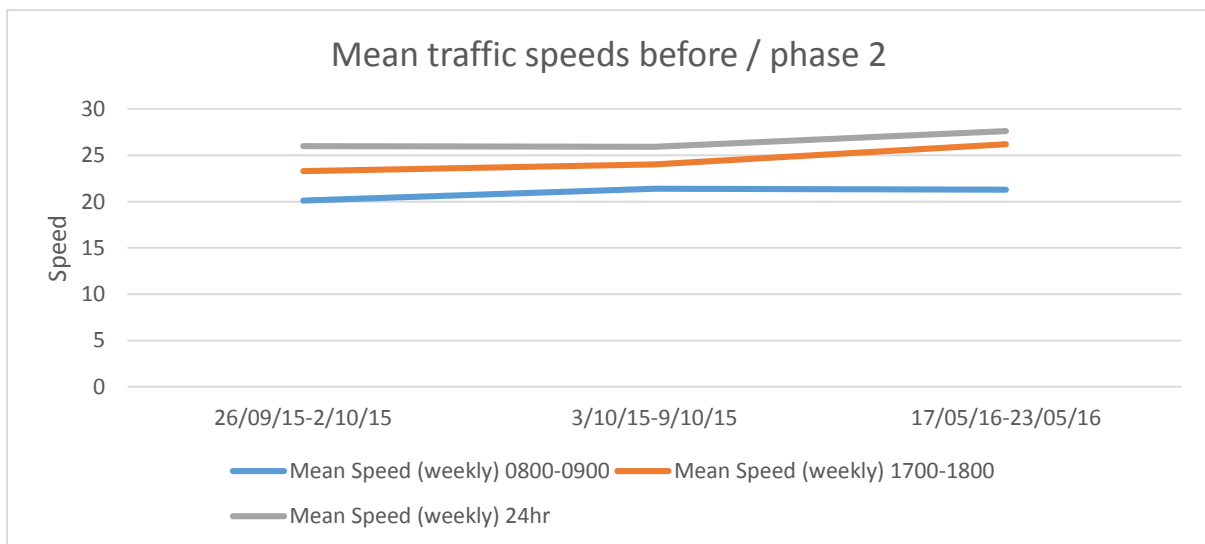


Figure 26: Mean speed data for Huntercombe Lane North phase 2

Speeds have risen slightly during phase 2 but only by approximately 2mph in the AM peak and 24 hour average. The PM peak speed has stayed consistent.

8. Priory Road (east of Derwent Drive) Phase 1

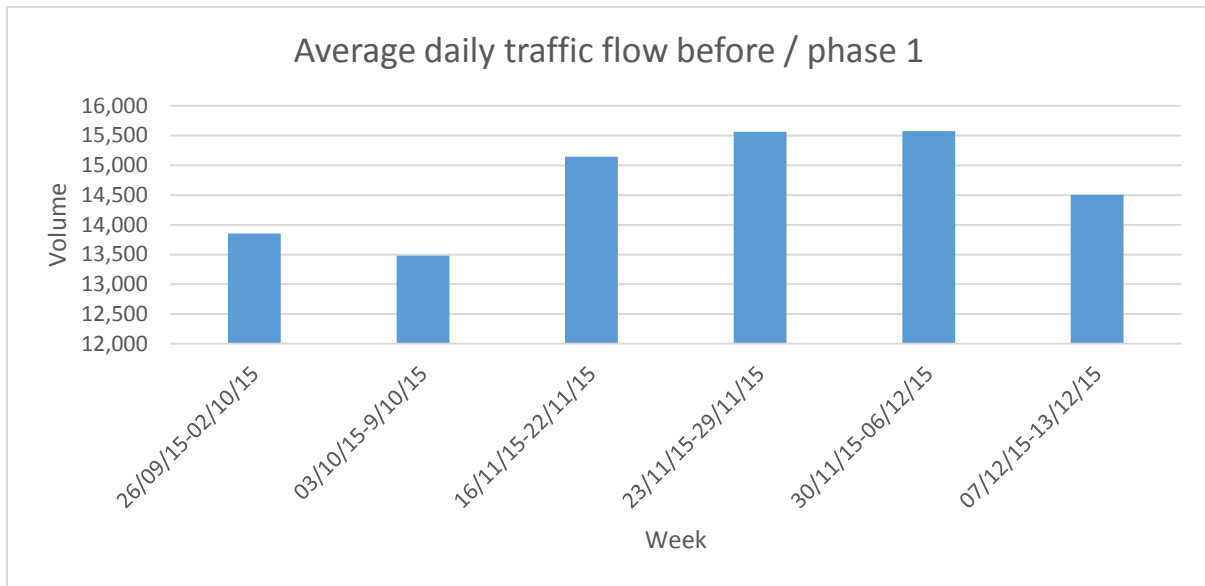


Figure 27: Average daily traffic flow for Priory Road phase 1

From the above table it can be seen that the average daily traffic flow along Priory Road has seen a noticeable increase since the closure of Station Road. This increase has been in the region of 11%.

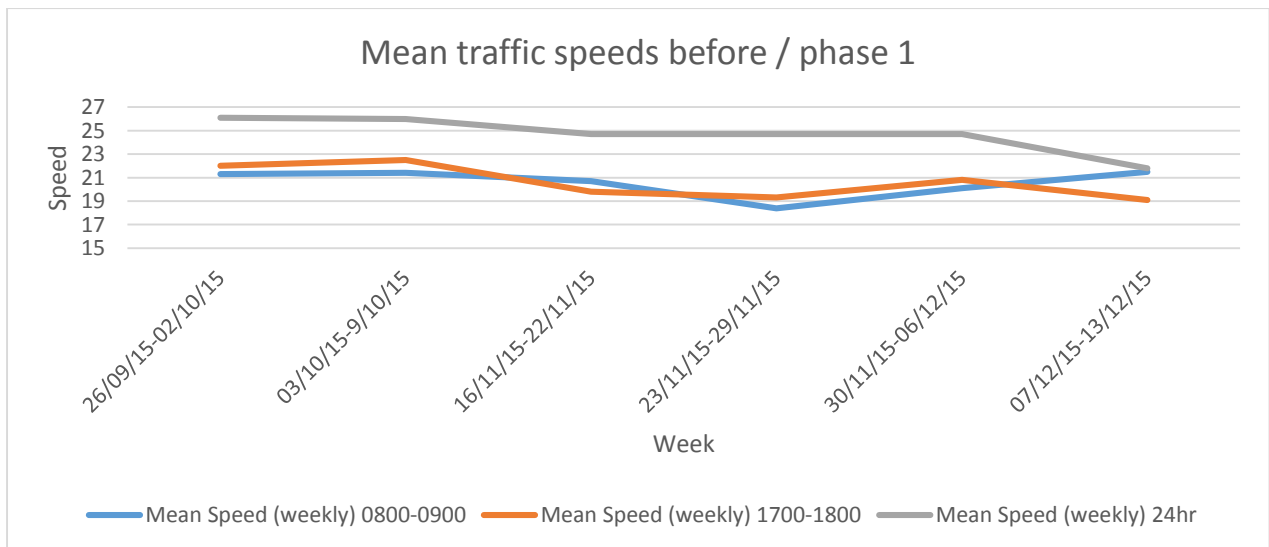


Figure 28: Mean traffic speeds along Priory Road phase 1

Since the closure of Station Road there has been a decrease in traffic speeds along Priory Road. This is particularly apparent in the PM peak hour and from the mean weekly speed. In the AM peak hour speeds dropped just after the closure but increased again in the following weeks.

Phase 2

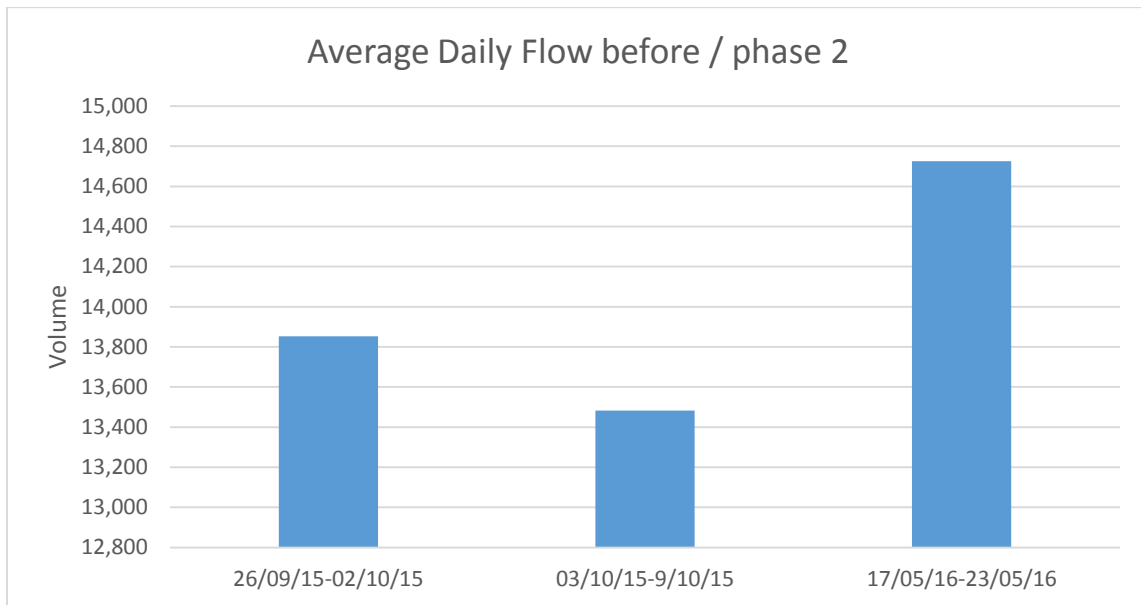


Figure 29: Average daily traffic flow for Priory Road phase 2

The volume of traffic travelling along Priory Road during phase 2 is approximately 8% higher than it was before any scheme was introduced.

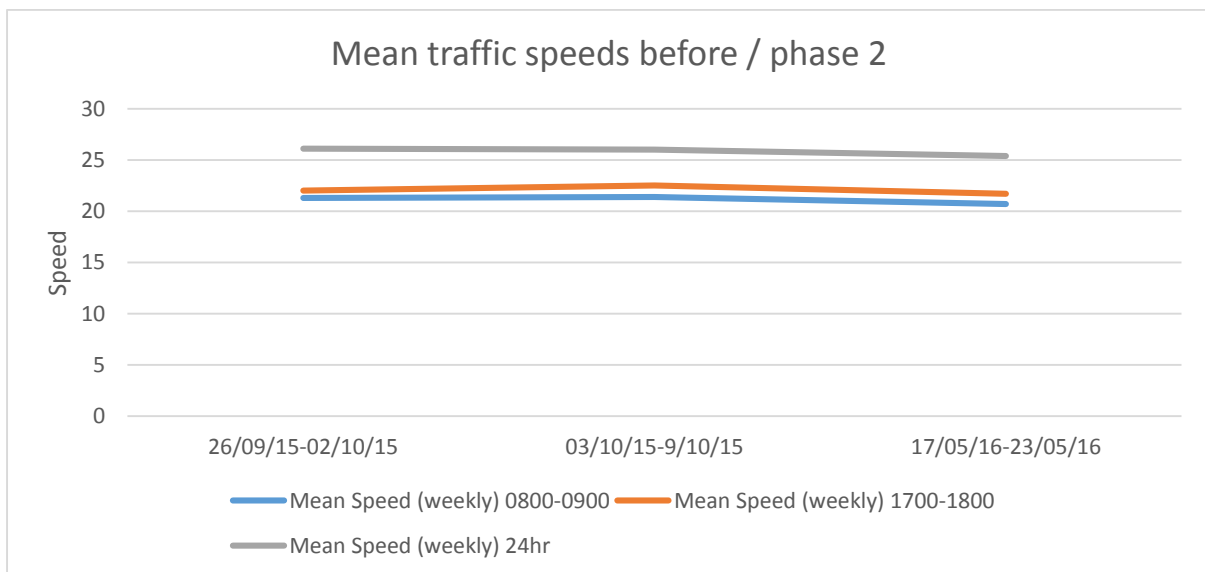


Figure 30: Mean traffic speeds along Priory Road phase 2

Average traffic speeds along this road have fallen slightly during phase 2, but only by around 1 mph.

9. Whittaker Road (west of Littlebrook Avenue) Phase 1

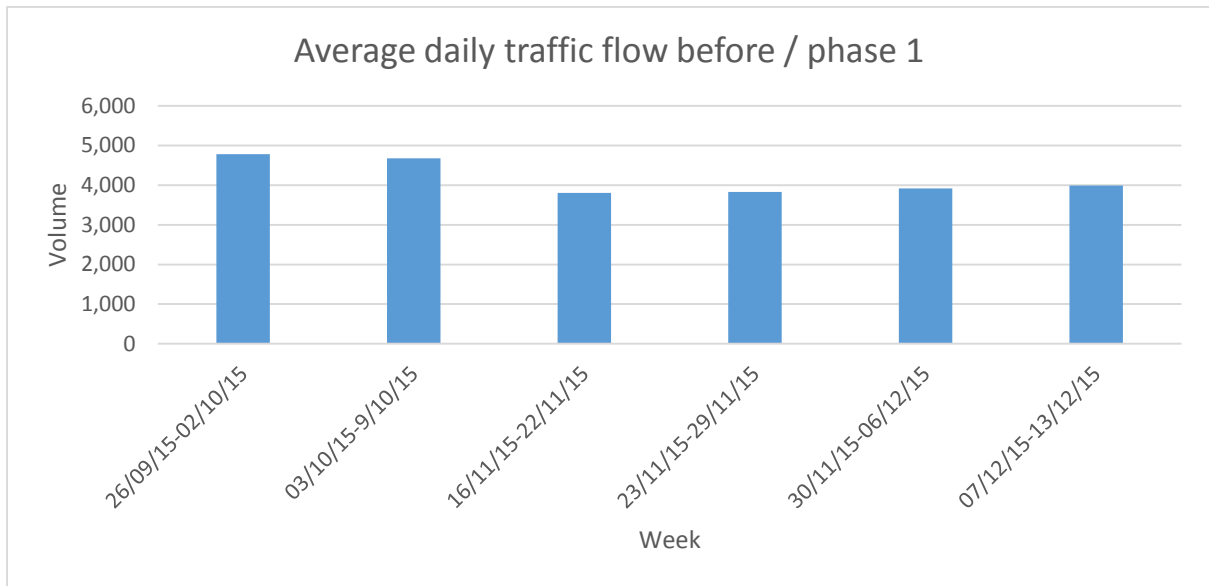


Figure 31: Average daily traffic flow for Whittaker Road phase 1

From the temporary ATC data it can be concluded that Whittaker Road has seen approximately a 17% decrease in average daily traffic flow since the introduction of the scheme.

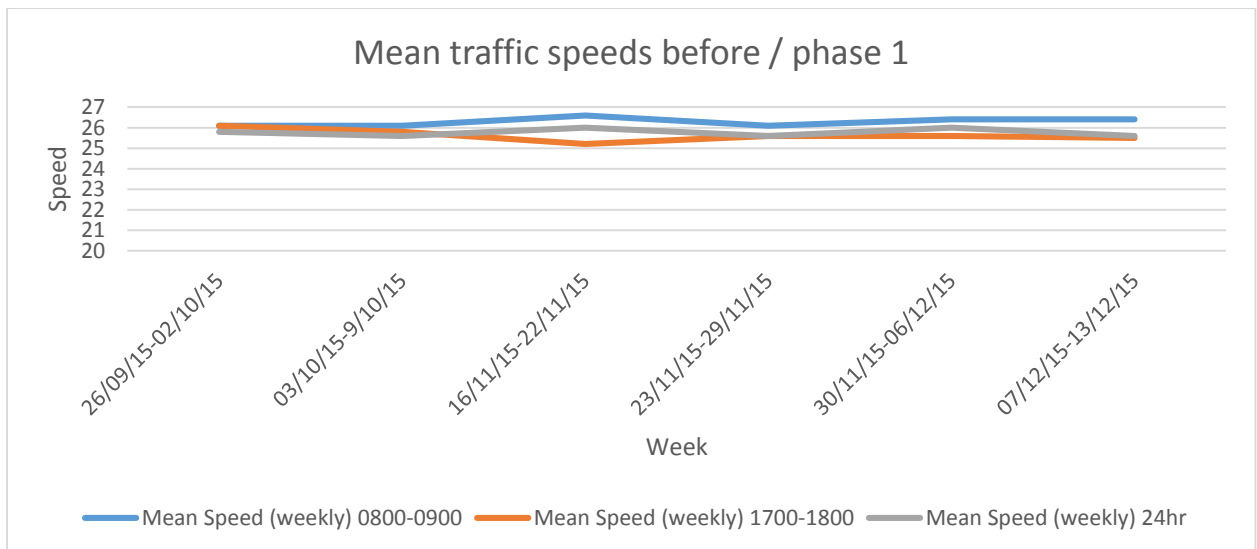


Figure 32: Mean traffic speeds along Whittaker Road phase 1

Mean traffic speeds have stayed very similar both before and after the closure of Station Road. During the week of the closure there was a small rise in speeds in the AM peak hour, but a decrease in the PM peak hour, since then they have returned to approximately the same levels.

Phase 2

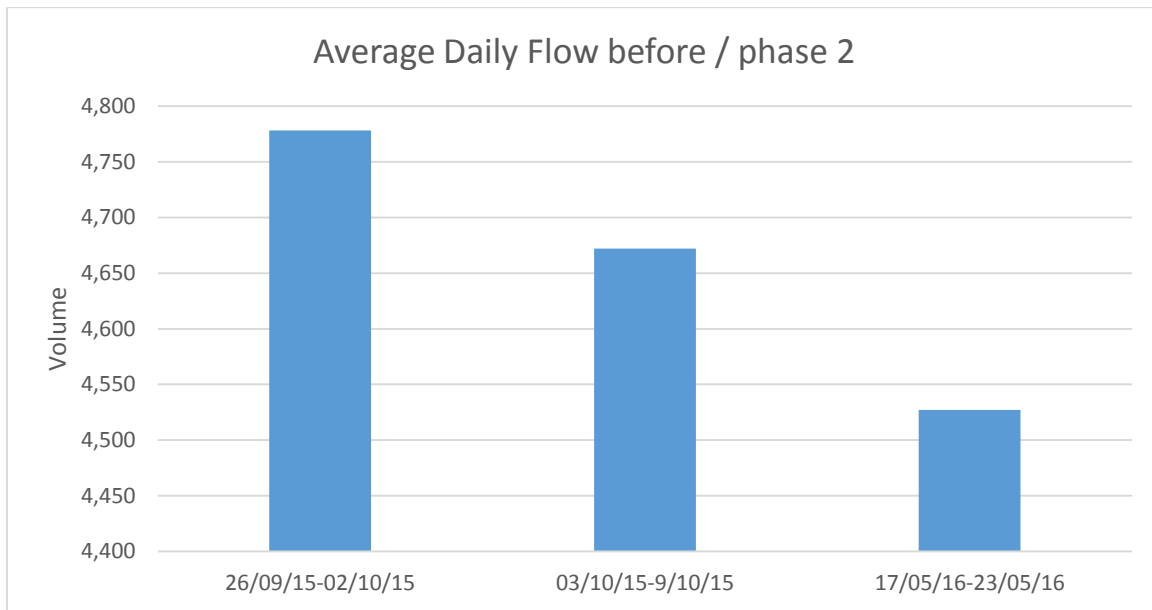


Figure 33: Average daily traffic flow for Whittaker Road phase 2

The volume of traffic travelling along this road has fallen by about 4% when compared to the volume before any scheme was introduced.

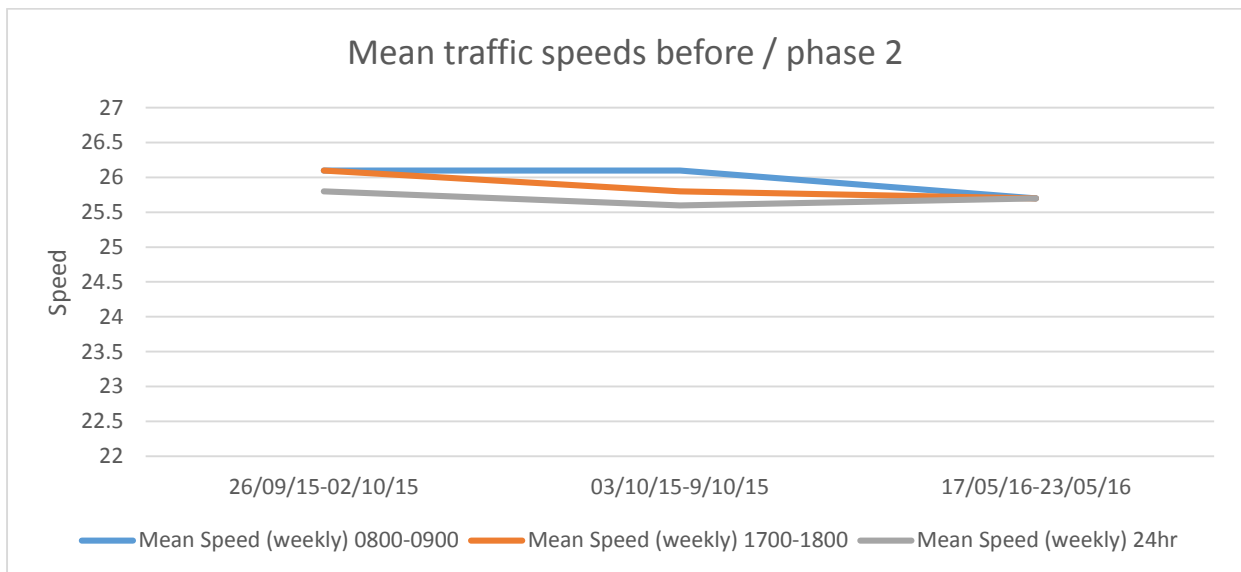


Figure 34: Mean traffic speeds along Whittaker Road phase 2

Like traffic volume, speeds in the AM and PM peak hours along this road have also fallen during phase 2 though only very slightly. The mean weekly speed however has seen a very slight rise.

10. Pevensey Road (east of Pennine Road) Phase 1

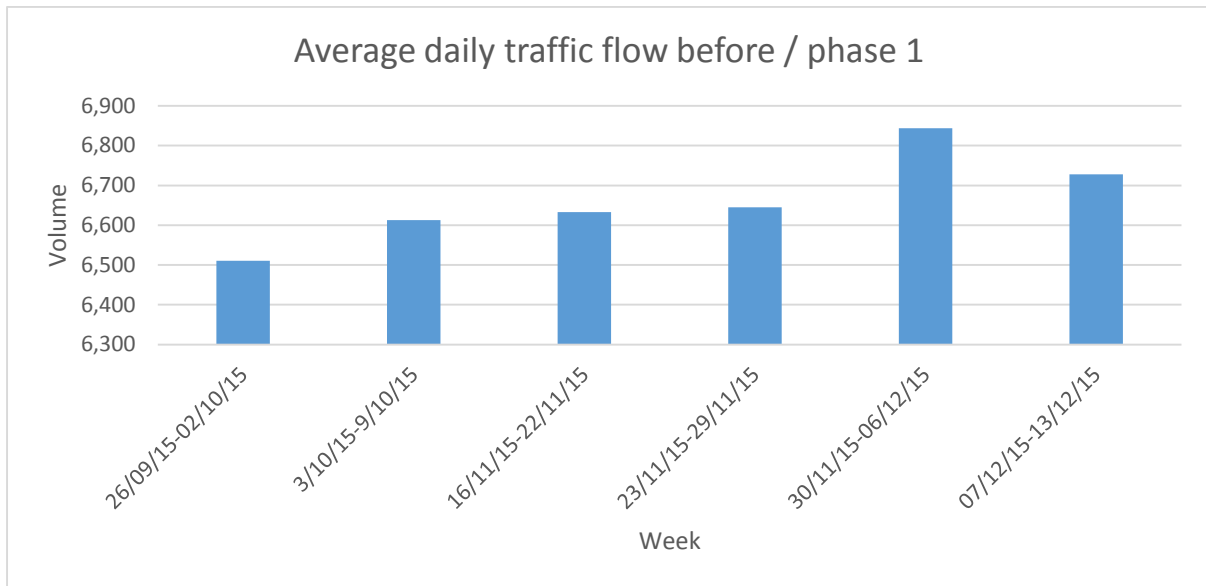


Figure 35: Average daily traffic flow for Pevensey Road phase 1

A small increase of approximately 3% in the average daily traffic flow along Pevensey Road has been recorded since the introduction of the scheme.

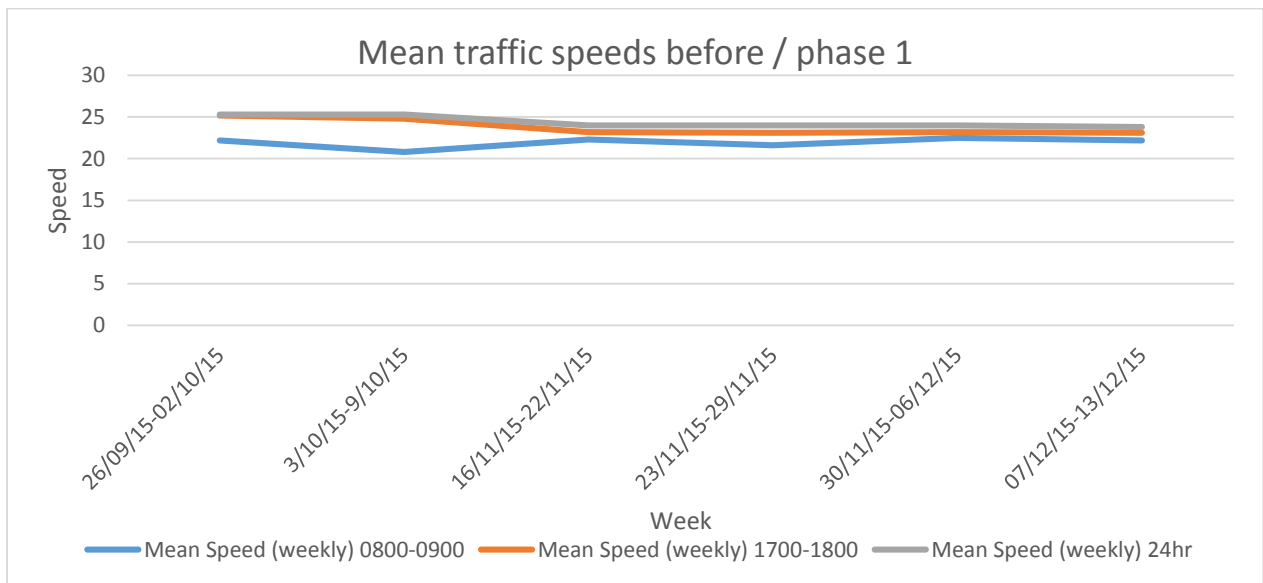


Figure 36: Mean traffic speeds along Pevensey Road phase 1

Traffic speeds in the PM peak hour, and the weekly mean speed have slightly decreased along Pevensey Road since the introduction of the scheme. Speeds in the AM peak hour however did dip slightly and fluctuate but have since returned to pre-closure levels.

Phase 2

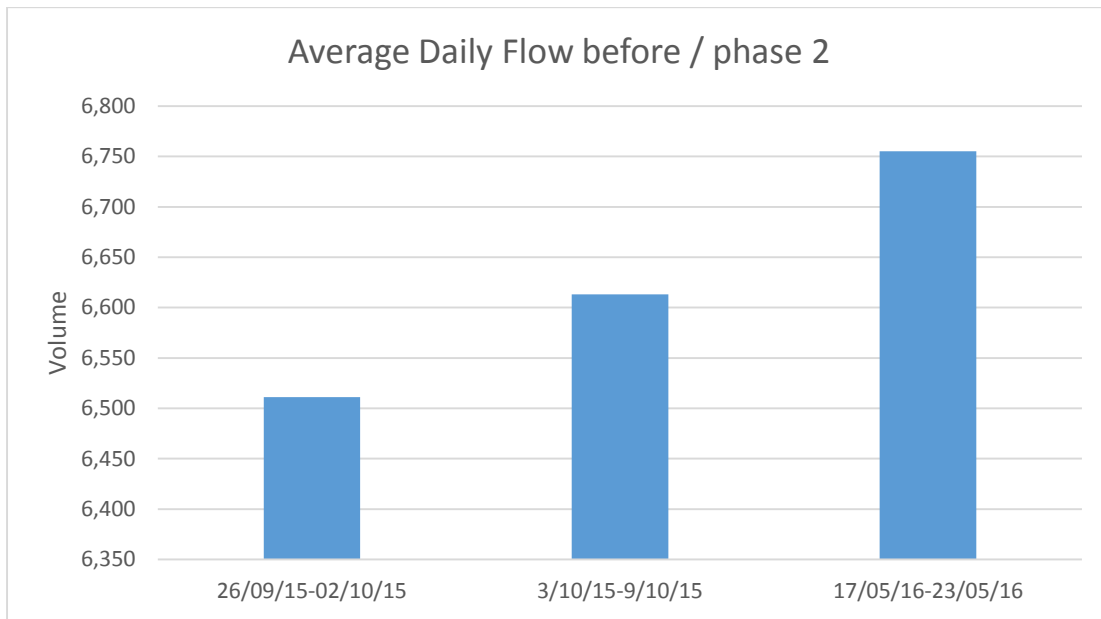


Figure 37: Average daily traffic flow for Pevensey Road phase 2

An increase in traffic volumes of 3% has been observed on Pevensey Road when comparing the data collected during the phase 2 scheme with that before any scheme.

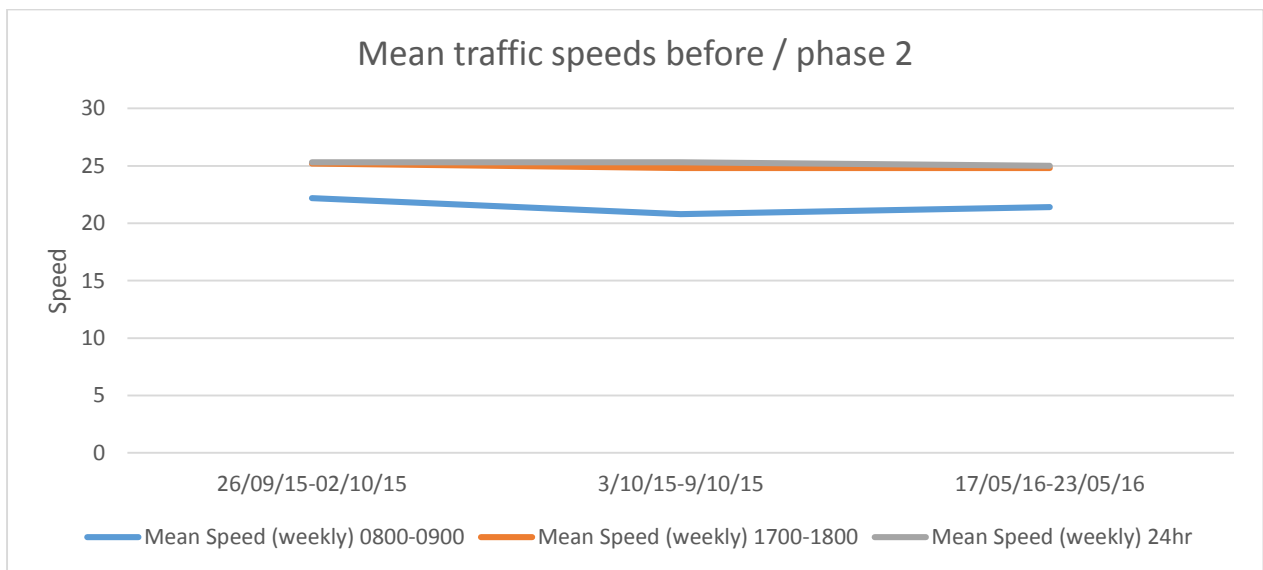


Figure 38: Mean traffic speeds along Pevensey Road phase 2

Traffic speeds have stayed relatively constant throughout, especially the PM peak hour and mean weekly speeds. AM peak hour speeds have seen a very slight decrease.

11. Burnham Lane (north of Station Road) Phase 1

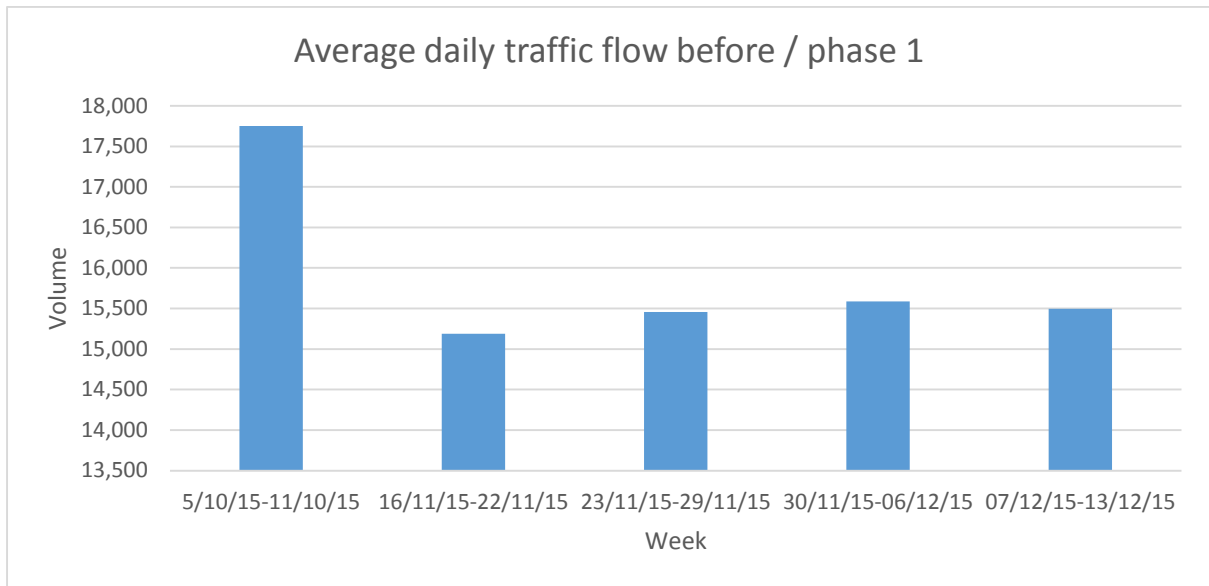


Figure 39: Average daily traffic flow for Burnham Lane phase 1

Burnham Lane north of Station Road has seen a reasonably large decrease in the average daily traffic flow since the closure of Station Road, as would be expected. The decrease in traffic is in the region of 13%.

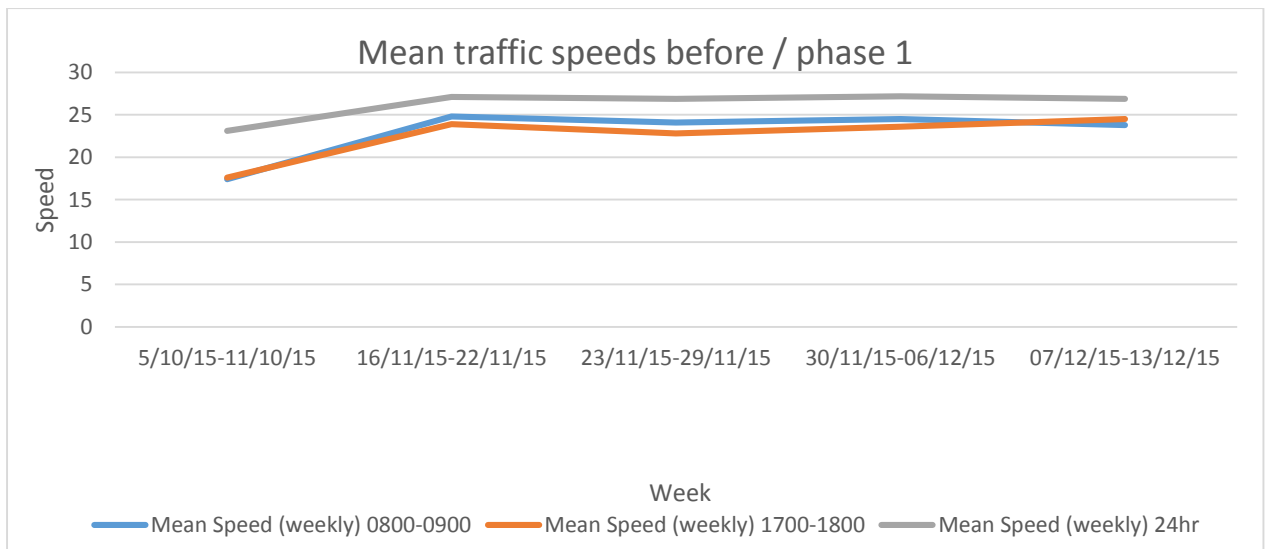


Figure 40: Mean traffic speeds along Burnham Lane phase 1

There was a rise in traffic speeds along Burnham Lane north up to and including the week of the closure of Station Road. Since then speeds have stayed relatively constant and above pre-closure levels as would be expected along this road.

Phase 2

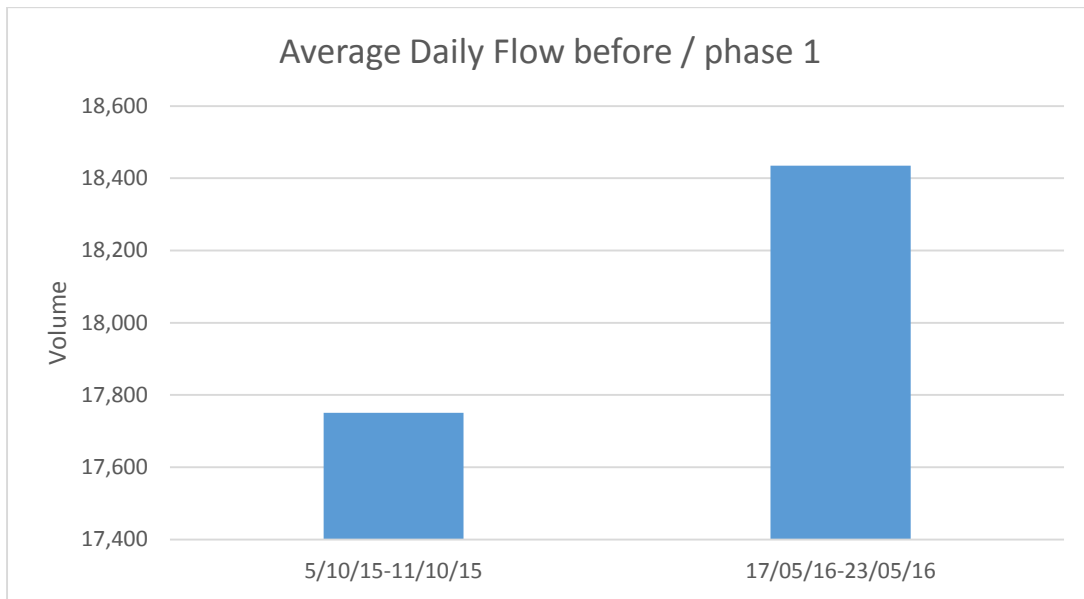


Figure 41: Average daily traffic flow for Burnham Lane phase 2

Just one week of data was collected before any scheme on Burnham Lane, to compare to one week of data collected during phase 2. The data shows that there has been an increase of approximately 4% in traffic travelling along this road during the phase 2 scheme when compared to that before any scheme.

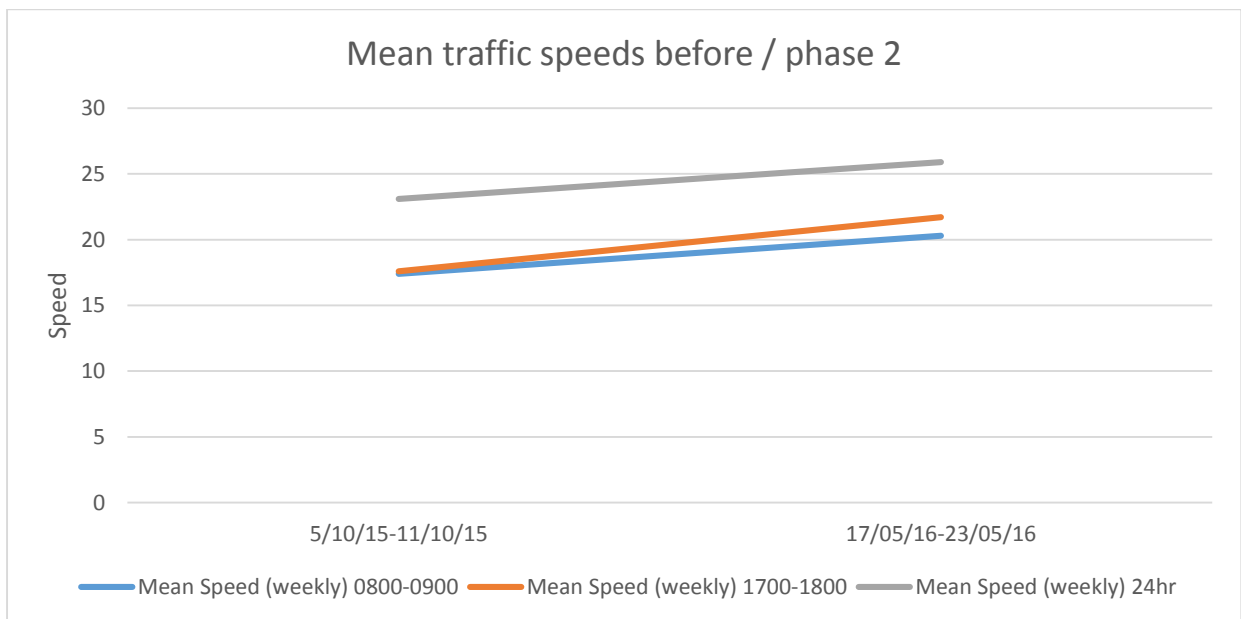


Figure 42: Mean traffic speeds along Burnham Lane phase 2

Phase 2 has seen a slight rise in average traffic speeds along Burnham Lane. This is in the region of 3-4 mph, with the PM peak mean speed seeing the largest increase.

12. Buckingham Avenue (west of junction with Farnham Road) Phase 1

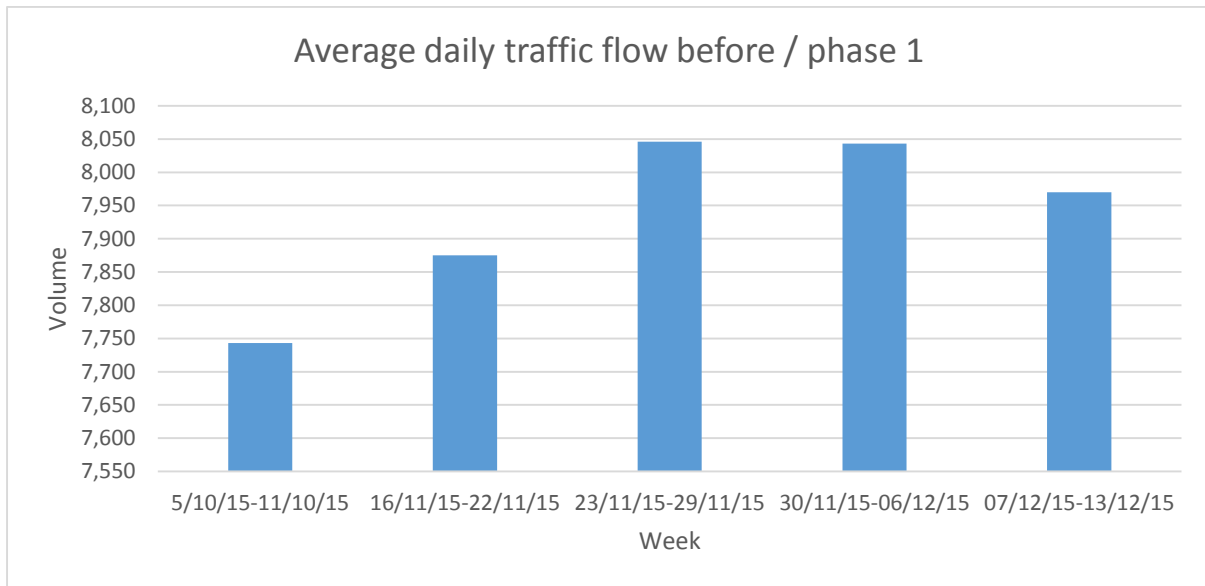


Figure 43: Average daily traffic flow for Buckingham Avenue phase 1

An increase in the average daily traffic flow along Buckingham Avenue of 4% has been recorded. This is particularly apparent in the two weeks that immediately followed the road closure.

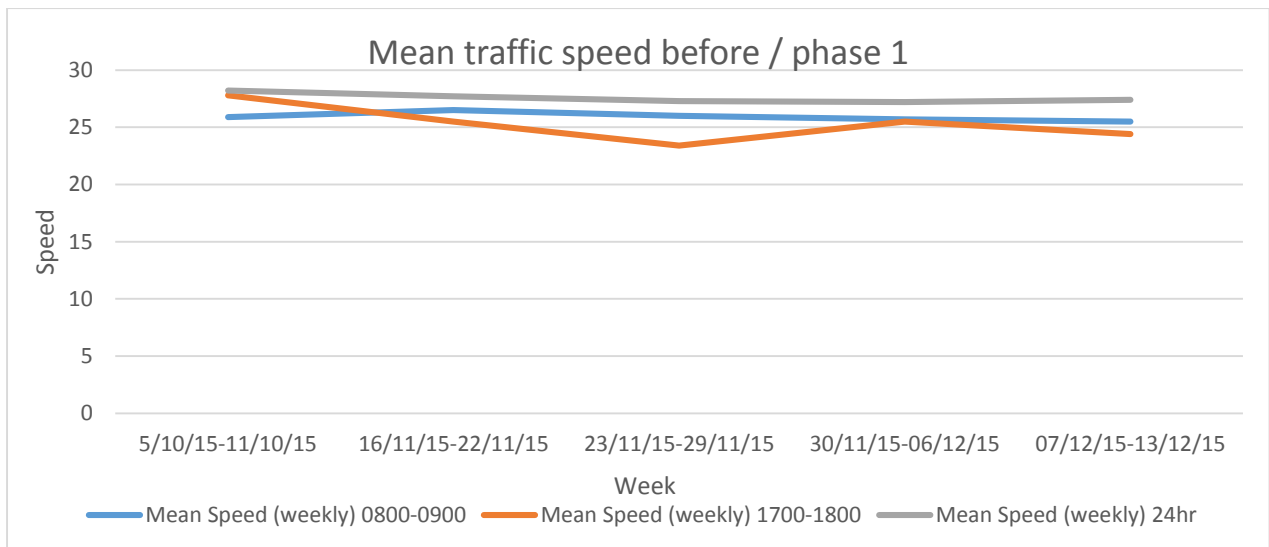


Figure 44: Mean traffic speeds along Buckingham Avenue phase 1

Speeds along Buckingham Avenue have stayed relatively consistent throughout the changes. In the PM peak hour there was a slight dip in speed in the week following the closure of Station Road and it remains just slightly lower than pre-closure levels. However, speeds in the AM peak hour and mean weekly speeds remain at approximately the same level.

Phase 2

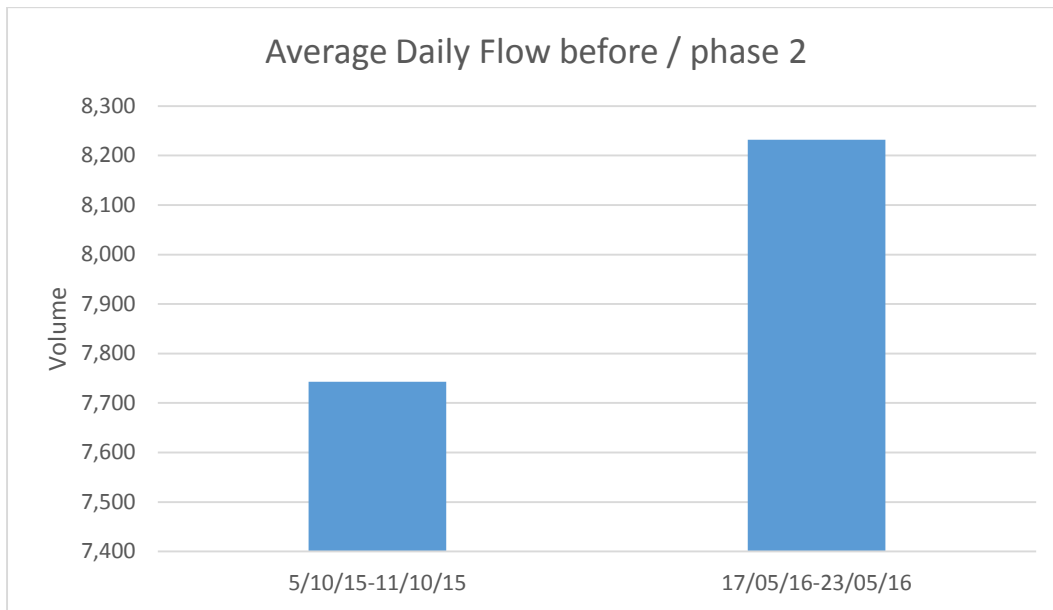


Figure 45: Average daily traffic flow for Buckingham Avenue phase 2

The volume of traffic along Buckingham Avenue has risen as a result of the phase 2 scheme. This rise is in the region of 6% additional traffic.

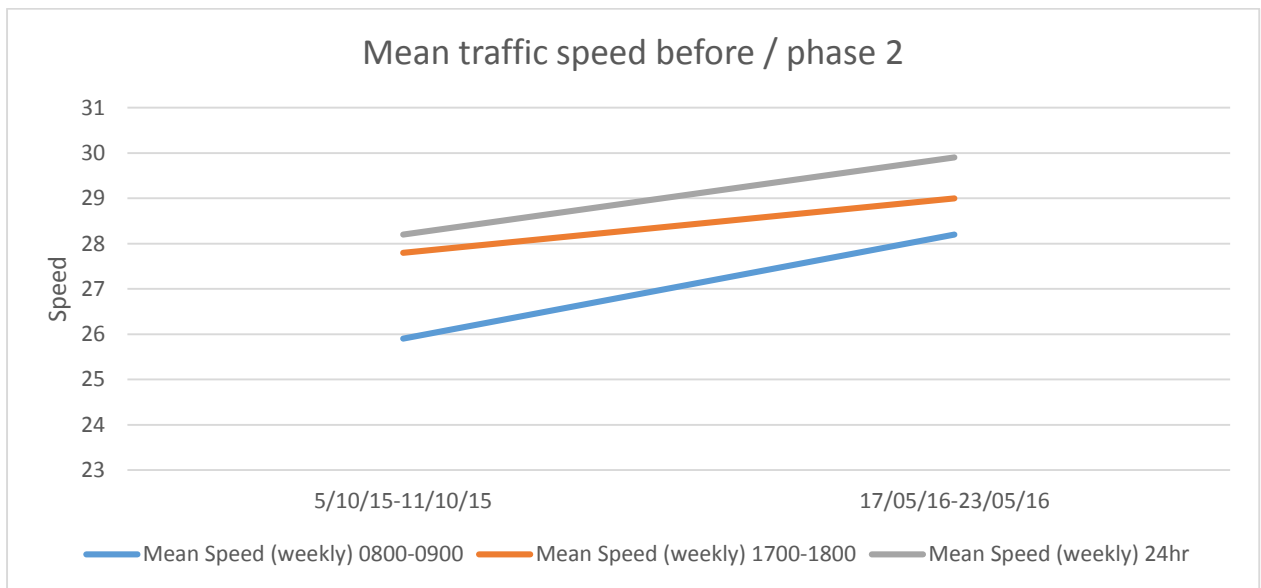


Figure 46: Mean traffic speeds along Buckingham Avenue phase 2

Traffic speeds along Buckingham Avenue have also risen during phase 2. An increase of approximately 1mph can be seen in the PM peak while the AM peak sees an increase closer to 2mph.