

# A6 to Manchester Airport Relief Road

Monitoring and Evaluation: Year One Traffic Flows and Journey Time Report

Stockport Metropolitan Borough Council

24 July 2020



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# 1. Introduction

## 1.1. Background

The A6 to Manchester Airport Relief Road (A6MARR) is a key part of the overall access strategy for South Manchester. The scheme, which successfully opened in Autumn 2018 was primarily developed to address traffic congestion and the lack of connectivity along the south Manchester corridor. The lack of strategic connectivity had substantial implications on the economy, society and the environment of this region – resulting in a direct barrier to both businesses and employment opportunities along the south Manchester corridor, thereby constraining the regions' economy.

The scheme has resulted in a series of highway improvements, which were designed to improve linkages and provide better highway access across the south east of Manchester – specifically to Manchester Airport. These improvements included additional facilities for cyclists and pedestrians, and it was envisaged it would offer the opportunity to make more efficient use of road space via improved public transport facilities. Overall it was forecast that the scheme would assist in making the region more attractive to inward investment, ultimately improving the quality of the physical environment and the associated societal benefits.

A Monitoring and Evaluation Plan was developed as part of the Major Scheme Business Case<sup>1</sup>. This set out the scheme's evaluation and monitoring approach. The scheme objectives were summarised, and a logic map developed that graphically indicated the process by which the scheme outputs will deliver the primary objectives. The Plan outlined the evaluation approach for monitoring the extent to which the schemes objectives have been achieved, which adhered to the following three stages of monitoring and evaluation:

- Pre-construction/ Baseline Report, commenced Autumn 2014/ 15;
- One Year Report, commencing Autumn 2019; and
- Five Year Final Report, commencing Autumn 2023.

The first stage of the monitoring and evaluation was the preparation of the Baseline Monitoring and Evaluation Report<sup>2</sup>. This set out the existing conditions across south-east Manchester prior to the implementation of the scheme. As part of the Baseline Report, a series of surveys were undertaken in Autumn 2014, prior to the construction of the scheme, including traffic volume and journey time surveys. These baseline surveys provide the opportunity to assess and measure change over time as part of the scheme evaluation. It provides a basis from which the outcomes and impacts of the scheme are monitored, to assist with determining if the outcomes and impacts of the scheme are delivered as intended.

## 1.2. This Report

This report summarises the initial findings at Year One Post Opening for both traffic volumes and journey times, which provide input into the overall impact evaluation of the A6MARR scheme. The purpose of this traffic volumes and journey time analysis is to attempt to understand:

- How traffic volumes have changed across the study area since the scheme opened, particularly through local centres and the mitigation areas;
- How the scheme is contributing to its objectives of reducing the impact of traffic congestion on existing routes, and improving the efficiency and reliability of the highway network;
- How the initial traffic volumes at Year One compare to those that were forecast at the scheme opening year, as developed during the business case work associated with Full Approval;

The scheme was opened in Autumn 2018, and in order to allow time for road users to adjust their travel patterns/ allow for regular traffic to re-route from the 'during construction' alternatives, the data collection associated with the monitoring was undertaken in Autumn 2019.

<sup>1</sup> A6 to Manchester Airport Relief Road: Monitoring and Evaluation Plan. Atkins, August 2014.

<sup>2</sup> A6 to Manchester Airport Relief Road: Monitoring and Evaluation Baseline Report. Atkins, April 2016.

## 2. Traffic Flow Data

### 2.1. Baseline Traffic Surveys

A set of baseline traffic volume surveys were conducted across the study area, against which post-scheme results could be compared during the Year One and Year Five Post Opening stages. This is fully documented within the A6MARR Baseline Report<sup>3</sup>.

Automatic traffic counters (ATCs) were laid at 66 sites across the study area, outside of the school holidays in September/ October 2014. This data was supplemented by a further 16 sites, which were identified as having existing traffic count data collected in 2013 and 2011 that was suitable for use. To ensure this earlier data was comparable with the September/ October 2014 information, adjustment factors were applied to it, as set out within Appendix 7 of the A6MARR Model Data Report<sup>4</sup>.

For all sites, count data was collected over a two week period for the full 24 hour period each day, including weekdays and weekends. The data was 'cleaned' to remove any days with spurious counts, and at the majority of sites, at least two weeks of 'clean' data was used to develop the baseline counts.

### 2.2. Year One Traffic Surveys

A set of Year One traffic volume surveys were conducted across the study area, outside of the school holidays in November 2019. These surveys were undertaken one year after the opening of the scheme to allow sufficient time for road users to adjust their regular travel patterns/ allow for traffic to re-route from the 'during construction' alternatives.

The Year One traffic volume surveys were undertaken at identical locations to the Autumn 2014 baseline surveys. Whilst some of the survey sites were at permanent count locations, (ATCs) were laid at approximately 70 sites across the study area. Other sites were identified as having potential safety issues with laying tubes, and radar technology was utilised to collect the traffic data. This resulted in traffic surveys being undertaken as follows:

- 8 permanent counts sites;
- 69 temporary ATC count sites; and
- 5 temporary count sites where radar technology was used due to safety issues.

A plan showing the location of the Year One traffic survey sites, as undertaken in November 2019 is presented in **Figure 2-1**.

Two of the permanent count sites experienced problems with the counters in November 2019, and one site had a road closure due to roadworks during this time, which meant data had to be collected in January 2020. These sites were at the following locations:

- Site 39: Stanneylands Road, Styal;
- Site: 47 & 48, A555 Handforth; and
- Site 77: A538 Hale Road, Hale Barns.

As with the baseline data, at all sites count data was collected over a two-week period for the full 24 hours each day, including weekdays and weekends. The data was 'cleaned' to remove any days with spurious counts, and for the majority of sites, at least two weeks of 'clean' data was used to develop the Year One traffic volumes.

Seasonality adjustment factors, consistent with those set out in the A6MARR Model Data Report<sup>5</sup> were applied to ensure that the data was directly comparable with the pre-scheme analysis. This process ensured that the data was collated in an identical way to the baseline survey data, and it is presented within this report as the Year One traffic volume surveys.

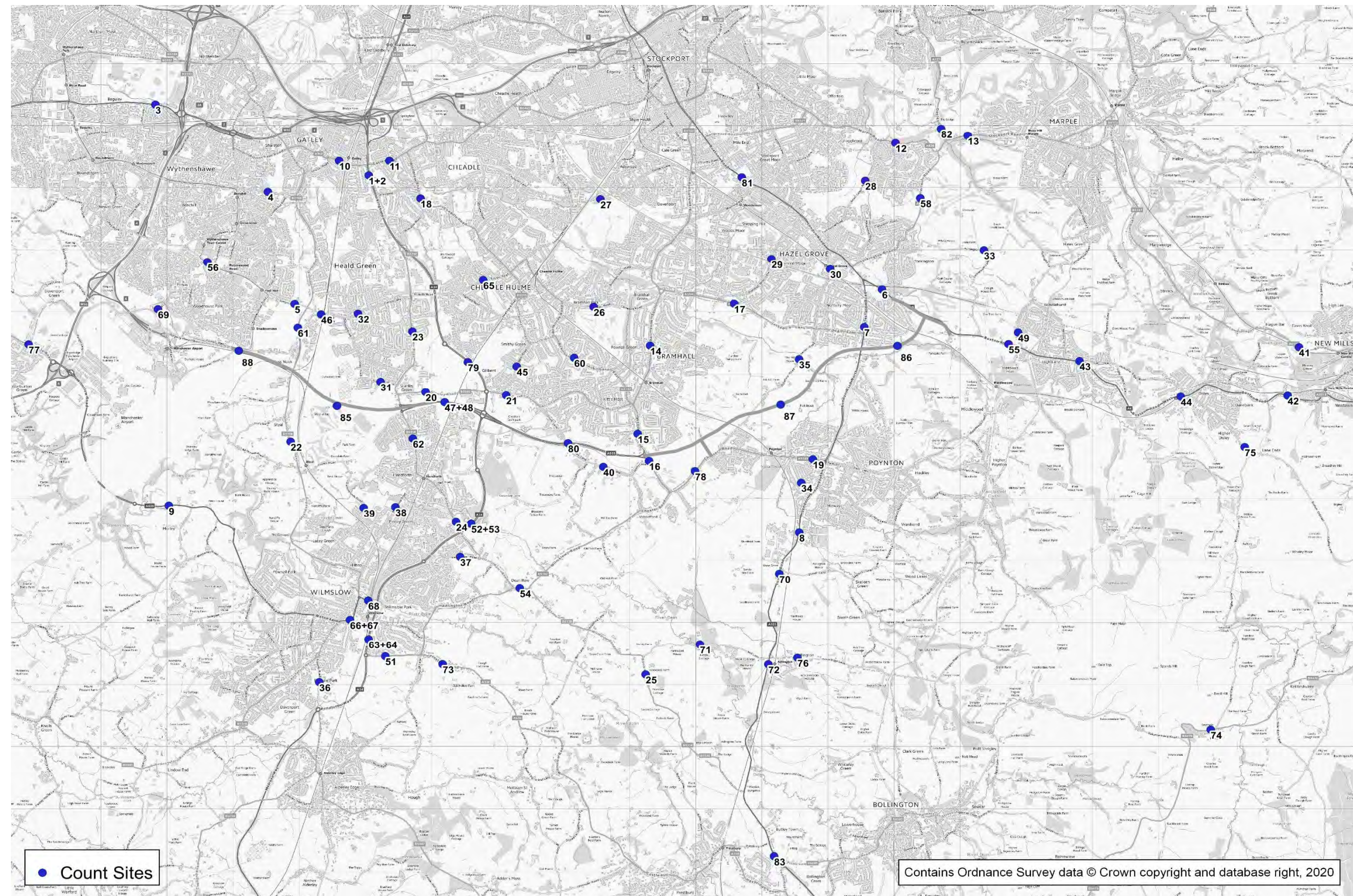
<sup>3</sup> A6MARR Monitoring & Evaluation Baseline Report (2016), Atkins.

<sup>4</sup> HFAS Report 1812: A6MARR Model Data Report (July 2014), TfGM.

<sup>5</sup> HFAS Report 1812: A6MARR Model Data Report (July 2014), TfGM.



**Figure 2-1**      **Location of A6MARR Traffic Surveys**





The following analysis was undertaken on the traffic volume surveys to provide an understanding of the initial impact of the scheme on traffic flows across south-east Manchester:

- The Year One traffic flows were compared with the baseline traffic flows in an attempt to highlight the impact of the scheme on traffic volumes across the study area, in particular through the mitigation areas and the local centres, such as Bramhall, Handforth, Heald Green, Poynton and Cheadle Hulme.
- The proportion of heavy good vehicles (HGVs) are included within the summary in order to establish the impact of the scheme on HGV flows. This is especially important given the focus of the scheme on providing improved access to Manchester Airport and the strategic road network for freight trips, while reducing both the local centre traffic volumes and the proportion of HGVs through these areas, with the aim of providing a better environment for the local community.
- A series of screenlines were highlighted within the M&E Plan, which were developed to assist in understanding how traffic flows may have changed across a wider geographical area, as opposed to individual links.
- The Year One traffic flows were compared with the forecast traffic volumes (as prepared during the development of the business case, and associated with the final traffic modelling work that was fed into the development of the scheme BCR as submitted at Full Approval) to provide an understanding of how the initial scheme impact on traffic volumes differs from the forecast opening year impact.

## 2.3. Background Traffic Trends

When attempting to understand the impact of the scheme on traffic volumes at particular locations across the study area, it is important to be mindful of wider, background traffic trends. These background trends can provide an indication of general changes in traffic volumes that are likely to have occurred without the scheme. The DfT provides an annual summary of road traffic statistics within each local authority of England. Table TRA8903<sup>6</sup> summarises the motor vehicle miles (excluding trunk roads) within both Stockport and Greater Manchester. This indicates that between 2014 and 2018 (the most recent data available at the time of writing), that there has been a 0.6% increase in the vehicle miles travelled on roads within Stockport. By way of comparison, across the whole of Greater Manchester there has been a decrease of 0.4% vehicles miles travelled during this time period. Therefore, any observed differences in traffic flows should be interpreted with the understanding that there has been a slight background increase in the vehicle miles travelled across the local road network across the study area.

Furthermore, changes in land use can directly impact upon traffic volumes on nearby roads which may be used for access. The comparison of the observed A6MARR Baseline and Year One traffic volumes may include some change/ re-assignment of traffic volumes due to land use changes between 2014 and 2019, rather than any change in traffic volumes being a direct result of the A6MARR scheme.

## 2.4. Initial Trends in Annual Average Daily Traffic Flows

The Year One traffic surveys indicate that the A6MARR scheme typically has an AADT of over 16,000 on the eastern section between the A6 and the A523. This increases to approximately 22,000 vehicles west of the A523. It is likely that the majority of these trips have transferred from the local road network. The A555 between the A34 and the A5102 Woodford Road recorded an AADT of approximately 33,700, the highest traffic volumes along the length of the entire scheme.

The A555 to the west of the A34 recorded an increase of over 18,000 vehicles following the opening of the scheme. Again, it is likely that the majority of this increase in traffic is likely to have transferred from the local road network, and the overall traffic volumes across the study area suggest that there has been a wider re-assignment of traffic across the road network following the opening of the scheme.

Across the wider road network, over 65% of sites recorded a reduction in AADTs since the opening of the scheme. The two locations which recorded significant reductions in traffic volumes following the opening of the scheme included the:

- A6, to the east of the Hazel Grove Park and Ride site (site 6); and
- A5149 Chester Road, to the south-west of the access to the A555 (site 78).

<sup>6</sup> DfT (2019) TRA8903: Motor vehicle traffic (miles) excluding trunk roads by local authority in England.  
<https://www.gov.uk/government/statistical-data-sets/road-traffic-statistics-tra>

At both of these locations, reductions in AADTs were recorded as being in excess of 10,000 vehicles. Given their proximity to the scheme, these large reductions can be considered to be a direct impact of the scheme, with traffic transferring from the A6 and A5149 at these locations, and onto the scheme.

Other sites which recorded significant reductions in AADTs included:

- A5102 Woodford Road, south of the A555 (site 16). A comparison of Baseline and Year One traffic counts indicates that AADT flows have reduced by approximately 6,700 at this location. This is likely to be as a result of traffic accessing the A555 at the new oil terminal junction, and transferring from the A5102.
- Finney Lane, Heald Green (site 32). AADTs have decreased by approximately 4,100 at this location. This road previously experienced congestion as it was operating as a strategic east-west link, in particular by traffic accessing the airport. A reduction in traffic volumes was envisaged along Finney Lane and it is likely that this reduction is due to traffic re-assigning to the A555.

The traffic count data indicates that 25 sites experienced an increase in AADT flows between the Baseline and Year One. Excluding the count sites along the A555 itself, approximately half of the sites that recorded an increase in traffic volumes experienced a relatively minor increase (less than 500 vehicles). Sites that are indicating a more significant increase in AADTs include the following:

- A523 London Road, south of Prestbury Lane (site 83), which is shown to have recorded an AADT increase of over 7,000. It is unclear why this increase is so large, and it may imply that the Baseline counts were recorded as being lower than usual;
- Various sites along the A34 whereby traffic volumes are indicated to have increased by over 1,500 vehicles;
- A5358 Bonis Hall Lane (site 25), which is recorded as experiencing an increase of over 2,000 vehicles;
- A560 Altrincham Road (site 3) whereby traffic volumes are indicated to have increased by 1,800 vehicles;
- Stanneylands Road, Styal (site 39). Traffic count data indicate that this is experiencing an increase of approximately 1,500 vehicles. It is possible that some of this increase can be attributed to the housing development by David Wilson Homes, which is directly accessed off this road.

The Year One AADTs across the study, as well as traffic volumes in the AM peak (8-9am), the average inter peak hour (between 10am-4pm) and in the PM peak (5-6pm) are summarised within **Table 2-1**. In addition, the AADTs are presented within **Figure 2-2**, including a comparison of how the flows have changed since the scheme opened.

**Table 2-1 – A6MARR Year One Traffic Count Summary**

Site ID	Description	AADT	AADT HGV %	AM Peak	AM Peak HGV %	IP	IP HGV %	PM Peak	PM Peak HGV %
3	A560 Altrincham Road	23,800	0.9%	1,400	1.0%	1,500	1.0%	1,600	0.7%
4	Hollyhedge Road, Sharston	5,600	0.0%	600	0.1%	400	0.0%	500	0.0%
5	Simonsway (W of Styal Rd), Heald Green	11,100	0.1%	900	0.2%	800	0.2%	900	0.2%
6	A6 Buxton Road (east of P&R site)	11,300	0.9%	700	1.0%	700	1.2%	700	0.5%
7	A523 Macclesfield Road (N of Dean Ln)	12,700	0.3%	800	0.4%	800	0.5%	900	0.4%
8	A523 London Road North (S of Hope Ln)	13,800	0.9%	1,200	0.8%	900	1.3%	1,200	0.4%
9	A538 Altrincham Road	17,000	0.2%	1,700	0.2%	1,100	0.3%	1,500	0.1%
10	A560 Gatley Road - West of Kingsway	12,800	0.3%	700	0.3%	900	0.4%	800	0.2%
11	A560 Gatley Road - East of Kingsway	5,000	0.2%	200	0.2%	400	0.1%	400	0.3%
12	A626 Marple Road (E of Offerton Green)	9,800	0.2%	600	0.5%	700	0.3%	300	0.5%
13	A626 Stockport Rd (W of Hilltop Dr), Marple	18,500	0.2%	1,100	0.3%	1,300	0.4%	1,300	0.3%
14	A5102 Bramhall Lane South	12,800	0.1%	1,000	0.1%	900	0.1%	1,100	0.2%
15	A5102 Woodford Road (S of Queensgate)	14,200	0.2%	1,200	0.2%	1,000	0.1%	1,100	0.3%
16	A5102 Woodford Road - south of A555	10,000	0.3%	900	0.3%	800	0.4%	800	0.2%
17	A5143 Jacksons Lane (E of Bramhall Moor Lane)	9,700	0.1%	800	0.2%	700	0.2%	800	0.1%
18	A5149 Wilmslow Road (S of Broadway), Cheadle	13,300	0.1%	1,100	0.1%	900	0.1%	1,100	0.0%
19	A5149 Chester Road (W of Burton Dr), Poynton	9,500	1.0%	800	0.9%	600	1.6%	600	0.7%
20	B5094 Stanley Road, Handforth	6,600	0.1%	600	0.1%	500	0.1%	500	0.1%
21	B5094 Grove Lane (E of Gillbent Rd), Cheadle Hulme	9,700	0.1%	600	0.2%	700	0.1%	800	0.1%
22	B5166 Hollin Lane, Styal	7,900	0.1%	800	0.1%	500	0.1%	700	0.1%
23	B5358 Wilmslow Road, Heald Green	14,400	0.1%	1,100	0.1%	1,000	0.1%	1,200	0.2%



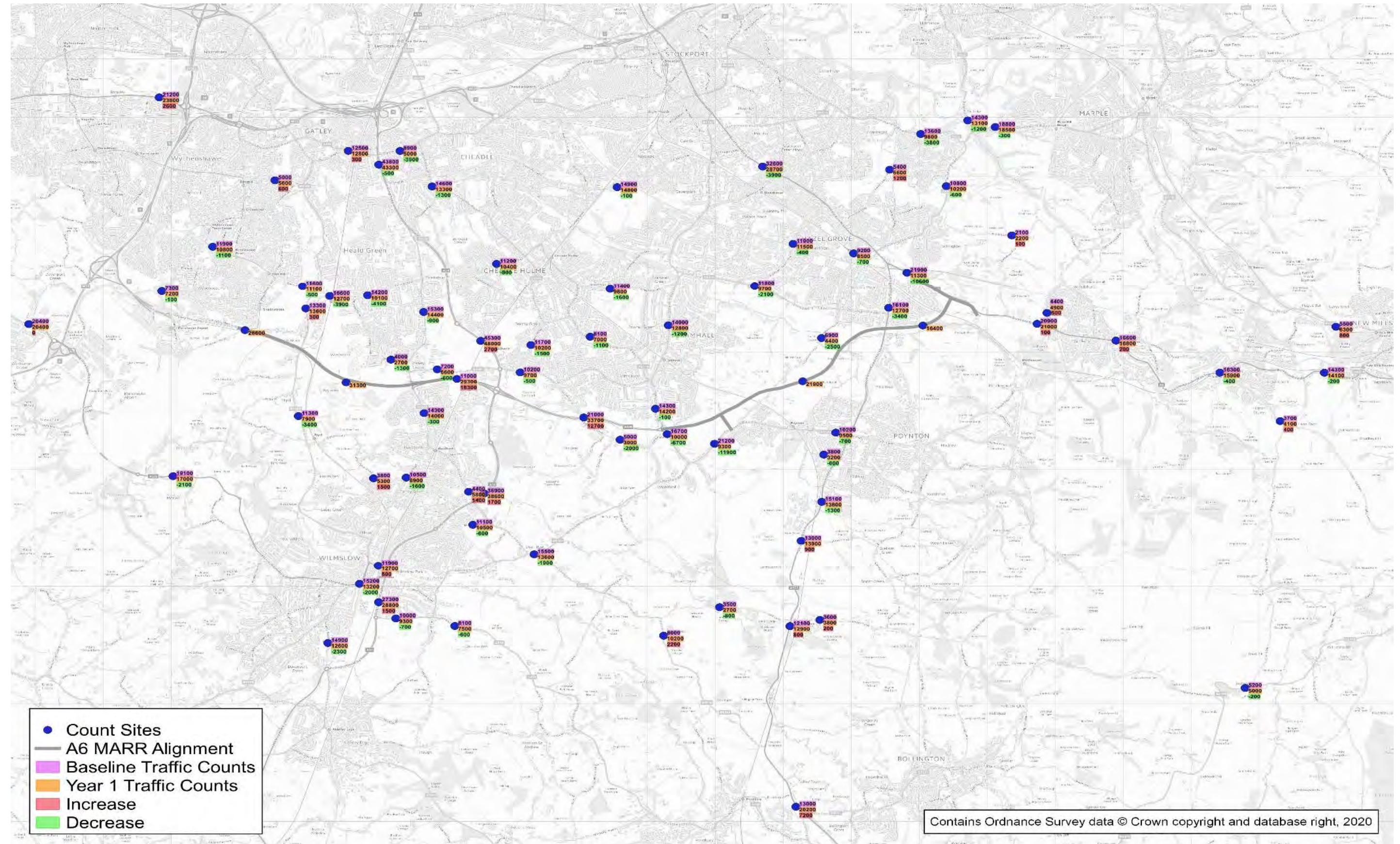
24	B5358 Handforth Road (N of A34), Handforth Dean	5,800	0.0%	700	0.0%	400	0.1%	600	0.0%
25	B5358 Bonis Hall Lane	10,200	0.1%	1,000	0.2%	700	0.3%	1,000	0.1%
26	Manor Road, Bramhall	9,800	0.1%	700	0.2%	700	0.1%	800	0.0%
27	Adswood Road, Cheadle Heath	14,800	0.2%	800	0.4%	1,000	0.2%	1,100	0.2%
28	Bean Leach Road, Offerton	6,600	0.0%	500	0.1%	400	0.0%	800	0.0%
29	Bramhall Moor Lane, Hazel Grove	11,500	0.2%	1,000	0.3%	800	0.1%	900	0.3%
30	Chester Road, Hazel Grove	8,500	0.1%	900	0.1%	500	0.1%	1,000	0.1%
31	Bolshaw Road, Heald Green	2,700	0.0%	300	0.1%	200	0.1%	200	0.0%
32	Finney Ln (E of Outwood Rd), Heald Green	10,100	0.1%	700	0.2%	700	0.1%	800	0.2%
33	Torkington Road, Hazel Grove	2,200	0.1%	300	0.0%	100	0.2%	400	0.0%
34	Clifford Road, Poynton	3,200	0.1%	300	0.0%	200	0.1%	400	0.1%
35	Woodford Road, Hazel Grove	4,400	0.1%	500	0.0%	300	0.2%	600	0.1%
36	Alderley Road, Wilmslow	12,600	0.2%	1,100	0.3%	900	0.2%	1,000	0.2%
37	Dean Row Road (E of Brown's Ln), Wilmslow	10,500	0.3%	900	0.2%	700	0.4%	900	0.2%
38	Manchester Road, Handforth	8,900	0.1%	700	0.2%	600	0.1%	700	0.2%
39	Stanneylands Road, Styal	5,300	0.1%	500	0.1%	300	0.2%	500	0.0%
40	Moor Lane, Woodford	3,000	0.1%	400	0.1%	200	0.1%	300	0.0%
41	Hague Bar Road, New Mills	6,300	0.1%	600	0.2%	400	0.2%	600	0.1%
42	A6 Buxton Rd (W of Albion Rd), New Mills	14,100	2.5%	800	3.0%	900	3.8%	1,100	1.0%
43	A6 Buxton Rd (W of Carr Brow), High Lane	16,800	1.6%	600	2.7%	1,100	2.5%	1,400	0.7%
44	A6 Buxton Road (W of Jacksons Edge Rd, Disley	15,900	2.4%	900	3.1%	1,000	3.3%	1,100	1.4%
45	Gillbent Road, Cheadle Hulme	10,200	0.1%	500	0.1%	700	0.2%	700	0.2%
46	Finney Ln (W of Outwood Dr), Heald Green	12,700	0.2%	1,000	0.2%	900	0.2%	1,000	0.2%
49	Windlehurst Road, High Lane	4,900	0.0%	300	0.0%	300	0.1%	500	0.0%
50	Wybersley Road, High Lane	700	0.1%	100	0.1%	50	0.1%	100	0.0%

51	Prestbury Road, Wilmslow	9,300	0.1%	800	0.3%	700	0.2%	900	0.1%
54	Adlington Road (E of Shell Garage), Woodford	13,600	0.2%	1,300	0.3%	900	0.3%	1,300	0.4%
55	A6 Buxton Road (W of Windlehurst Road), High Lane	21,000	1.4%	1,400	1.6%	1,300	2.1%	1,500	0.7%
56	Simonsway (W of Rowlandsway), Wythenshawe	10,800	0.3%	800	0.4%	700	0.3%	800	0.4%
58	Offerton Road, Hazel Grove	10,200	0.4%	700	0.6%	700	0.6%	600	0.4%
60	Ack Land West, Cheadle Hulme	7,000	0.1%	700	0.2%	500	0.1%	600	0.1%
61	Styal Road, Heald Green	13,600	0.2%	1,200	0.1%	900	0.2%	1,300	0.2%
62	B5358 Wilmslow Road (S of Spath Ln), Handforth	14,000	0.2%	900	0.3%	1,000	0.2%	1,100	0.2%
65	Turves Road, Cheadle Hulme	10,400	0.1%	800	0.2%	700	0.1%	700	0.2%
68	A538, Wilmslow	12,700	0.2%	1,000	0.4%	900	0.2%	900	0.4%
69	Bailey Lane, Wythenshawe	7,200	0.1%	600	0.1%	400	0.1%	700	0.1%
70	A523 London Rd (S of Street Ln) Poynton	13,900	0.9%	1,300	0.7%	900	1.4%	1,200	0.5%
71	Mill Lane, Adlington	2,700	0.2%	300	0.1%	200	0.3%	300	0.2%
72	A523 London Rd (S of Mill Ln), Adlington	12,900	1.2%	1,200	0.9%	800	1.6%	1,100	0.6%
73	Prestbury Road, Wilmslow	7,500	0.1%	800	0.1%	500	0.2%	700	0.1%
74	B5470 Macclesfield Road, W of Higher Lane	5,000	0.3%	700	0.1%	300	0.5%	600	0.2%
75	Buxton Old Road, Disley	4,100	0.0%	400	0.1%	300	0.0%	400	0.0%
76	Brookledge Lane, East of Wych Lane, Adlington	3,800	0.2%	400	0.3%	300	0.4%	400	0.0%
77	A538 Hale Road / East of High Elm Road, Hale Barns	20,400	0.1%	1,800	0.2%	1,300	0.1%	1,500	0.0%
78	A5149 Chester Road / NE Bridle Rd, Woodford	9,300	0.3%	800	0.5%	700	0.3%	800	0.2%
79	A34 Kingsway / South of Eden Park Road, Handforth	48,000	1.3%	3,800	1.2%	3,300	1.6%	3,600	0.8%

80	A555 Airport Eastern link Rd / Hall Ln overpass, Woodford (east of A34)	33,700	3.3%	2,900	2.7%	2,200	4.6%	2,700	1.3%
81	A6 Buxton Road, (north of Woodsmoor Lane) Stockport	28,700	0.1%	2,400	0.1%	1,900	0.1%	2,300	0.0%
82	A627 Dooley Lane	13,100	0.5%	800	0.5%	900	0.6%	900	0.4%
83	A523 Nr Bollington, (S of Prestbury Ln)	20,200	0.7%	1,500	1.0%	1,400	0.8%	1,600	0.8%
1+2	A34 Kingsway	43,300	1.3%	2,900	1.2%	2,700	1.6%	2,800	0.8%
47+48	A555, Handforth, west of A34	29,300	3.3%	2,700	3.6%	1,800	3.9%	3,000	1.9%
52+53	A34, Handforth	38,600	0.7%	3,000	0.5%	2,700	0.9%	3,000	0.1%
63+64	A34, Wilmslow	28,800	0.7%	2,500	0.5%	2,000	0.9%	2,500	0.1%
66+67	A538 Alderley Road, Wilmslow	13,200	0.4%	900	0.4%	900	0.4%	600	0.4%
85	A555, Styal, east of Styal Road	31,300	2.1%	3,000	1.9%	1,900	3.1%	3,200	0.8%
86	A555, Hazel Grove, east of A523	16,400	3.7%	1,400	3.8%	1,100	5.6%	1,300	2.0%
87	A555, Poynton, west of A523	21,900	2.9%	2,000	2.7%	1,500	4.3%	1,900	1.1%
88	A555, Heald Green, west of Styal Road	28,600	2.6%	2,100	1.6%	1,800	4.0%	1,800	1.0%



Figure 2-2 A Comparison of the A6MARR Year One and Baseline Annual Average Daily Traffic Flows (AADTs)





## 2.5. Initial Impact on Traffic Volumes through Local Centres

One of the study objectives was to reduce traffic volumes and the associated congestion through local centres. The following table summarises how traffic volumes have changed through local centres since the scheme opened.

**Table 2-2 – Initial Impact of the Scheme on AADTs through Local Centres**

Local Centre	Survey Site	Impact of Scheme	
		AADTs	% of HGVs
Bramhall	(14) A5102 Bramhall Lane South	-1,200	0.0%
Cheadle	(18) A5149 Wilmslow Road	-1,300	0.0%
Cheadle Hulme	(65) Turves Road	-800	0.0%
Poynton	(19) A5149 Chester Road	-700	-0.1%
Handforth	(62) B5358 Wilmslow Road	-300	0.0%
Heald Green	(32) Finney Lane, east of Outwood Road	-4,100	0.0%
	(46) Finney Lane, west of Outwood Drive	-3,900	-0.1%

\*A positive impact is denoted by green shading, a negative impact by red shading. No change is shaded amber.

This indicates that there has been a reduction in traffic volumes through the local centres within the study area since the scheme opened. These initial reductions in traffic volumes through local centres are likely to be due to the A6MARR scheme, with traffic re-assigning to utilise the scheme, away from the local roads through these centres. These initial impacts suggest that the scheme is contributing to its objective of reducing congestion through these areas.

It is noted that the proportion of HGVs travelling through local centres has largely remained unchanged, with slight reductions indicated through Heald Green and Poynton. However, despite the proportion of HGVs remaining unchanged in some of the local centres, the overall AADTs have reduced, demonstrating a reduction in the actual HGV flows.

The following table summarises how typical weekday peak hour traffic volumes have changed through local centres since the scheme opened. This potentially offers a greater understanding as to how the scheme may have impacted on congestion levels through these areas, as the greatest levels of congestion are frequently experienced in the weekday peak hours. For the purposes of this analysis, the peak hours are consistent with the modelling work that was undertaken as part of the Full Approval business case work, as follows:

- AM Peak: 8-9am;
- IP: Average hour between 10am-4pm; and
- PM Peak: 5-6pm.

It is noted that across the wider network, in some instances peak spreading has resulted in the 'true' AM and PM peaks being observed in the shoulder hours e.g. 7-8am and 4-5pm.

**Table 2-3 – Initial Impact of the Scheme on Peak Hour Traffic Volumes through Local Centres**

Local Centre	Survey Site	Impact of Scheme		
		AM Peak	IP	PM Peak
Bramhall	(14) A5102 Bramhall Lane South	+100	-100	-100
Cheadle	(18) A5149 Wilmslow Road	-100	-100	-100
Cheadle Hulme	(65) Turves Road	+100	-100	-100
Poynton	(19) A5149 Chester Road	0	0	+100
Handforth	(62) B5358 Wilmslow Road	-400	0	-200
Heald Green	(32) Finney Lane, east of Outwood Rd	0	-200	-100
	(46) Finney Lane, west of Outwood Dr	0	-200	+100

\*A positive impact is denoted by green shading, a negative impact by red shading. No change is shaded amber.

Whilst the local centres all experienced reductions in AADT flows, **Table 2-3** highlights that some of the peak hour traffic volumes through local centres have remained unchanged, while others experienced an increase in traffic volumes in one of the peak periods since the scheme opened. This may result in an overall driver perception that traffic volumes are now generally worse throughout the day in the local centres.

For example, site 19 along the A5149 in Poynton recorded a reduction in AADTs, but an increase in the typical PM peak, with the AM and IP remaining consistent with pre-scheme traffic volumes. At this location, traffic volumes were observed to decrease at the weekend by over 10% following the opening of the scheme, resulting in a reduced AADT at this location. However, the slight increase in the PM peak, and consistent flows in the AM and IP may result in an overall driver perception that traffic volumes are now 'generally higher'.

## 2.6. Initial Impact on Traffic Volumes through Mitigation Measures Areas

The Full Approval Business Case for the A6MARR acknowledged that whilst the scheme would reduce traffic volumes and associated traffic congestion on local roads, there were some areas which were predicted to result in increases in traffic as a result of the scheme. These were identified in the Transport Assessment (TA) within the scheme's planning application. Where such increases were identified, mitigation measures were recommended to manage the impact on local communities.

A summary of what mitigation measures were implemented is provided within Section 3.4.1 of the A6MARR M&E Year One Report.

**Table 2-4** summarises the change in AADTs through the mitigation areas since the opening of the scheme. This shows that as traffic has reassigned across the wider network, in the majority of cases there has not been a significant impact on traffic volumes through the mitigation areas.



**Table 2-4 – Initial Impact of the Scheme on AADTs Through Mitigation Areas**

Mitigation Area	Survey Site	Impact of Scheme	
		AADTs	% of HGVs
A6 SE of the A6MARR	(49) Windlehurst Road	+500	-0.05%
	(55) A6 west of Windlehurst Road, High Lane	+100	-0.5%
	(44) A6 Buxton Road, west of Jacksons Edge Road, Disley	-400	+0.3%
Torkington Road & Threapurst Lane	(33) Torkington Road	+100	0.0%
A627 Torkington Road/ Offerton Road in Hazel Grove	(58) Offerton Road	-600	-0.2%
Clifford Road, Poynton	(34) Clifford Road	-600	0.0%
Gillbent Road, Cheadle	(45) Gillbent Road	-1,500	0.0%
B5358, Handforth	(24) B5358 Handforth Road (N of A34)	+1,400	-0.05%
Wythenshawe (south of Simonsway)	(69) Bailey Lane	-100	-0.1%
	(56) Simonsway, west of Rowlandsway	-1,100	0.0%

\* A positive impact is denoted by green shading, a negative impact by red shading. No change is shaded amber.

The most significant initial impacts have been through the following areas:

- Gillbent Road, Cheadle whereby AADTs were recorded as decreasing by approximately 1,500 following the opening of the scheme/ implementation of the mitigation measures;
- Simonsway, Wythenshawe which has experienced a reduction in the AADT of 1,100; and
- B5358 Handforth Road which has recorded an AADT increase of approximately 1,400. It is noted that this increase is over and above the modelled forecast flows along this road, which estimated that opening year flows would be consistent with the observed baseline flows.

The following is also noted:

- Along the A6 mitigation area, through Disley, although AADTs have decreased slightly, there is an increase in the proportion of HGVs. This is the only mitigation area where the proportion of HGVs have increased. Generally HGVs are slower and noisier than cars/ smaller vehicles and this increase in the proportion of HGVs through Disley may be perceived as increased congestion.
- Clifford Road in Poynton recorded a decrease in AADT flows by approximately 600. It is noted that within the Transport Assessment associated with the Poynton Relief Road planning application, traffic volumes along Clifford Road are forecast to reduce by 33% in the opening year of this new link. The Poynton Relief Road is therefore forecast to significantly reduce traffic volumes along Clifford Road.

The following table summarises how typical weekday peak hour traffic volumes have changed through the mitigation areas since the scheme opened and the mitigation measures were implemented. As per the analysis of traffic volumes through local centres, this peak hour analysis potentially offers a greater understanding as to how the scheme and the associated mitigation measures may have impacted on congestion levels through these areas, as the greatest levels of congestion are frequently experienced in the weekday peak periods.

**Table 2-5 – Initial Impact of the Scheme on Peak Hour Traffic Volumes through Mitigation Areas**

Mitigation Area	Survey Site	Impact of Scheme		
		AM Peak	IP	PM Peak
A6 SE of the A6MARR	(49) Windlehurst Road	-100	0	+100
	(55) A6 west of Windlehurst Road, High Lane	-100	0	+200
	(44) A6 Buxton Road, west of Jacksons Edge Road, Disley	-100	0	-100
Torkington Road & Threaphurst Lane	(33) Torkington Road	0	0	0
A627 Torkington Road/ Offerton Road in Hazel Grove	(58) Offerton Road	-100	0	-100
Clifford Road, Poynton	(34) Clifford Road	-100	-100	-100
Gillbent Road, Cheadle	(45) Gillbent Road	-100	-100	-400
B5358, Handforth	(24) B5358 Handforth Road (N of A34)	+100	+100	+100
Wythenshawe (south of Simonsway)	(69) Bailey Lane	0	0	+100
	(56) Simonsway, west of Rowlandsway	-100	-100	-200

\* A positive impact is denoted by green shading, a negative impact by red shading. No change is shaded amber.

This shows that for the mitigation areas which experienced the most significant changes in traffic volumes, similar changes were experienced in the peak hours. For example, Gillbent Road in Cheadle and Simonsway in Wythenshawe recorded reductions in both AADTs and peak hour flows. This suggests that the mitigation measures implemented, in conjunction with the scheme itself, are having a positive impact through these areas.

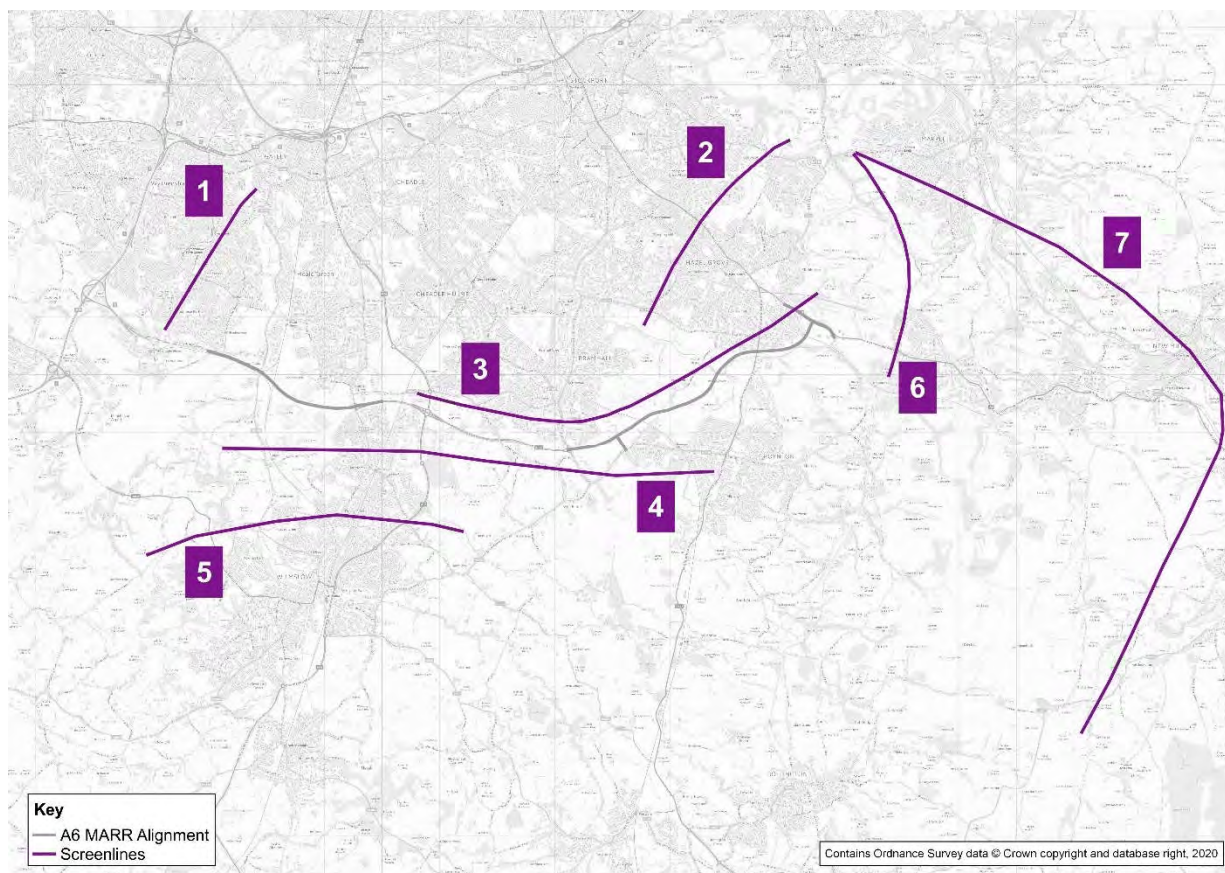
Other observations include:

- Peak hour traffic volumes along Torkington Road have remained constant since the scheme opened, despite the AADTs increasing slightly at this location;
- The increase in traffic volumes along the A6, south east of the scheme appear to largely be confined to the PM peak.

## 2.7. Initial Impact on Traffic Volumes across Screenlines

In order to assist in understanding how traffic volumes may have changed across a wider geographical area, and not just on individual highway links, the following seven screenlines were recommended for use with the scheme M&E Plan.

**Figure 2-3 Screenlines**



**Table 2-6** summarises the traffic volumes across these screenlines both in Year One of the scheme and within the Baseline, thus identifying the initial impact of the scheme across the screenlines.



**Table 2-6 – Initial Impact of the Scheme on Screenline Traffic Volumes**

Site ID	Description	Baseline					Year One			
	Screenline 1: Wythenshawe	AADT	AM Peak	IP	PM Peak		AADT	AM Peak	IP	PM Peak
69	Bailey Lane, Wythenshawe	7,300	600	400	600		7,200	600	400	700
56	Simonsway, Wythenshawe	11,900	900	800	1,000		10,800	800	700	800
4	Hollyhedge Road, Sharston	5,000	400	400	400		5600	600	400	500
	TOTAL SCREENLINE 1: Wythenshawe	24,200	1,900	1,600	2,000		23,600	2,000	1,500	2,000
	Screenline 2: Hazel Grove	AADT	AM Peak	IP	PM Peak		AADT	AM Peak	IP	PM Peak
17	A5143 Jacksons Lane	11,800	600	800	1,000		9,700	800	700	800
29	Bramhall Moor Lane, Hazel Grove	11,900	1,200	800	1,000		11,500	1,000	800	900
81	A6 Buxton Road, (north of Woodsmoor Lane) Stockport	32,600	2,400	2,100	2,500		28,700	2,400	1,900	2,300
12	A626 Marple Road	13,600	800	1,000	700		9,800	600	700	300
	TOTAL SCREENLINE 2: Hazel Grove	69,900	5,000	4,700	5,200		59,700	4,800	4,100	4,300
	Screenline 3: North of A555	AADT	AM Peak	IP	PM Peak		AADT	AM Peak	IP	PM Peak
79	A34 Kingsway / South of Eden Park Road, Handforth	45300	3800	3000	3800		48,000	3,800	3,300	3,600
15	A5102 Woodford Road	14300	1400	900	1200		14,200	1,200	1,000	1,100
35	Woodford Road, Hazel Grove	6900	600	500	800		4,400	500	300	600
7	A523 Macclesfield Road	16100	1000	1100	1000		12,700	800	800	900
6	A6 Buxton Road (east of P&R site)	21900	1200	1400	1500		11,300	700	700	700
	TOTAL SCREENLINE 3: North of A555	104,500	8,000	6,900	8,300		90,600	7,000	6,100	6,900
	Screenline 4: South of A555	AADT	AM Peak	IP	PM Peak		AADT	AM Peak	IP	PM Peak
22	B5166 Hollin Lane, Styal	11,300	1,200	600	1,200		7,900	800	500	700
62	Wilmslow Road, Handforth	14,300	1,300	1,000	1,300		14,000	900	1,000	1,100
52+53	A34, Handforth	36,900	2,600	2,500	3,200		38,600	3,000	2,700	3,000
40	Moor Lane, Woodford	5,000	500	400	600		3,000	400	200	300
16	A5102 Woodford Road - south of A555	16,700	1,400	1,100	1,300		10,000	900	800	800

19	A5149 Chester Road, Poynton	10,200	800	600	500		9,500	800	600	600
34	Clifford Road, Poynton	3,800	400	300	500		3,200	300	200	400
	<b>TOTAL SCREENLINE 4: South of A555</b>	<b>98,200</b>	<b>8,200</b>	<b>6,500</b>	<b>8,600</b>		<b>86,200</b>	<b>7,100</b>	<b>6,000</b>	<b>6,900</b>
	<b>Screenline 5: Handforth</b>	<b>AADT</b>	<b>AM Peak</b>	<b>IP</b>	<b>PM Peak</b>		<b>AADT</b>	<b>AM Peak</b>	<b>IP</b>	<b>PM Peak</b>
9	A538 Altrincham Road	19,100	1,800	1,100	1,900		17,000	1,700	1,100	1,500
22	B5166 Hollin Lane, Styal	11,300	1,200	600	1,200		7,900	800	500	700
39	Stanneylands Road, Styal	3,800	400	200	400		5,300	500	300	500
38	Manchester Road, Handforth	10,500	800	700	900		8,900	700	600	700
24	B5358 Handforth Road, Handforth Dean	4,400	600	300	500		5,800	700	400	600
52+53	A34, Handforth	36,900	2,600	2,500	3,200		38,600	3,000	2,700	3,000
	<b>TOTAL SCREENLINE 5: Handforth</b>	<b>86,000</b>	<b>7,400</b>	<b>5,400</b>	<b>8,100</b>		<b>83,500</b>	<b>7,400</b>	<b>5,600</b>	<b>7,000</b>
	<b>Screenline 6: Windlehurst</b>	<b>AADT</b>	<b>AM Peak</b>	<b>IP</b>	<b>PM Peak</b>		<b>AADT</b>	<b>AM Peak</b>	<b>IP</b>	<b>PM Peak</b>
55	A6 Buxton Road (W of Windlehurst Road), High Lane	20,900	1,500	1,300	1,300		21,000	1,400	1,300	1,500
33	Torkington Road, Hazel Grove	2,100	300	100	400		2,200	300	100	400
13	A626 Stockport Road, Marple	18,800	1,100	1,300	1,500		18,500	1,100	1,300	1,300
	<b>TOTAL SCREENLINE 6: Windlehurst</b>	<b>41,800</b>	<b>2,900</b>	<b>2,700</b>	<b>3,200</b>		<b>41,700</b>	<b>2,800</b>	<b>2,700</b>	<b>3,200</b>
	<b>Screenline 7: New Mills/ Disley</b>	<b>AADT</b>	<b>AM Peak</b>	<b>IP</b>	<b>PM Peak</b>		<b>AADT</b>	<b>AM Peak</b>	<b>IP</b>	<b>PM Peak</b>
74	B5470 Macclesfield Road, West of Higher Lane	5,200	700	300	700		5,000	700	300	600
75	Buxton Old Road, Disley	3,700	400	200	400		4,100	400	300	400
42	A6 Buxton Road, New Mills	14,300	900	900	1,100		14,100	800	900	1,100
41	Hague Bar Road, New Mills	5,500	500	400	500		6,300	600	400	600
13	A626 Stockport Road, Marple	18,800	1,100	1,300	1,500		18,500	1,100	1,300	1,300
	<b>TOTAL SCREENLINE 7: New Mills/ Disley</b>	<b>47,500</b>	<b>3,600</b>	<b>3,100</b>	<b>4,200</b>		<b>48,000</b>	<b>3,600</b>	<b>3,200</b>	<b>4,000</b>

The comparison of the Year One and baseline screenline traffic volumes indicates that:

- Screenline 1 captures east-west movements on local roads through Wythenshawe. The initial impact of the scheme suggests that there has been a slight reduction in AADTs across this area, as east-west traffic has re-assigned to the scheme. There has been a corresponding slight reduction in the AM and inter peaks, with PM peak traffic volumes remaining consistent before and after the scheme.
- Screenline 2 includes east-west movements through Hazel Grove. The Year One traffic data indicates that the AADT has reduced by approximately 15% since the scheme opened. This includes significant decreases in traffic volumes along the A6 and the A5143 Jacksons Lane as traffic has re-assigned to the scheme. However, it also includes a reduction along the A626 Marple Road, and it is unclear why there has been such a large reduction in traffic volumes at this location.
- Screenline 3 captures north-south movements north of the A555/ scheme. This indicates that the AADT has decreased over this geographical area by just over 10%. The majority of this reduction is seen along the A6 and A523, as a result of traffic re-assigning to the scheme.
- Screenline 4 captures north-south movements south of the A555/ scheme. For this screenline the count on the A5149 Chester Road, east of Poynton station has been included. The count data highlights that the AADT has reduced by just over 10% since the scheme opened. However, it is noted that there is a 'gap' on the screenline for traffic accessing the scheme on the new link by the Bramhall oil terminal. The inclusion of this is likely to show limited change in traffic volumes across this area.
- Screenline 5 includes north-south movements through Handforth/ north of Wilmslow. Overall movement across this geographical area has remained relatively constant following the opening of the scheme, with a 3% reduction in AADTs. Whilst movements in the AM peak have remained consistent, they have increased in the inter-peak and reduced in the PM peak since the scheme opened. This suggests that, particularly in the PM peak some peak spreading has occurred over the five years between the data sets.
- Screenline 6 captures east-west movements to the east of the scheme near the A6/ High Lane. This highlights that east-west movements across this geographical area have remained consistent since the scheme opened.
- Screenline 7 includes east-west movements through Disley/ New Mills. This highlights that there has been a slight increase in the east-west movements across this geographical area since the scheme opened.

## 2.8. Comparison of Year One & Opening Year Forecast Traffic Volumes

In order to assist in understanding how the initial scheme impact on traffic volumes differs from that forecast during the development of the scheme business case, the Year One traffic flows were compared with the opening year forecast traffic volumes. The forecast traffic flows as developed during the scheme business case, were associated with the final traffic modelling work that fed into the development of the scheme's value for money assessment, including its benefit-cost ratio (BCR), as submitted to the DfT at Full Approval. This assumed that the opening year was 2017.

By comparing what was forecast with the actual observed traffic volumes assists in understanding if the scheme is on-track to deliver its benefits as intended. The comparison of Year One and the opening year forecast traffic volumes along the scheme is summarised within **Table 2-7**.

**Table 2-7 – Comparison of A6MARR Year One and Opening Year Forecast AADTs along the Scheme**

Site ID	Description	AADT		Difference (%)
		Year One Opening	Forecast Opening Year	
86	A555, Hazel Grove, east of A523	16,400	18,300	-10%
87	A555, Poynton, west of A523	21,900	23,500	-7%
80	A555 Airport Eastern link Rd / Hall Ln overpass, Woodford, east of A34	33,700	43,600	-23%
47+48	A555, Handforth, west of A34	29,300	29,300	0%
85	A555, Styal, east of Styal Road	31,300	28,000	12%
88	A555, Heald Green, west of Styal Road	28,600	41,000	-30%

**Table 2-7** summarises the AADTs from the east to the west of the scheme. This indicates that the Year One traffic volumes on the eastern sections of the scheme were between 5-10% lower than those forecast at the opening year within the Full Approval business case documentation. This rises to over 20% lower in the middle of the scheme, to the east of the A34. However, to the west of the A34 the observed Year One data is consistent with the opening year forecast traffic volumes, and is more than 10% higher than forecast east of Styal Road. Closer to the airport, the Year One AADTs are significantly less than those forecast.

Overall, along the scheme itself the average difference in traffic volumes between the observed Year One and the opening year forecast is approximately 10%. This suggests that although the scheme is being well utilised daily by tens of thousands of vehicles and providing improved connectivity across south-east Manchester, the overall levels of benefits that it is providing is likely to be slightly less than those forecast.

A full summary comparing the Year One and the opening year forecast traffic volumes is presented within **Table 2-8**. A summary of AADTs across the study area in the Baseline, Year One and opening year forecast traffic volumes is shown on **Figure 2-4**, with equivalent plots for the AM, inter peak and PM peaks provided within **Appendix A** of this report.



**Table 2-8 – Comparison of A6MARR Year One and Opening Year Forecast Traffic Volumes**

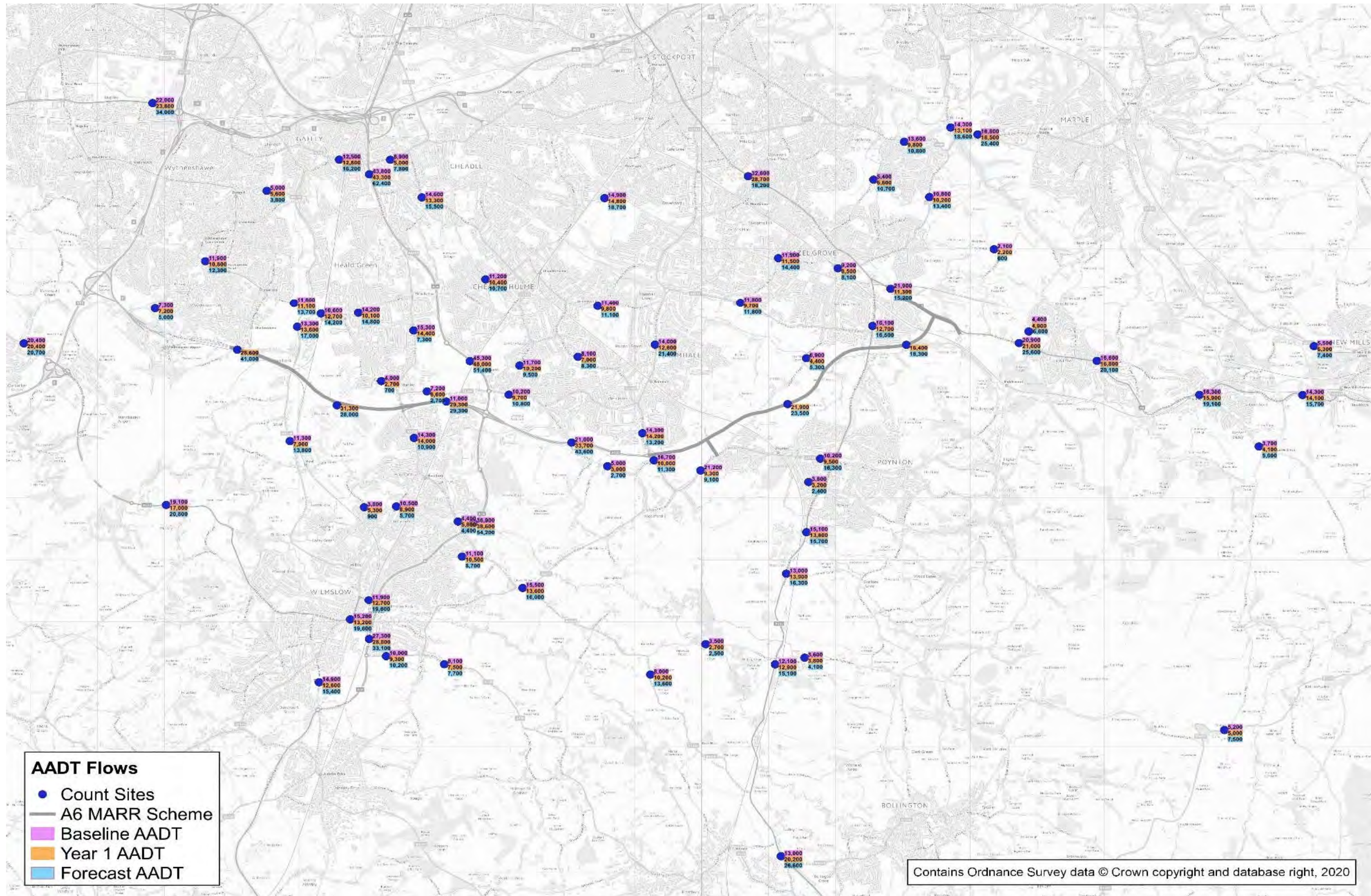
Site ID	Description	Year One Traffic Flows				Opening Year Forecast Traffic Flows at Full Approval			
		AADT	AM Peak	IP	PM Peak	AADT	AM Peak	IP	PM Peak
3	A560 Altrincham Road	23,800	1,400	1,500	1,600	34,000	2,700	2,200	3,500
4	Hollyhedge Road, Sharston	5,600	600	400	500	3,800	400	300	300
5	Simonsway (W of Styal Rd), Heald Green	11,100	900	800	900	13,700	1,100	900	1,200
6	A6 Buxton Road (east of P&R site)	11,300	700	700	700	15,200	1,200	1,100	1,300
7	A523 Macclesfield Road (N of Dean Ln)	12,700	800	800	900	16,500	1,400	1,100	1,500
8	A523 London Road North (S of Hope Ln)	13,800	1,200	900	1,200	15,700	1,700	1,000	1,500
9	A538 Altrincham Road	17,000	1,700	1,100	1,500	20,800	2,000	1,300	2,100
10	A560 Gatley Road - West of Kingsway	12,800	700	900	800	16,200	1,100	1,200	1,200
11	A560 Gatley Road - East of Kingsway	5,000	200	400	400	7,800	700	500	500
12	A626 Marple Road (E of Offerton Green)	9,800	600	700	300	10,800	900	700	1,000
13	A626 Stockport Rd (W of Hilltop Dr), Marple	18,500	1,100	1,300	1,300	25,400	1,700	1,800	2,200
14	A5102 Bramhall Lane South	12,800	1,000	900	1,100	21,400	1,600	1,500	1,900
15	A5102 Woodford Road (S of Queensgate)	14,200	1,200	1,000	1,100	13,200	1,200	900	1,200
16	A5102 Woodford Road - south of A555	10,000	900	800	800	11,300	1,000	800	1,000
17	A5143 Jacksons Lane (E of Bramhall Moor Lane)	9,700	800	700	800	11,800	1,300	800	1,000
18	A5149 Wilmslow Road (S of Broadway), Cheadle	13,300	1,100	900	1,100	15,500	1,500	1,000	1,400
19	A5149 Chester Road (W of Burton Dr), Poynton	9,500	800	600	600	16,300	1,400	1,200	1,100
20	B5094 Stanley Road, Handforth	6,600	600	500	500	2,700	200	200	200
21	B5094 Grove Lane (E of Gillbent Rd), Cheadle Hulme	9,700	600	700	800	10,800	1,000	800	800
22	B5166 Hollin Lane, Styal	7,900	800	500	700	13,800	1,400	900	1,500
23	B5358 Wilmslow Road, Heald Green	14,400	1,100	1,000	1,200	7,300	400	500	900
24	B5358 Handforth Road (N of A34), Handforth Dean	5,800	700	400	600	4,400	600	300	400
25	B5358 Bonis Hall Lane	10,200	1,000	700	1,000	13,600	1,300	900	1,200
26	Manor Road, Bramhall	9,800	700	700	800	11,100	900	800	1,000
27	Adswood Road, Cheadle Heath	14,800	800	1,000	1,100	18,700	1,500	1,300	1,700

28	Bean Leach Road, Offerton	6,600	500	400	800	10,700	700	800	700
29	Bramhall Moor Lane, Hazel Grove	11,500	1,000	800	900	14,400	1,500	900	1,200
30	Chester Road, Hazel Grove	8,500	900	500	1,000	8,100	700	600	700
31	Bolshaw Road, Heald Green	2,700	300	200	200	700	100	0	0
32	Finney Ln (E of Outwood Rd), Heald Green	10,100	700	700	800	14,800	1,200	1,100	1,000
33	Torkington Road, Hazel Grove	2,200	300	100	400	600	200	0	100
34	Clifford Road, Poynton	3,200	300	200	400	2,400	300	100	300
35	Woodford Road, Hazel Grove	4,400	500	300	600	5,300	500	300	500
36	Alderley Road, Wilmslow	12,600	1,100	900	1,000	15,400	1,400	1,100	1,000
37	Dean Row Road (E of Brown's Ln), Wilmslow	10,500	900	700	900	8,700	600	600	800
38	Manchester Road, Handforth	8,900	700	600	700	5,700	500	400	500
39	Stanneylands Road, Styal	5,300	500	300	500	900	100	100	100
40	Moor Lane, Woodford	3,000	400	200	300	2,700	300	200	300
41	Hague Bar Road, New Mills	6,300	600	400	600	7,400	600	500	700
42	A6 Buxton Rd (W of Albion Rd), New Mills	14,100	800	900	1,100	15,700	1,300	1,100	1,300
43	A6 Buxton Rd (W of Carr Brow), High Lane	16,800	600	1,100	1,400	20,100	1,600	1,400	1,800
44	A6 Buxton Road (W of Jacksons Edge Rd, Disley	15,900	900	1,000	1,100	19,100	1,600	1,300	1,700
45	Gillbent Road, Cheadle Hulme	10,200	500	700	700	9,500	1,000	600	800
46	Finney Ln (W of Outwood Dr), Heald Green	12,700	1,000	900	1,000	14,200	1,200	1,000	900
49	Windlehurst Road, High Lane	4,900	300	300	500	6,600	700	400	600
50	Wybersley Road, High Lane	700	100	50	100	-	-	-	-
51	Prestbury Road, Wilmslow	9,300	800	700	900	10,200	1,400	600	1,100
54	Adlington Road (E of Shell Garage), Woodford	13,600	1,300	900	1,300	16,000	1,500	1,000	1,600
55	A6 Buxton Road (W of Windlehurst Road), High Lane	21,000	1,400	1,300	1,500	25,600	2,300	1,700	2,300
56	Simonsway (W of Rowlandsway), Wythenshawe	10,800	800	700	800	12,300	1,100	800	1,200
58	Offerton Road, Hazel Grove	10,200	700	700	600	13,400	1,300	900	1,200
60	Ack Land West, Cheadle Hulme	7,000	700	500	600	8,300	900	600	600
61	Styal Road, Heald Green	13,600	1,200	900	1,300	17,000	1,700	1,100	1,600

62	B5358 Wilmslow Road (S of Spath Ln), Handforth	14,000	900	1,000	1,100		10,900	1,200	700	1,100
65	Turves Road, Cheadle Hulme	10,400	800	700	700		10,700	800	800	800
68	A538, Wilmslow	12,700	1,000	900	900		19,600	1,700	1,400	1,600
69	Bailey Lane, Wythenshawe	7,200	600	400	700		5,000	400	300	600
70	A523 London Rd (S of Street Ln) Poynton	13,900	1,300	900	1,200		16,300	1,800	1,000	1,500
71	Mill Lane, Adlington	2,700	300	200	300		2,500	300	100	400
72	A523 London Rd (S of Mill Ln), Adlington	12,900	1,200	800	1,100		15,100	1,600	900	1,500
73	Prestbury Road, Wilmslow	7,500	800	500	700		7,700	800	500	900
74	B5470 Macclesfield Road, W of Higher Lane	5,000	700	300	600		7,500	800	500	800
75	Buxton Old Road, Disley	4,100	400	300	400		5,600	600	300	600
76	Brookledge Lane, East of Wych Lane, Adlington	3,800	400	300	400		4,100	500	200	500
77	A538 Hale Road / East of High Elm Road, Hale Barns	20,400	1,800	1,300	1,500		20,700	1,900	1,300	2,200
78	A5149 Chester Road / NE Bridle Rd, Woodford	9,300	800	700	800		9,100	700	600	800
79	A34 Kingsway / South of Eden Park Road, Handforth	48,000	3,800	3,300	3,600		51,400	4,800	3,300	5,000
80	A555 Airport Eastern link Rd / Hall Ln overpass, Woodford, east of A34	33,700	2,900	2,200	2,700		43,600	4,600	2,700	4,500
81	A6 Buxton Road, (north of Woodsmoor Lane) Stockport	28,700	2,400	1,900	2,300		18,200	1,100	1,300	1,600
82	A627 Dooley Lane	13,100	800	900	900		18,600	1,300	1,300	1,500
83	A523 Nr Bollington, (S of Prestbury Ln)	20,200	1,500	1,400	1,600		26,600	2,300	1,800	2,400
1+2	A34 Kingsway	43,300	2,900	2,700	2,800		62,400	5,600	4,100	5,900
47+48	A555, Handforth, west of A34	29,300	2,700	1,800	3,000		29,300	3,000	1,900	2,800
52+53	A34, Handforth	38,600	3,000	2,700	3,000		54,200	4,600	3,700	4,600
63+64	A34, Wilmslow	28,800	2,500	2,000	2,500		33,100	3,300	2,100	3,400
66+67	A538 Alderley Road, Wilmslow	13,200	900	900	600		19,600	1,600	1,400	1,600
85	A555, Styal, east of Styal Road	31,300	3,000	1,900	3,200		28,000	2,800	1,700	3,100
86	A555, Hazel Grove, east of A523	16,400	1,400	1,100	1,300		18,300	1,800	1,200	1,800
87	A555, Poynton, west of A523	21,900	2,000	1,500	1,900		23,500	2,300	1,500	2,400
88	A555, Heald Green, west of Styal Road	28,600	2,100	1,800	1,800		41,000	4,000	2,600	3,900



Figure 2-4 A Summary of A6MARR AADTs: Baseline, Year One and Opening Year Forecast Traffic Volumes





### Summary of Initial Impacts of the A6MARR on Traffic Volumes:

- The A6MARR scheme typically has an AADT of over 16,000 on the eastern section between the A6 and the A523. This increases to an AADT of approximately 22,000 west of the A523. The A555 between the A34 and the A5102 Woodford Road recorded an AADT of approximately 33,700, the highest traffic volumes along the length of the entire scheme.
- It is likely that the majority of these trips have transferred from the local road network.
- Across the wider road network, over half of the traffic survey sites recorded a reduction in AADTs since the opening of the scheme.
- The two locations recording the most significant reductions in daily traffic volumes (more than 10,000 vehicles) following the opening of the scheme included the A6, to the east of the Hazel Grove Park and Ride site (site 6) and the A5149 Chester Road, to the south-west of the access to the A555 (site 78). Given their proximity to the scheme, these large reductions can be considered to be a direct impact of the scheme, with traffic transferring from the existing road network at these locations, and onto the scheme.
- The Year One traffic volumes analysis indicates that there has been a reduction in AADTs through the local centres within the study area since the scheme opened. These initial impacts suggest that the scheme is contributing to its objective of reducing traffic volumes and the associated congestion through the local centres.
- The proportion of HGVs travelling through local centres has largely remained unchanged, with slight reductions indicated through Heald Green and Poynton. However, overall AADT flows have reduced through local centres, demonstrating a reduction in the actual HGV flows through these areas.
- Traffic volumes through the identified mitigation areas highlighted that both Gillbent Road, Cheadle and Simonsway, Wythenshawe recorded reductions in AADTs. However, the B5358 Handforth Road has recorded an increase in AADT flows of approximately 1,400. This increase is over and above the modelled forecast flows along this road, which estimated that opening year flows would be consistent with the observed baseline flows.
- It was also noted that along the A6 mitigation area, through Disley, although AADTs have decreased slightly, there is an increase in the proportion of HGVs.
- In order to assist in understanding how the initial scheme impact on traffic volumes differs from that forecast during the development of the scheme business case, the Year One traffic flows were compared with the opening year forecast traffic volumes. This comparison highlighted that along the scheme itself, the observed Year One traffic volumes were on average 10% lower than the opening year forecast flows.

## 3. Journey Time Data

### 3.1. Introduction

One of the key issues that the scheme sought to address was the congestion on the local and strategic network. Both reduced journey times and improved reliability were envisaged to be an outcome of the scheme implementation, ultimately impacting on business operating costs and potential employment opportunities and providing the platform for the region's economy to increase its GVA.

The key questions that the scheme evaluation is trying to address with regards to journey times are as follows:

- How have journey times across the study area changed since the scheme opened?
- Have journey times through local centres reduced following the opening of the scheme?
- Have journey times reduced and journey time reliability increased on existing routes following the opening of the scheme?

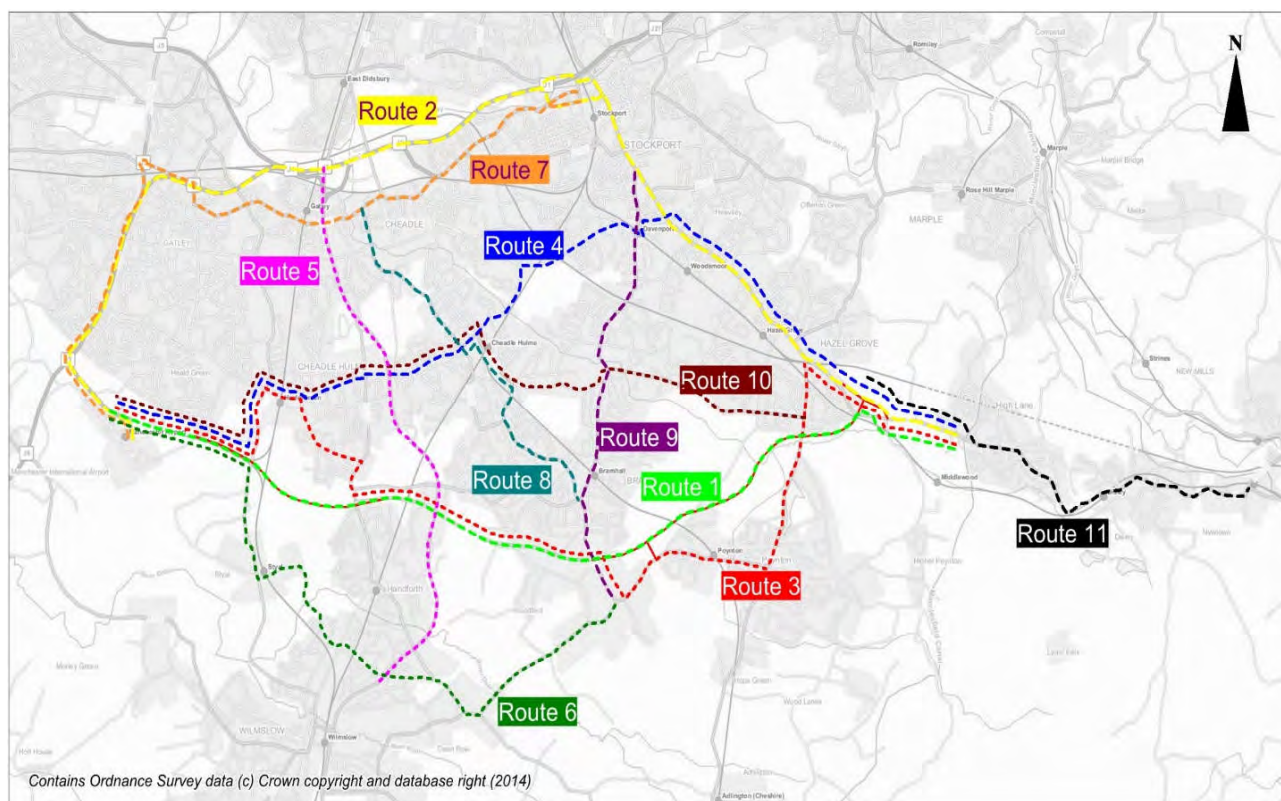
In order to assist in answering these questions, and in a bid to understand the effect that the scheme has had on travel times, including their reliability and consistency, journey time analysis was undertaken. **Figure 3-1** shows the routes on which journey time and reliability data was collated in the baseline as a basis for undertaking the monitoring of the observed impacts of the scheme.

These routes are summarised as follows:

- 1 – A6 High Lane to Manchester Airport via the scheme;
- 2 - A6 High Lane to Manchester Airport via the A6 and M60;
- 3 - A6 High Lane to Manchester Airport via Poynton and A555;
- 4 - A6 High Lane to Manchester Airport via Cheadle Hulme (Adswold Road & Ladybridge Road) and Heald Green;
- 5 - A34/ Dean Row Road to M60;
- 6 - Woodford to Manchester Airport via A5102 Wilmslow Road and Dean Row Road;
- 7 - E/W route Stockport Town Centre (King Street West) to Manchester Airport via A560 and M56;
- 8 – Cheadle to Bramhall via A5149 (A5102 to A560);
- 9 – A5102 (A6 to Woodford);
- 10 – Dean Lane (Hazel Grove) A523/ A5143 to Manchester Airport via Cheadle Hulme & Heald Green; and
- 11 – A6/ A6015 Albion Road to A6 from (between Mill Ln and Norbury Hollow Road).

Identical journey time data was collated, as part of the development of this Year One Report. This enables a comparison to be made between the journey times before and after the scheme, which assists in understanding the initial impact that the scheme has had on journey times. It is noted that for routes 2, 3, 4 and 11 the journey time was calculated by using the 'new A6', rather than Old Buxton Road at the eastern end of the route.

**Figure 3-1 Journey Time Routes**



## 3.2. Journey Time Data

The journey time analysis was undertaken with TomTom data, which is collected from satellite navigation systems and has the advantage of large sample sizes, with data being available for all time periods from January 2008. The provision of the journey time data works by separating the road network into 'segments' of length between 1m and 1000m. Each car with a satellite navigation system in, which passes through a segment is recorded and its journey time, speed and date is logged anonymously against that segment. The TomTom webportal aggregates this segment data, to provide high sample sizes. A journey time route may contain 100s of 'segments', which each have their own sample and these are appended to create an overall journey time.

For each of the routes, journey time data has been assessed for seven time periods across the week, to provide an understanding of travel times during the weekday peak and inter peak periods, weekday counter peak periods, Saturday daytimes and free-flow conditions (overnight). The seven time periods are:

- Monday-Friday AM peak: 8am-9am;
- Monday-Friday Inter peak: 10am-4pm;
- Monday-Friday PM peak: 5pm-6pm;
- Monday-Friday 7am-8am (shoulder AM peak);
- Monday-Friday 4pm-5pm (shoulder PM peak);
- Saturday 10am-4pm; and
- Monday-Sunday 10pm-6am (free-flow).

Journey time data for each of these time periods has been analysed for a two month period between 1 October 2019 and 30 November 2019, excluding school holidays and the weekend of 26/ 27 October as the scheme was closed due to flooding. The time period Monday 21 October 2019 – Friday 1 November 2019 (inclusive) was therefore excluded from the analysis. This represents the Year One journey time data, against which the Baseline journey times will be compared to understand the initial impact of the scheme on journey times. The Year One average journey times are summarised in **Table 3-1**, with **Table 3-2** summarising the typical time saved when using the scheme, compared to existing/ alternative routes to/ from the A6 in High Lane to Manchester Airport.

**Table 3-1 – A6MARR Year One Average Journey Time Summary**

Route No.	Route Description	Direction	Length (km)	Mon-Fri AM Peak 8am-9am	Mon-Fri Inter Peak 10am-4pm	Mon-Fri PM Peak 5pm-6pm	Mon-Fri 7am-8am	Mon-Fri 4pm-5pm	Sat 10am-4pm	Mon-Sun Free Flow 10pm-6am
1	<b>A6 High Lane to Manchester Airport</b> via the scheme	Eastbound	15.0	16:27	16:49	23:00	15:36	23:52	16:07	13:03
		Westbound	15.0	19:03	15:00	17:08	17:52	16:44	14:34	13:08
2	<b>A6 High Lane to Manchester Airport</b> via the A6, M60 and M56	Eastbound	20.3	37:58	32:17	58:49	31:17	59:22	30:59	23:34
		Westbound	19.7	40:50	30:16	47:10	34:12	45:06	29:41	22:48
3	<b>A6 High Lane to Manchester Airport</b> via Poynton, the A555 and Heald Green	Eastbound	19.3	35:15	32:45	46:19	30:43	46:57	31:32	25:02
		Westbound	19.5	38:44	31:49	40:27	33:32	37:26	31:15	25:16
4	<b>A6 High Lane to Manchester Airport</b> via Davenport, Cheadle Hulme & Heald Green	Eastbound	16.8	45:14	36:00	53:05	36:47	54:31	35:49	25:42
		Westbound	16.8	50:11	34:05	45:09	37:13	44:28	33:39	24:59
5	<b>A34</b> from M60 to Dean Row Road (Wilmslow)	Northbound	8.5	16:11	10:32	15:43	14:43	17:11	11:30	08:19
		Southbound	8.5	13:09	10:17	16:09	11:45	14:00	11:11	08:14
6	<b>Woodford to Manchester Airport</b> via the A5102, Finney Green and Styal	Eastbound	11.5	20:03	18:16	19:45	18:39	19:46	17:49	15:44
		Westbound	11.6	22:45	18:49	21:40	19:54	21:46	18:31	16:00
7	<b>King Street West (Stockport) to Manchester Airport</b> via A560 and M56	Eastbound	13.1	32:13	23:31	35:33	27:39	36:16	23:08	17:43
		Westbound	12.3	37:16	22:27	36:20	29:08	34:13	22:06	16:30
8	<b>Cheadle to Bramhall</b> via Cheadle Road and Ack Lane West	Northbound	6.3	17:07	13:11	17:49	13:21	17:44	13:36	09:34
		Southbound	6.3	17:11	12:49	18:33	12:45	19:07	12:35	09:28
9	<b>A6 (Cale Green) to Woodford</b> via Bramhall	Northbound	6.5	19:26	14:32	18:00	14:02	19:25	13:58	10:00
		Southbound	6.5	20:18	13:56	18:09	14:49	18:10	14:12	09:25
10	<b>Dean Lane (Hazel Grove) to Manchester Airport</b> via Cheadle Hulme & Heald Green	Eastbound	13.0	31:39	25:23	33:18	26:17	33:49	24:44	18:43
		Westbound	12.9	32:17	23:29	29:01	25:08	28:40	23:28	18:20
11	<b>A6</b> from (between Mill Ln & Norbury Hollow Road) to A6015 Albion Rd junction	Eastbound	6.8	11:10	11:49	13:40	10:58	14:16	12:12	08:16
		Westbound	6.8	23:40	11:25	10:21	21:07	10:43	11:52	08:18

*Journey Times are reported as mm:ss*



**Table 3-2 – A6MARR Year One Average Journey Time Comparison between the A6 at High Lane and Manchester Airport**

Route No.	Route Description	Direction	Length (km)	Mon-Fri AM Peak 8am-9am	Mon-Fri Inter Peak 10am-4pm	Mon-Fri PM Peak 5pm-6pm	Mon-Fri 7am-8am	Mon-Fri 4pm-5pm	Sat 10am-4pm	Mon-Sun Free Flow 10pm-6am
1	A6 High Lane to Manchester Airport via the scheme	Eastbound	15.0	16:27	16:49	23:00	15:36	23:52	16:07	13:03
		Westbound	15.0	19:03	15:00	17:08	17:52	16:44	14:34	13:08
2	A6 High Lane to Manchester Airport via the A6, M60 & M56 Average journey time	Eastbound	20.3	37:58	32:17	58:49	31:17	59:22	30:59	23:34
		Westbound	19.7	40:50	30:16	47:10	34:12	45:06	29:41	22:48
Average journey time saved via scheme over route 2		Eastbound	5.3	21:31 (57%)	15:28 (48%)	35:49 (61%)	15:41 (50%)	35:30 (60%)	14:52 (48%)	10:31 (45%)
		Westbound	4.7	21:47 (53%)	15:16 (50%)	30:02 (64%)	16:20 (48%)	28:22 (63%)	15:07 (51%)	09:40 (42%)
3	A6 High Lane to Manchester Airport via Poynton, the A555 and Heald Green	Eastbound	19.3	35:15	32:45	46:19	30:43	46:57	31:32	25:02
		Westbound	19.5	38:44	31:49	40:27	33:32	37:26	31:15	25:16
Average journey time saved via scheme over route 3		Eastbound	4.3	18:48 (53%)	15:56 (49%)	23:19 (50%)	15:07 (49%)	23:05 (49%)	15:25 (49%)	11:59 (48%)
		Westbound	4.5	19:41 (51%)	16:49 (53%)	23:19 (58%)	15:40 (47%)	20:42 (55%)	16:41 (53%)	12:08 (48%)
4	A6 High Lane to Manchester Airport via Davenport, Cheadle Hulme & Heald Green	Eastbound	16.8	45:14	36:00	53:05	36:47	54:31	35:49	25:42
		Westbound	16.8	50:11	34:05	45:09	37:13	44:28	33:39	24:59
Average journey time saved via scheme over route 4		Eastbound	1.8	28:47 (64%)	19:11 (53%)	30:05 (57%)	21:11 (58%)	30:30 (56%)	19:42 (55%)	12:39 (49%)
		Westbound	1.8	31:08 (62%)	19:05 (56%)	28:01 (62%)	19:21 (52%)	27:44 (62%)	19:05 (57%)	11:51 (47%)

*Journey Times are reported as mm:ss*

**Table 3-2** highlights that since the scheme opened:

- Average journey times to/ from the A6/ Windlehurst Lane at High Lane and Manchester Airport have almost halved when using the A6MARR scheme, compared to the existing/ alternative routes 2 (via the A6, M60 and M56), route 3 (via Poynton, the A555 and Heald Green) and route 4 (via Davenport, Cheadle Hulme and Heald Green);
- Average journey times savings to/ from the A6/ Windlehurst Lane at High Lane and Manchester Airport are between 18–30 minutes in the AM peak, 15–20 minutes in the inter peak and 23-35 minutes in the PM peak when using the A6MARR scheme, compared to the existing routes 2, 3 and 4;
- Average journey times to/ from the A6/ Windlehurst Lane at High Lane and Manchester Airport are the longest during the PM peak, both via the scheme and the three alternative routes. It is noted that average journey times between the PM peak of 5-6pm, and the shoulder PM peak of 4-5pm are similar. In fact, along the scheme in an eastbound direction, average journey times are the longest within the shoulder peak of 4-5pm.

**Table 3-3** compares how the average journey times have changed since the Baseline in the AM, inter peak and PM peaks following the opening of the scheme along the 11 key journey time routes.

**Table 3-3 – A6MARR Year One Average Journey Time Comparison**

Route No.	Route Description	Direction	Length (km)	Baseline			Year One		
				Mon-Fri AM Peak 8am-9am	Mon-Fri IP 10am-4pm	Mon-Fri PM Peak 5pm-6pm	Mon-Fri AM Peak 8am-9am	Mon-Fri IP 10am-4pm	Mon-Fri PM Peak 5pm-6pm
1	A6 High Lane to Manchester Airport via the scheme	Eastbound	15.0	-	-	-	16:27	16:49	23:00
		Westbound	15.0	-	-	-	19:03	15:00	17:08
2	A6 High Lane to Manchester Airport via the A6, M60 and M56	Eastbound	20.3	32:40	29:05	45:04	37:58 (+5:18)	32:17 (+3:12)	58:49 (+13:45)
		Westbound	19.7	39:21	30:31	35:33	40:50 (+1:29)	30:16 (-0:15)	47:10 (+11:37)
3	A6 High Lane to Manchester Airport via Poynton, the A555 and Heald Green	Eastbound	19.3	31:49	30:00	41:37	35:15 (+3:26)	32:45 (+2:45)	46:19 (+4:42)
		Westbound	19.5	40:24	30:15	33:45	38:44 (-1:40)	31:49 (+1:34)	40:27 (+6:42)
4	A6 High Lane to Manchester Airport via Davenport, Cheadle Hulme & Heald Green	Eastbound	16.8	39:56	35:09	49:06	45:14 (+5:18)	36:00 (+0:51)	53:05 (+3:59)
		Westbound	16.8	45:17	33:59	39:03	50:11 (+4:54)	34:05 (+0:06)	45:09 (+6:06)
5	A34 from M60 to Dean Row Road (Wilmslow)	Northbound	8.5	13:57	09:50	15:56	16:11 (+2:14)	10:32 (+0:42)	15:43 (-0:13)
		Southbound	8.5	11:31	09:46	15:52	13:09 (+1:38)	10:17 (+0:31)	16:09 (+0:17)
6	Woodford to Manchester Airport via the A5102, Finney Green and Styal	Eastbound	11.5	20:04	17:18	22:26	20:03 (-0:01)	18:16 (+0:58)	19:45 (-2:41)
		Westbound	11.6	22:22	17:49	19:45	22:45 (+0:23)	18:49 (+1:00)	21:40 (+1:55)
7	King Street West (Stockport) to Manchester Airport via A560 and M56	Eastbound	13.1	29:06	22:56	33:51	32:13 (+3:07)	23:31 (+0:35)	35:33 (+1:42)
		Westbound	12.3	30:29	22:30	31:40	37:16 (+6:47)	22:27 (-0:03)	36:20 (+4:40)
8	Cheadle to Bramhall via Cheadle Road and Ack Lane West	Northbound	6.3	16:22	13:14	15:36	17:07 (+0:45)	13:11 (-0:03)	17:49 (+2:13)
		Southbound	6.3	13:56	12:51	16:41	17:11 (+3:15)	12:49 (-0:02)	18:33 (+1:52)
9	A6 (Cale Green) to Woodford via Bramhall	Northbound	6.5	16:22	13:36	14:49	19:26 (+3:04)	14:32 (+0:56)	18:00 (+3:11)
		Southbound	6.5	17:46	13:06	17:14	20:18 (+2:32)	13:56 (+0:50)	18:09 (+0:55)
10	Dean Lane (Hazel Grove) to Manchester Airport via Cheadle Hulme & Heald Green	Eastbound	13.0	28:50	24:51	35:04	31:39 (+2:49)	25:23 (+0:32)	33:18 (-1:46)
		Westbound	12.9	31:57	23:44	27:16	32:17 (+0:20)	23:29 (-0:15)	29:01 (+1:45)
11	A6 from (between Mill Ln & Norbury Hollow Road) to A6015 Albion Rd junc.	Eastbound	6.8	09:41	10:21	11:36	11:10 (+1:29)	11:49 (+1:28)	13:40 (+2:04)
		Westbound	6.8	11:27	09:42	09:28	23:40 (+12:13)	11:25 (+1:43)	10:21 (+0:53)

*Journey Times are reported as mm:ss*

Whilst the opening of the scheme has resulted in travel times reducing by approximately 50% along the A6MARR when compared to existing alternative routes, the following analysis summarises how average journey times have changed along all routes since the scheme opened, by comparing the Year One with the Baseline journey times.

Cumulative journey time graphs in the AM and PM peaks are provided with **Appendix B** of this document, which assist in demonstrating where along the route any additional delay/ time savings occur.

**Route 2 - A6 High Lane to Manchester Airport via the A6, M60 and M56:** In both the AM and PM peaks, average journey times have increased, albeit more significantly in the PM peak which show an average increase of over 10 minutes in both directions.

In the eastbound PM peak, the cumulative journey time graphs highlight that the additional journey time incurred since the scheme opened occurs along the M56 and M60 section of the route, with the journey time between Stockport and Hazel Grove remaining broadly consistent since the scheme opened. Further delays are incurred after Hazel Grove, in the last 1km of the route. The westbound PM peak shows that on average, since the scheme opened there is some initial delay along the A6 south of Hazel Grove, with the majority of the additional journey time occurring on the M60 and M56 motorways.

Average journey times have remained the same following the opening of the scheme in a westbound direction in the inter peak, with an average increase of 3 minutes in the eastbound direction.

It is noted that the Stockport Town Centre Access Plan (STCAP) works have been implemented over the last five years, which included improved pedestrian facilities along the A6 through Stockport town centre. These facilities will contribute to an increase in journey times at this location, as will the two additional signalised junctions at the A6/ A555 (scheme) and the A6/ Buxton Road (south-east of the scheme).

**Route 3 - A6 High Lane to Manchester Airport via Poynton, the A555 and Heald Green:** With the exception of the westbound AM peak which is indicating a slight reduction in journey times of 1.5 minutes since the scheme opened, the eastbound AM peak and inter peak and PM peaks have all experienced an increase in journey times. The most significant increases in average journey times occurred in/ around the PM peak, with eastbound traffic experiencing an increase of approximately 9 minutes between 4-5pm in the shoulder peak and an increase of 5 minutes between 5-6pm. Westbound traffic is incurring an average increase of approximately 5 minutes between 4-5pm and over 6 minutes between 5-6pm.

The cumulative journey time graph for the westbound PM peak, indicates that after the scheme opened, average journey times for the initial 5km of this route have increased slightly, although the most significant increase occurs in/ around Poynton.

It is noted that as part of the construction of the scheme, a total of five additional signalised intersections have been implemented along this route, including the A6/ Buxton Road, the A6/ A555, A523/ A555, A5149 Chester Road/ A555 Bramhall oil terminal and A5102 Woodford Road/ A555. These traffic signals will result in additional journey times along this route since the scheme opened.

**Route 4 - A6 High Lane to Manchester Airport via Davenport, Cheadle Hulme & Heald Green:** Whilst average journey times in the inter peak have remained consistent with pre-scheme times, average journey times have increased by approximately 5 minutes in the AM peak along this routes since the scheme opened and the westbound PM peak increasing by approximately 6 minutes. However, the largest increases were noted within the shoulder PM peak between 4-5pm which indicates an increase of 9 minutes in the eastbound and 6 minutes in the westbound.

The cumulative journey time graphs indicate that the increased journey time in the PM peak westbound as occurring through the local centres of Hazel Grove and Cheadle Hulme.

As noted previously, as part of the construction of the scheme, two additional signalised intersections have been implemented along this route, including the A6/ Buxton Road, the A6/ A555.

**Route 5 - A34 from M60 to Dean Row Road (Wilmslow):** Average journey times have increased by 1.5-2 minutes in the AM peak since the scheme opened, with journey times remaining consistent with pre-scheme times or reducing slightly in both the inter peak and PM peaks. However, it was noted that in northbound



shoulder peak of 4-5pm, average journey times have increased by approximately 4 minutes since the scheme opened.

It is noted that as part of the scheme works, several roundabouts along this route are now signalised, including the A34/ Eden Park Road, A34/ B5094 Stanley Road and A34/ A555 which may be contributing to the slight increase in journey times.

**Route 6 - Woodford to Manchester Airport via the A5102, Finney Green and Styal:** Average journey times have remained broadly consistent along this route following the opening of the scheme. The most significant change in journey times occurred in a westbound direction in the PM peak and shoulder peak 4-6pm whereby journey times increased by approximately 2 minutes.

**Route 7 - King Street West (Stockport) to Manchester Airport via A560 and M56:** Average journey times in the inter peak have remained broadly consistent with pre-scheme journey times. Both the AM and PM have recorded increases in average journey times since the scheme opened, most significantly in the westbound direction with the journey time increasing by over 6 minutes in the AM peak and approximately 5 minutes in the PM peak. Both westbound shoulder peaks, 7-8am and 4-5pm also recorded increases. In the eastbound both of the shoulder peaks recorded the highest average journey times, with the 4-5pm shoulder experiencing an increase in average journey times of over 7 minutes since the scheme opened.

The cumulative average journey time graphs indicate that much of this increased journey time occurs on the M56.

**Route 8 - Cheadle to Bramhall via Cheadle Road and Ack Lane West:** Average journey times in the inter peak have remained broadly consistent with pre-scheme journey times. There have been small increases in average journey times in both the AM and PM peaks, most significantly in the southbound AM peak which recorded an increase of over 3 minutes. The cumulative average journey time graphs indicate that this increase was experienced along Cheadle Road on the approach to the Turves Road/ Albert Road intersection and through Cheadle Hulme.

**Route 9 - A6 (Cale Green) to Woodford via Bramhall:** Average journey times in the inter peak have remained broadly consistent with pre-scheme journey times. There have been small increases in average journey times in both the AM and PM peaks, with the AM peak and northbound PM peak noting an increase of approximately 3 minutes since the scheme opened.

**Route 10 - Dean Lane (Hazel Grove) to Manchester Airport via Cheadle Hulme & Heald Green:** Average journey times in the inter peak have remained broadly consistent with pre-scheme journey times. There have been small increases in average journey times in the AM peak, with the AM peak eastbound noting an increase of almost 3 minutes since the scheme opened. Despite the PM peak eastbound recording a decrease in average journey times of approximately 2 minutes, the shoulder peak 4-5pm recorded an increase of approximately 3 minutes, which indicates some peak spreading of trips is occurring along this route.

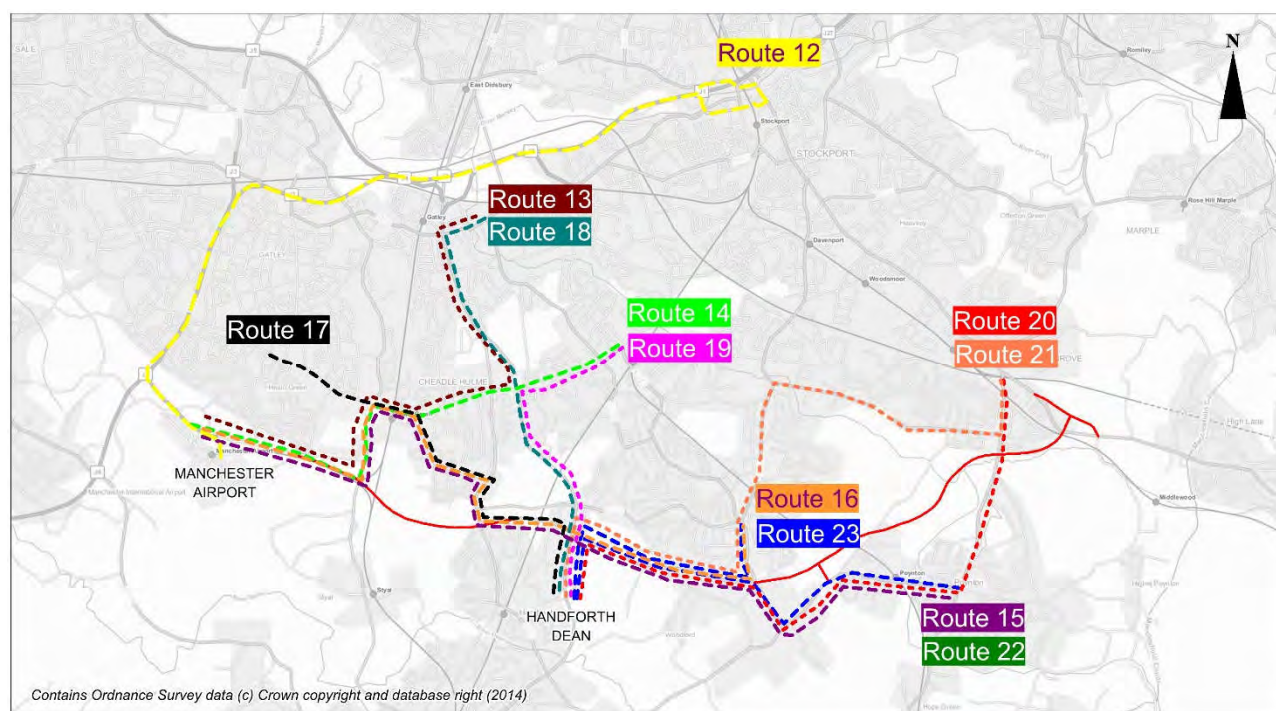
**Route 11 - A6 from (between Mill Ln & Norbury Hollow Road) to A6015 Albion Rd junction:** Average journey times in the inter peak and PM peaks have increased by 1-2 minutes when compared with pre-scheme journey times. However, in the AM peak, in a westbound direction average journey times are now typically 12 minutes longer than pre-scheme journey times, a significant increase. The cumulative journey time graphs indicate that this increase in average journey times occurs between Disley and High Lane, with the delay starting south of Carr Brow in the vicinity of Park Road.

### 3.2.1. Average Journey Times through Local Centres

As agreed by the A6MARR Programme Board, a number of additional routes between key local centres were highlighted as important to assess the impact of the scheme on average journey times. These are indicated on **Figure 3-2**, and include the following:

- **Routes 12 – 16 Manchester Airport and the Enterprise Zone** to/ from the following locations: Stockport town centre, Cheadle, Cheadle Hulme, Hazel Grove, Bramhall, and Poynton.
- **Routes 17 – 22 Handforth Dean** to/ from the following locations: Wythenshawe, Cheadle, Cheadle Hulme, Hazel Grove, and Bramhall.

**Figure 3-2 Journey Time Routes to/ from Local Centres and Manchester Airport and Handforth Dean**



A summary of the average Year One journey times to/ from local centres and Manchester Airport (routes 12-16) is presented within **Table 3-4**. This is followed by **Table 3-5**, which compares how these average journey times have changed since the Baseline in the AM, inter peak and PM peaks following the opening of the scheme.

**Table 3-4 – A6MARR Year One Average Journey Times to/ from Manchester Airport and the Enterprise Zone**

Route No.	Route Description	Direction	Length (km)	Mon-Fri AM Peak 8am-9am	Mon-Fri Inter Peak 10am-4pm	Mon-Fri PM Peak 5pm-6pm	Mon-Fri 7am-8am	Mon-Fri 4pm-5pm	Sat 10am-4pm	Mon-Sun Free Flow 10pm-6am
12	Stockport town centre, A6/Exchange Street via M60 and M56	Eastbound	12.5	16:12	13:28	28:28	13:22	29:26	12:12	10:48
		Westbound	11.9	17:03	11:35	22:59	15:37	20:55	10:59	10:05
13	Cheadle via the A34 and Heald Green	Eastbound	8.6	21:05	15:03	21:29	18:41	21:53	15:06	11:14
		Westbound	8.6	21:56	14:49	21:22	17:07	20:40	14:48	11:08
14	Cheadle Hulme via Heald Green	Eastbound	7.1	19:57	14:37	20:49	16:15	21:25	14:11	10:22
		Westbound	7.1	17:13	13:16	16:20	14:46	15:58	12:50	10:13
	Hazel Grove	A comprehensive summary of this can be found in table 3-1								
15	Poynton via the A555 and Heald Green	Eastbound	13.4	24:45	21:00	26:05	21:02	24:44	20:19	17:15
		Westbound	13.6	22:44	20:05	23:19	21:23	22:48	19:10	17:37
16	Bramhall via the A555 and Heald Green	Eastbound	10.8	18:51	16:34	20:46	16:45	20:23	16:15	13:50
		Westbound	11.2	18:51	16:43	19:37	18:02	18:51	16:08	14:34

*Journey Times are reported as mm:ss*

**Table 3-5 – A6MARR Average Journey Times to/ from Manchester Airport and the Enterprise Zone Comparison**

Route No.	Route Description	Direction	Length (km)	Baseline			Year One		
				Mon-Fri AM Peak 8am-9am	Mon-Fri Inter Peak 10am-4pm	Mon-Fri PM Peak 5pm-6pm	Mon-Fri AM Peak 8am-9am	Mon-Fri Inter Peak 10am-4pm	Mon-Fri PM Peak 5pm-6pm
12	Stockport town centre, A6/Exchange Street via M60 and M56	Eastbound	12.5	14:38	11:34	21:17	16:12 (+1:34)	13:28 (+1:54)	28:28 (+7:11)
		Westbound	11.9	15:46	11:37	15:02	17:03 (+1:17)	11:35 (-0:02)	22:59 (+7:57)
13	Cheadle via the A34 and Heald Green	Eastbound	8.6	18:50	15:11	23:49	21:05 (+2:15)	15:03 (-0:08)	21:29 (-2:20)
		Westbound	8.6	20:27	15:29	21:01	21:56 (+1:29)	14:49 (-0:40)	21:22 (+0:21)
14	Cheadle Hulme via Heald Green	Eastbound	7.1	18:13	14:16	21:33	19:57 (+1:44)	14:37 (+0:21)	20:49 (-0:44)
		Westbound	7.1	17:15	13:22	15:05	17:13 (-0:02)	13:16 (-0:06)	16:20 (+1:15)
	Hazel Grove	A comprehensive summary of this can be found in table 3-3							
15	Poynton via the A555 and Heald Green	Eastbound	13.4	22:07	20:41	28:18	24:45 (+2:38)	21:00 (+0:19)	26:05 (-2:13)
		Westbound	13.6	22:28	19:22	20:38	22:44 (+0:16)	20:05 (+0:43)	23:19 (+2:41)
16	Bramhall via the A555 and Heald Green	Eastbound	10.8	17:39	16:16	21:25	18:51 (+1:12)	16:34 (+0:18)	20:46 (-0:39)
		Westbound	11.2	18:23	16:10	17:41	18:51 (+0:28)	16:43 (+0:33)	19:37 (+1:56)

*Journey Times are reported as mm:ss*



The analysis of average journey times between local centres and Manchester Airport is focussed on existing routes to provide a direct comparison with pre-scheme conditions, and to understand how average journey times on local roads have changed as a result of traffic re-assignment across the highway network following the opening of the scheme. The key findings are as follows:

- **Route 12 - Stockport town centre to/ from Manchester Airport via the M60 and M56:** shows that average journey times in the AM and inter peak are generally experiencing a slight increase of just over 1 minute. Journey times in the PM peak show a more significant increase of approximately 7 minutes.
- **Route 13 - Cheadle via the A34 and Heald Green:** average journey times are broadly consistent in the inter peak and PM peak with pre-scheme journey times, with a slight increase of between 1-2 minutes in the AM peak.
- **Route 14 - Cheadle Hulme via Heald Green:** average journey times following the opening of the scheme are generally consistent with pre-scheme journey times, with the AM peak eastbound and PM westbound indicating a slight increase of between 1-2 minutes.
- **Route 15 - Poynton via the A555 and Heald Green:** average journey times following the opening of the scheme are generally consistent with pre-scheme journey times, with the AM peak eastbound and PM westbound indicating a slight increase of between 2-3 minutes.
- **Route 16 - Bramhall via the A555 and Heald Green:** average journey times following the opening of the scheme are generally consistent with pre-scheme journey times, with the AM peak eastbound and PM westbound indicating a slight increase of between 1-2 minutes.

Overall this indicates that following the opening of the scheme, average journey times along existing routes through local centres to/ from Manchester Airport in the inter peak have remained broadly consistent with pre-scheme journey times. In the AM and PM peaks, average journey times along routes 12-16 have typically increased by 1-2 minutes, although it is noted that average journey times from Stockport town centre to/ from the Airport increased by over 7 minutes in the PM peak. This route is largely along the M60 and M56 motorways, and as highlighted earlier, the majority of the increased journey time is incurred along the motorways.

Similarly, a summary of the average Year One journey times to/ from local centres and Handforth Dean (routes 17-22) are presented within **Table 3-6**. This is followed by **Table 3-7**, which compares how these average journey times have changed since the Baseline in the AM, inter peak and PM peaks following the opening of the scheme.

**Table 3-6 – A6MARR Year One Average Journey Times to/ from Handforth Dean**

Route No.	Route Description	Direction	Length (km)	Mon-Fri AM Peak 8am-9am	Mon-Fri Inter Peak 10am-4pm	Mon-Fri PM Peak 5pm-6pm	Mon-Fri 7am-8am	Mon-Fri 4pm-5pm	Sat 10am-4pm	Mon-Sun Free Flow 10pm-6am
17	Wythenshaw (Simonsway/ Rowlandsway) via Heald Green & A555	Eastbound	6.5	12:48	11:48	12:54	11:55	13:42	12:04	10:03
		Westbound	6.6	14:21	12:42	14:51	12:50	14:42	12:40	10:32
18	Cheadle via A34	Northbound	6.2	15:13	09:22	14:25	13:43	15:55	10:18	06:53
		Southbound	6.2	14:18	08:54	17:39	10:44	16:00	09:20	06:41
19	Cheadle Hulme via Turves Road and the A34	Northbound	4.7	14:05	08:56	13:45	11:17	15:27	09:24	06:01
		Southbound	4.7	09:36	07:20	12:37	08:23	11:19	07:22	05:46
20	Hazel Grove via the A555/ Poynton A523	Eastbound	10.1	18:06	16:50	22:57	15:12	23:39	16:03	12:15
		Westbound	9.9	19:52	15:30	20:27	15:36	18:14	15:21	11:27
21	Hazel Grove via the A555/ Bramhall A5102 and A5143 Jacksons Lane	Eastbound	10.5	18:26	17:10	20:34	15:35	21:40	17:03	13:03
		Westbound	10.3	18:27	15:28	16:17	15:48	16:55	15:38	12:15
22	Poynton via the A555	Eastbound	7.0	11:54	10:16	12:58	09:41	13:09	10:18	07:58
		Westbound	6.8	09:04	08:19	09:08	08:30	09:18	07:53	07:25
23	Bramhall via the A555	Eastbound	4.4	05:49	05:43	07:31	05:13	08:40	06:07	04:29
		Westbound	4.4	05:00	04:46	05:12	04:55	05:09	04:42	04:12

*Journey Times are reported as mm:ss*

**Table 3-7 – A6MARR Average Journey Times to/ from Handforth Dean Comparison**

Route No.	Route Description	Direction	Length (km)	Baseline			Year One		
				Mon-Fri AM Peak 8am-9am	Mon-Fri Inter Peak 10am-4pm	Mon-Fri PM Peak 5pm-6pm	Mon-Fri AM Peak 8am-9am	Mon-Fri Inter Peak 10am-4pm	Mon-Fri PM Peak 5pm-6pm
17	Wythenshaw (Simonsway/ Rowlandsway) via Heald Green & A555	Eastbound	6.5	13:34	12:26	15:58	12:48 (-0:46)	11:48 (-0:38)	12:54 (-3:04)
		Westbound	6.6	14:45	12:07	14:19	14:21 (+0:24)	12:42 (+0:35)	14:51 (+0:32)
18	Cheadle via A34	Northbound	6.2	12:33	08:32	14:42	15:13 (+2:40)	09:22 (+0:50)	14:25 (+0:17)
		Southbound	6.2	11:25	09:07	16:04	14:18 (+2:53)	08:54 (+0:13)	17:39 (+1:35)
19	Cheadle Hulme via Turves Road and the A34	Northbound	4.7	11:56	07:37	12:26	14:05 (+2:09)	08:56 (+1:19)	13:45 (+1:19)
		Southbound	4.7	08:12	07:00	10:08	09:36 (+1:24)	07:20 (+0:20)	12:37- (+2:29)
20	Hazel Grove via the A555/ Poynton A523	Eastbound	10.1	16:02	14:24	21:22	18:06 (+2:04)	16:50 (+2:26)	22:57 (+1:35)
		Westbound	9.9	21:31	14:04	16:10	19:52 (+1:39)	15:30 (+1:26)	20:27 (+4:17)
21	Hazel Grove via the A555/ Bramhall A5102 and A5143 Jacksons Lane	Eastbound	10.5	17:57	15:42	21:15	18:26 (+0:29)	17:10 (+1:28)	20:34 (+0:41)
		Westbound	10.3	19:57	15:18	15:50	18:27 (+1:30)	15:28 (+0:10)	16:17 (+0:27)
22	Poynton via the A555	Eastbound	7.0	10:30	09:27	14:46	11:54 (+1:24)	10:16 (+0:49)	12:58 (+1:48)
		Westbound	6.8	09:13	07:49	07:42	09:04 (+0:09)	08:19 (+0:30)	09:08 (+1:26)
23	Bramhall via the A555	Eastbound	4.4	06:02	05:02	07:53	05:49 (+0:13)	05:43 (+0:41)	07:31 (+0:22)
		Westbound	4.4	05:11	04:40	04:49	05:00 (+0:11)	04:46 (+0:06)	05:12 (+0:23)

*Journey Times are reported as mm:ss*

As per the previous analysis of average journey times between local centres, the change in average journey times to/ from Handforth Dean and local centres is focussed on the existing routes. It does not assume the scheme is utilised to provide a direct comparison with pre-scheme conditions, and to understand how average journey times on local roads have changed as a result of traffic re-assignment across the highway network following the opening of the scheme. The key findings are as follows:

- **Route 17 - Wythenshaw (Simonsway/ Rowlandsway) via Heald Green & A555:** average journey times along this route following the opening of the scheme are generally consistent/ less than pre-scheme journey times.
- **Route 18 - Cheadle via A34:** whilst average journey times in the inter peak are now generally consistent with pre-scheme journey times, the AM peak is experiencing an increase in average journey times of 2-3 minutes. It is noted that as part of the scheme works, several roundabouts along this route are now signalised, including the A34/ Eden Park Road, A34/ B5094 Stanley Road and A34/ A555 which may be contributing to the slight increase in journey times.
- **Route 19 - Cheadle Hulme via Turves Road and the A34:** average journey times along this route following the opening of the scheme are generally experiencing an increase in average journey times of 1-3 minutes, with the AM peak experiencing the longest journey times.
- **Route 20 - Hazel Grove via the A555/ Poynton A523:** average journey times along this route following the opening of the scheme are generally experiencing an increase in average journey times of 1-3 minutes, although the PM peak westbound is experiencing an increase of over 4 minutes. As previously noted, there are four additional traffic signals that have been implemented as a result the scheme, which are likely to contribute to the increase in average journey times. It is noted that average journey times for this route are longest during the PM peak period, 4-6pm.
- **Route 21 - Hazel Grove via the A555/ Bramhall A5102 and A5143 Jacksons Lane:** average journey times along this route following the opening of the scheme are largely consistent with the pre-scheme journey times, with an average increase of 1.5 minutes in the AM westbound and eastbound inter peak. It is noted that average journey times for this route are longest during the PM shoulder peak, 4-5pm.
- **Route 22 - Poynton via the A555:** whilst average journey times in the inter peak are now generally consistent with pre-scheme journey times, the AM peak eastbound and PM peak is experiencing an increase in average journey times of approximately 1.5 minutes. It is noted that average journey times for this route are longest during the PM shoulder peak, 4-5pm. As previously noted, there are three additional traffic signals that have been implemented as a result the scheme, which are likely to contribute to the increase in average journey times.
- **Route 23 - Bramhall via the A555:** average journey times along this route following the opening of the scheme are generally consistent with pre-scheme journey times.

Overall, since the scheme opened average inter peak journey times on existing routes between local centres and Handforth Dean have broadly remained consistent with pre-scheme journey times, with routes 19 northbound through Cheadle Hulme, route 20 from Hazel Grove via Poynton and route 21 eastbound from Hazel Grove through Bramhall all experiencing an increase in the inter peak average journey time of 1-2 minutes.

Whilst a number of the local centres have incurred an additional 1-2 minutes on average journey times during the AM and PM peaks, route 20 experienced the largest increase in journey times with a westbound increase of over 4 minutes in the PM peak.



### 3.3. Journey Time Reliability

In addition to understanding how average journey times have changed since the scheme opened, one of the aims of this evaluation is to understand the impact of the scheme upon journey time reliability. Reliability is an important measure to take into consideration as motorists are likely to make their decisions on how long to allow for journeys based on their understanding of reliability, not on average time it takes to travel. Reliability can be affected by changes to several factors, including network resilience or reductions in accidents, all of which could be affected by a road improvement scheme such as the A6MARR scheme.

For this scheme, journey time reliability has been assessed by considering the 5<sup>th</sup>, 25<sup>th</sup>, 75<sup>th</sup> and 95<sup>th</sup> percentile journey times for the AM and PM periods. The 5<sup>th</sup> percentile journey time can be interpreted as the time taken to travel through the scheme that only 1 in 20 vehicles can go faster than. Conversely, the 95<sup>th</sup> percentile can be interpreted as the time you should allow to navigate the junction to be on time 19 times out of 20.

The Year One journey reliability summary in the AM and PM peaks is provided within **Table 3-8**. Overall it is noted that the 95<sup>th</sup> percentile journey times are indicating some significant journey times, which suggests that a small number of journeys are experiencing significant delays. This is further demonstrated when examining the median journey time (i.e. the middle value) and comparing it to the average journey time. The median journey time is consistently lower than the average journey time, which indicates that there are a relatively small number of 'delayed' journeys which are causing the overall average journey times to increase.

Journey time 'box and whisker' diagrams are indicated within **Appendix C** of this report. Within these diagrams, the 'tails/whiskers' represent the 5<sup>th</sup> and 95<sup>th</sup> percentile journey times, whilst the box represents the 25<sup>th</sup> percentile to 75<sup>th</sup> percentile journey time range, with this inter-quartile range representing the core 50% of journey times. A change in the journey times within the inter-quartile range is often used as an indicator for a change in journey time reliability, with a reduction in this range indicating a more reliable journey time as there is effectively less variation in the average journey times. Conversely, an increase in the range of the 25<sup>th</sup> to 75<sup>th</sup> percentile journey times indicates a less reliable journey time, as there is a greater variation in the day-to-day journey time.

A summary of the key journey time reliability findings, as depicted within the 'box and whisker' diagrams is provided following **Table 3-8**.

**Table 3-8 – A6MARR Year One Journey Time Reliability Peak Period Summary**

Route No.	Route Description	Direction	AM Peak (Mon-Fri 8am-9am)					PM Peak (Mon-Fri 5pm-6pm)				
			5%	25%	75%	95%	Mean	5%	25%	75%	95%	Mean
1	A6 High Lane to Manchester Airport via the scheme	Eastbound	10:00	11:47	17:37	32:43	16:27	11:22	14:11	26:37	49:48	23:00
		Westbound	10:12	12:07	20:27	42:35	19:03	09:53	11:39	17:43	35:56	17:08
2	A6 High Lane to Manchester Airport via the A6, M60 and M56	Eastbound	17:20	20:53	40:39	1:40:20	37:58	20:17	30:31	1:07:00	2:38:24	58:49
		Westbound	18:04	22:34	43:55	1:45:22	40:50	17:30	23:38	52:58	2:07:01	47:10
3	A6 High Lane to Manchester Airport via Poynton, the A555 and Heald Green	Eastbound	18:57	22:35	36:33	1:21:14	35:15	20:27	26:43	51:35	1:53:27	46:19
		Westbound	19:24	24:00	41:19	1:28:18	38:44	19:27	24:43	42:34	1:37:09	40:27
4	A6 High Lane to Manchester Airport via Davenport, Cheadle Hulme & Heald Green	Eastbound	19:05	23:31	46:24	2:10:18	45:14	20:29	27:11	57:11	2:27:16	53:05
		Westbound	19:26	24:09	54:07	2:24:41	50:11	19:03	23:02	46:21	2:10:46	45:09
5	A34 from M60 to Dean Row Road (Wilmslow)	Northbound	07:15	09:57	19:30	32:34	16:11	07:10	09:07	16:49	37:25	15:43
		Southbound	06:47	08:15	14:50	28:22	13:09	07:28	10:33	18:36	34:01	16:09
6	Woodford to Manchester Airport via the A5102, Finney Green and Styal	Eastbound	11:21	13:52	21:17	40:19	20:03	11:32	14:04	21:44	36:51	19:45
		Westbound	11:38	13:38	22:52	57:06	22:45	11:32	13:31	21:59	50:22	21:40
7	King Street West (Stockport) to Manchester Airport via A560 and M56	Eastbound	13:08	16:14	36:02	1:25:50	32:13	13:35	16:49	37:58	1:42:47	35:33
		Westbound	12:56	16:44	44:22	1:40:15	37:16	13:03	17:31	42:32	1:35:17	36:20
8	Cheadle to Bramhall via Cheadle Road and Ack Lane West	Northbound	07:32	09:12	18:44	44:57	17:07	07:30	09:02	19:04	49:15	17:49
		Southbound	07:29	08:55	17:33	48:34	17:11	07:43	09:27	19:37	51:09	18:33
9	A6 (Cale Green) to Woodford via Bramhall	Northbound	08:04	10:08	22:36	48:40	19:26	08:02	09:45	19:51	46:12	18:00
		Southbound	08:14	10:16	23:08	51:54	20:18	08:01	09:55	19:03	46:18	18:09
10	Dean Lane (Hazel Grove) to Manchester Airport via Cheadle Hulme & Heald Green	Eastbound	14:29	17:29	33:06	1:24:02	31:39	14:47	18:04	35:31	1:26:44	33:18
		Westbound	14:28	17:27	33:50	1:25:27	32:17	14:18	17:01	29:50	1:14:42	29:01
11	A6 from (between Mill Ln & Norbury Hollow Road) to A6015 Albion Rd junction	Eastbound	07:26	08:26	11:24	20:31	11:10	08:17	09:45	14:18	27:15	13:40
		Westbound	08:07	10:42	28:35	1:03:56	23:40	07:26	08:23	10:43	16:50	10:21

*Journey Times are reported as mm:ss or hh:mm:ss where appropriate*

**Route 2 - A6 High Lane to Manchester Airport via the A6, M60 and M56:** The 25<sup>th</sup> percentile to 75<sup>th</sup> percentile journey time range, i.e. that representing the core 50% of journey times show an increase across the AM and PM peaks, as well as the inter peak. This indicates that the core 50% of journeys along route 2 are now experiencing less predictable journey times than five years ago, before the scheme. The most significant change is within the PM peak, where the core range of journey times has increased by approximately 15 minutes. As highlighted in the earlier journey time analysis, the average journey times have also increased along this route since the scheme opened. This increase in average journey time was largely along the motorway section, and it is likely that this section is also the cause of the less reliable journey times.

**Route 3 - A6 High Lane to Manchester Airport via Poynton, the A555 and Heald Green:** The inter peak median journey times demonstrate a reduction since the scheme opened, but overall the inter-quartile range of journey times has increased by 3-4 minutes due to both the 25<sup>th</sup> percentile journey time reducing and the 75<sup>th</sup> percentile increasing slightly.

The AM peak eastbound shows a similar pattern to the inter peak, however the westbound AM peak indicates a reduction in the core 25<sup>th</sup> percentile to 75<sup>th</sup> percentile journey time range of approximately 2 minutes highlighting an increase in journey time reliability. The median journey time has reduced in the AM peak in both directions.

In the PM peak, the inter-quartile range of journey times has increased by just over 5 minutes due to the 25<sup>th</sup> percentile journey time reducing slightly/ remaining consistent with the Baseline and the 75<sup>th</sup> percentile increasing.

**Route 4 - A6 High Lane to Manchester Airport via Davenport, Cheadle Hulme & Heald Green:** In the inter peak, despite both the 25<sup>th</sup> and 75<sup>th</sup> percentile journey times showing a reduction since the scheme opened, this has the effect of increasing the range of this core percentile by approximately 4 minutes, which is considered to demonstrate less reliable journey times since it's effectively an increase in the day to day variability of journey times.

The AM and PM peaks in both directions have experienced a reduction in the median journey time of over 5 minutes. However, due to the 25<sup>th</sup> percentile journey time reducing slightly and the 75<sup>th</sup> percentile increasing slightly when compared to the Baseline data, there has been an overall increase in the 25<sup>th</sup> percentile to 75<sup>th</sup> percentile core journey time range in excess of 5 minutes, which indicates that journeys in these peaks are less reliable than pre-scheme data shows.

**Route 5 - A34 from M60 to Dean Row Road (Wilmslow):** In the inter peak, despite the 25<sup>th</sup> percentile journey time indicating a slight reduction since the scheme opened, and the 75<sup>th</sup> percentile remaining broadly consistent with pre-scheme times, this shows a slight increase of 1-2 minutes in the range of core journey times.

The AM peak shows a slight increase of 1-2 minutes in the range of core journey times in a northbound direction, with this rising to approximately 3 minutes in the southbound direction. The PM peak indicates a broadly consistent level of journey time reliability with pre-scheme times.

**Route 6 - Woodford to Manchester Airport via the A5102, Finney Green and Styal:** In the AM peak the 75<sup>th</sup> percentile journey time has remained broadly consistent with pre-scheme times, and the 25<sup>th</sup> percentile journey time has reduced slightly, as has the median journey time. Overall this shows a slight increase of 2-3 minutes in the range of core journey times.

The inter peak median journeys demonstrate a slight reduction since the scheme opened, but overall the inter-quartile range of journey times has increased by approximately 3 minutes due to both the 25<sup>th</sup> percentile journey time reducing and the 75<sup>th</sup> percentile increasing slightly.

The PM peak median journey times has reduced since the scheme opened. In the eastbound PM peak the core range of journey times has remained consistent with pre-scheme times, with the westbound direction showing a similar pattern to the inter peak, where the 25<sup>th</sup> percentile journey time has reduced and the 75<sup>th</sup> percentile increased slightly which has the overall effect of increasing the range of core journey times by approximately 3 minutes.

**Route 7 - King Street West (Stockport) to Manchester Airport via A560 and M56:** The 25<sup>th</sup> percentile to 75<sup>th</sup> percentile journey time range, i.e. that representing the core 50% of journey times show an increase across the AM and PM peaks of between 5-10 minutes. As highlighted in the earlier journey time analysis, the average journey times have also increased along this route in the peaks since the scheme opened. This increase in average journey time was largely along the motorway section, and it is likely that this section forms the basis of the majority of the less reliable journey times.

The inter peak median journey times demonstrate a slight reduction since the scheme opened, but overall the inter-quartile range of journey times has increased by approximately 2 minutes due to the 25<sup>th</sup> percentile journey time reducing and the 75<sup>th</sup> percentile increasing slightly.

**Route 8 - Cheadle to Bramhall via Cheadle Road and Ack Lane West:** In the inter peak the median journey time has decreased along this route, as have both of the 25<sup>th</sup> and 75<sup>th</sup> percentile journey times. Overall this shows that the day-to-day variability of journey times within the inter peak is consistent with pre-scheme times within this core range.

In the AM peak northbound, both the 25<sup>th</sup> and 75<sup>th</sup> percentile journey times have reduced slightly since the scheme opened, as have the median journey time. Overall this shows a slight increase of 1 minute in the range of core journey times. In the AM peak southbound direction, median journey times have reduced since the scheme opened, but overall the inter-quartile range of journey times has increased by approximately 3 minutes due to the 25<sup>th</sup> percentile journey time reducing and the 75<sup>th</sup> percentile increasing slightly.

In the PM peak median journeys show a reduction since the scheme opened, but overall the inter-quartile range of journey times has increased by 1-2 minutes due to the 25<sup>th</sup> percentile journey time reducing and the 75<sup>th</sup> percentile remaining constant/ increasing slightly.

**Route 9 - A6 (Cale Green) to Woodford via Bramhall:** In the AM peak median journeys show a reduction since the scheme opened, but overall the inter-quartile range of journey times has increased by more than 5 minutes northbound and 3 minutes in the southbound direction due to the 25<sup>th</sup> percentile journey time reducing and the 75<sup>th</sup> percentile increasing, particularly in the northbound direction.

The inter peak median journeys demonstrate a reduction since the scheme opened, but overall the inter-quartile range of journey times has increased by just over 1 minute due to both the 25<sup>th</sup> percentile journey time reducing and the 75<sup>th</sup> percentile remaining constant/ increasing slightly.

In the PM peak southbound direction, the median journey time has reduced slightly, but overall the inter-quartile range of journey times has increased by just over 1 minute due to the 25<sup>th</sup> percentile journey time reducing more than the 75<sup>th</sup> percentile. In the PM peak northbound direction, the variability of journey times within the core range has increased by 5 minutes since the scheme opened.

**Route 10 - Dean Lane (Hazel Grove) to Manchester Airport via Cheadle Hulme & Heald Green:** Over the three main peaks, the median journey times have reduced and both the 25<sup>th</sup> and 75<sup>th</sup> percentile journey times have reduced/ remained constant since the scheme opened. Despite the average journey times for 75% of the dataset experiencing a reduction along this route, the core inter-quartile range has typically increased by 3 minutes.

**Route 11 - A6 from (between Mill Ln & Norbury Hollow Road) to A6015 Albion Rd junction:** The inter peak median journeys have remained broadly consistent with pre-scheme times since the scheme opened, but overall the inter-quartile range of journey times has increased by just over 1 minute due to both the 25<sup>th</sup> percentile journey time reducing slightly and the 75<sup>th</sup> percentile remaining increasing slightly.

The AM peak eastbound the PM peak shows a similar pattern to the inter peak, with the range of journey times increasing by 1-2 minutes when compared to the Baseline data. However, the westbound AM peak, which was previously noted for experiencing an increase in average journey times of over 10 minutes since the scheme opened, is showing a significant increase in the core dataset range of between the 25<sup>th</sup> and 75<sup>th</sup> percentiles of approximately 15 minutes which demonstrates the journey time reliability along this route has significantly reduced over the last five years.



## Summary of Initial Journey Time Findings

- The opening of the A6MARR scheme has resulted in a travel time saving of approximately 50% between the A6 at High Lane and Manchester Airport via the A6MARR, when compared to the existing/ alternative routes 2 (via the A6, M60 and M56), route 3 (via Poynton, the A555 and Heald Green) and route 4 (via Davenport, Cheadle Hulme and Heald Green).
- This equates to an average journey time saving per trip to/ from the A6 at High Lane and Manchester Airport of between 20–30 minutes in the AM peak, 15–20 minutes in the inter peak and 20–35 minutes in the PM peak when using the A6MARR scheme, compared to the existing routes 2, 3 and 4.
- A comparison of the Year One and the Baseline average journey times provided an initial indication of how journey times have changed across the wider study area. This indicated that average journey times in the inter peak have remained consistent with the Baseline (pre-scheme) times for routes 4, 5, 6, 7, 8, 9, and 10. Routes 2, 3, and 11 show slight increase in average journey times of 1–3 minutes in the inter peak.
- Generally, the average journey times experienced in Year One in the AM and PM are all within 5 minutes of the journey times recorded within the Baseline.
- The most significant increases in average journey times were noted along route 2, the A6 High Lane to Manchester Airport via the A6, M60 and M56 which has experienced an increase of over 10 minutes in the PM peak, largely incurred on the motorways.
- Route 11, from the A6 from (between Mill Lane & Norbury Hollow Road) to A6015 Albion Road junction has also seen a significant increase in average journey times. In the AM peak westbound direction, average journey times are now typically more than 10 minutes longer than Baseline/ pre-scheme journey times, with the majority of this increase occurring between Disley and High Lane.
- The average journey time in the westbound PM peak has increased by over 6 minutes along routes 3 (via Poynton, the A555 and Heald Green) and in route 4 (via Davenport, Cheadle Hulme and Heald Green).
- The Year One average journey times along existing routes through local centres including Stockport, Cheadle, Cheadle Hulme, Bramhall, Hazel Grove and Poynton to/ from Manchester Airport in the inter peak have remained broadly consistent with pre-scheme journey times.
- In the AM and PM peaks, average journey times along these existing routes through local centres to the Airport have typically increased by 1–2 minutes. It is noted that average journey times from Stockport town centre to/ from the Airport increased by over 7 minutes in the PM peak. This route is largely along the M60 and M56 motorways.
- The Year One average inter peak journey times on existing routes between local centres (including Wythenshawe, Cheadle, Cheadle Hulme, Bramhall, Hazel Grove and Poynton) and to/ from Handforth Dean have broadly remained consistent with pre-scheme journey times. However, routes 19 northbound through Cheadle Hulme, route 20 from Hazel Grove via Poynton and route 21 eastbound from Hazel Grove through Bramhall all experienced an increase in the inter peak average journey time of 1–2 minutes.
- Whilst a number of the local centres have incurred an additional 1–2 minutes on average journey times to/ from Handforth Dean during the AM and PM peaks, route 20 Hazel Grove via the A555/ Poynton A523, experienced the largest increase in journey times with a westbound increase of over 4 minutes in the PM peak.
- Journey time reliability has been assessed using the 25th to 75th percentile journey time range, as this inter-quartile range represents the core 50% of journey times. The change in the journey times within this inter-quartile range has been used as an indicator for a change in journey time reliability. A reduction in this range indicates a more reliable journey time as there is effectively less variation in the average journey times. Conversely, an increase in the range of 25th to 75th percentile journey times indicates a less reliable journey time as there is a greater variation in the day-to-day journey time.
- The Year One 95th percentile journey times are indicating some significant journey times, which suggests that a small number of journeys are experiencing significant delays. This is further demonstrated when examining the median journey time (i.e. the middle value) and comparing it to the average journey time. The median journey time is consistently lower than

the average journey time, which indicates that there are a relatively small number of 'delayed' journeys which are causing the overall average journey times to increase.

- Across the majority of routes, despite there being a reduction in the median journey times there has been a slight increase in the range of 25<sup>th</sup> to 75<sup>th</sup> percentile journey times, i.e. the inter-quartile range which represents the core 50% of journey times, of approximately 1-3 minutes. This is sometimes due to the 25<sup>th</sup> percentile journey time reducing and the 75<sup>th</sup> percentile remaining constant/ increasing slightly, which overall indicates a less reliable journey time as there is a greater variation in the day-to-day journey time.
- Routes which have experienced a more significant reduction in journey time reliability include those which utilise the motorways such as route 2, the A6 High Lane to Manchester Airport via the A6, M60 and M56. In particular within the PM peak, where the inter-quartile 'core range' of journey times has increased by approximately 15 minutes. This is consistent with the increase in average journey times which was previously noted along this route. Similarly, route 7, King Street West (Stockport) to Manchester Airport via A560 and M56 has seen a reduction in journey time reliability in both the AM and PM peaks, with the core range of journey times increasing by between 5-10 minutes.
- In addition route 3, the A6 High Lane to Manchester Airport via Poynton, the A555 & Heald Green in the PM peak and route 4, the A6 High Lane to Manchester Airport via Davenport, Cheadle Hulme & Heald Green in the AM and PM peaks indicate an overall increase in the 25<sup>th</sup> percentile to 75<sup>th</sup> percentile core journey time range in excess of 5 minutes when compared to the Baseline data, which indicates that these journeys have experienced a reduction in journey time reliability.
- Route 11, along the A6/ A6015 Albion Road to A6 (between Mill Lane & Norbury Hollow Road), in the westbound AM peak, showed a significant increase in the core dataset range of between the 25<sup>th</sup> and 75<sup>th</sup> percentiles of approximately 15 minutes, which demonstrates the journey time reliability along this route has significantly reduced over the last five years.

The analysis within this report has demonstrated that average journey times to/ from the A6 in High Lane and Manchester Airport have almost halved when using the A6MARR scheme, compared to the existing/ alternative routes. Depending on the time of day, this equates to a journey time saving of between 15 – 35 minutes.

Despite these considerable savings, there is a significant increase in the AM peak westbound journey times along route 11, from the A6/ A6015 Albion Road in New Mills to the A6 in High Lane (between Mill Lane & Norbury Hollow Road), as evidenced by average journey times typically now being more than 10 minutes longer than the Baseline/ pre-scheme journey times, with time reliability data showing similar patterns. The cumulative journey time graphs indicate that the majority of this increase is occurring between Disley and High Lane, with delays starting south of Carr Brow in the vicinity of Park Road. It is understood that this increase in the journey time along the A6 between Disley and High Lane has resulted in the school bus, servicing Poynton High School from Disley, being unreliable with journey timings for this service being reviewed. It is noted that journey times from High Lane (A6/ Windlehurst Road) westbound along the A6 to Stockport town centre in the AM peak are consistent with the 2014 baseline journey times.

Despite the noteworthy increase in westbound journey times along the A6 (between New Mills and High Lane) in the AM peak, traffic volumes along the A6 in this area have not changed significantly, with a slight increase through High Lane noted along with a small reduction through New Mills and Disley. In early 2020 SMBC undertook consultation with High Lane residents who raised concerns over 'rat-running' vehicles utilising the residential streets of High Lane instead of travelling along the A6. The reduction in traffic volumes through Disley as observed within the A6MARR monitoring may be due to rat-running, as the Disley traffic count site is located on the A6 west of Jacksons Edge Road, and it is possible that vehicles are turning off the A6 down Jacksons Edge Road in an attempt to avoid queuing vehicles on the A6. Similarly, a slight reduction in the AADT along the A6 through New Mills has occurred since the scheme opened, although traffic on Hague Bar Road has experienced a minor AADT increase. The screenline traffic analysis also highlighted a slight increase in the AADT through the wider New Mills/ Disley area. This may be an indication that traffic is using alternative routes to the A6 along this east-west corridor.

There is anecdotal evidence to suggest that as the rat-running vehicles re-join the A6, the re-joining process contributes to the increase in journey times along the mainline A6 i.e. as existing traffic along the A6 allows traffic from the side roads to turn onto it, queues along the A6 are exacerbated and delays are thereby

increased. This area will be subject to a separate investigation, with more detailed traffic surveys undertaken (once traffic volumes have returned to consistent levels) in an attempt to fully understand the localised traffic patterns.

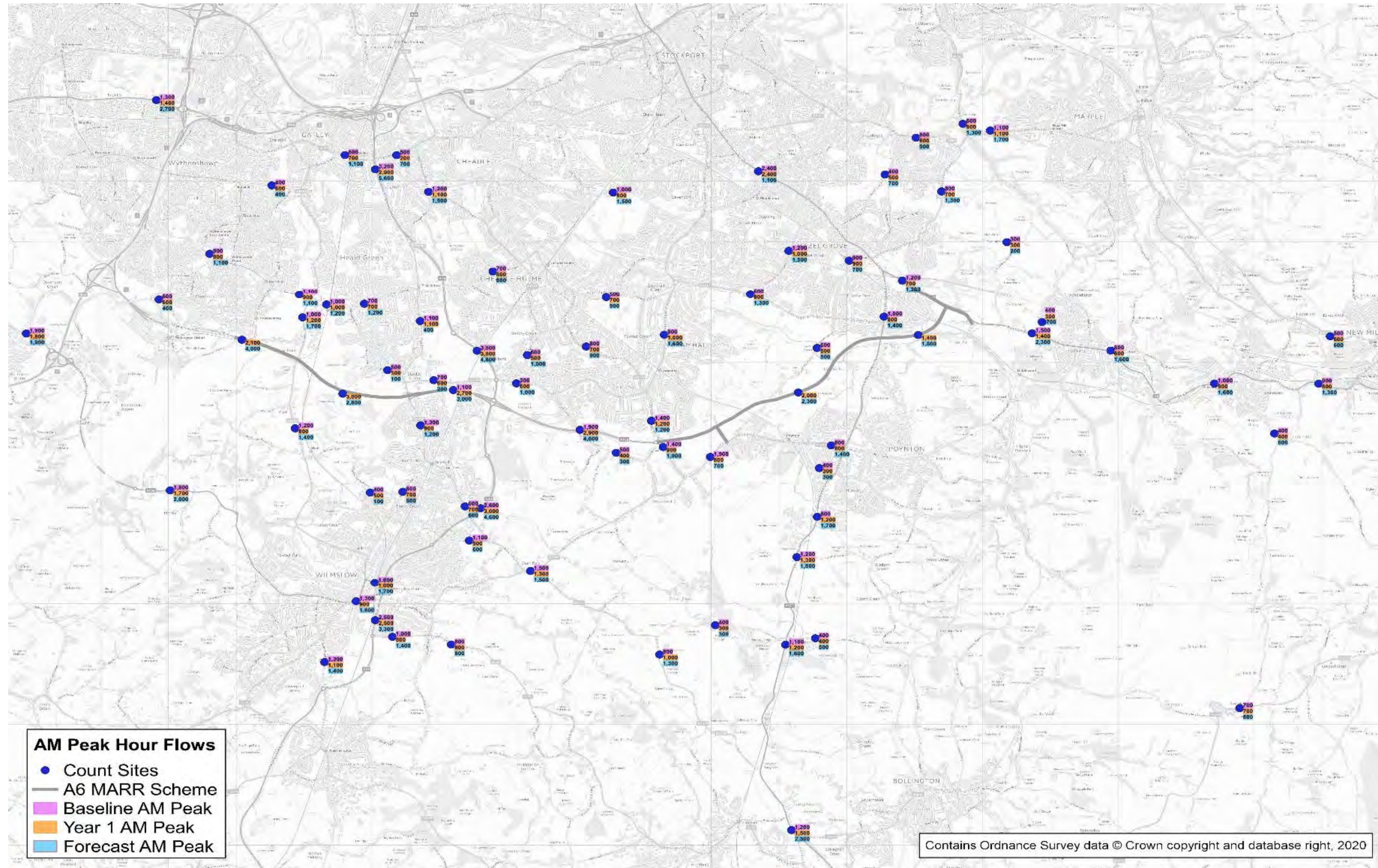
# Appendices





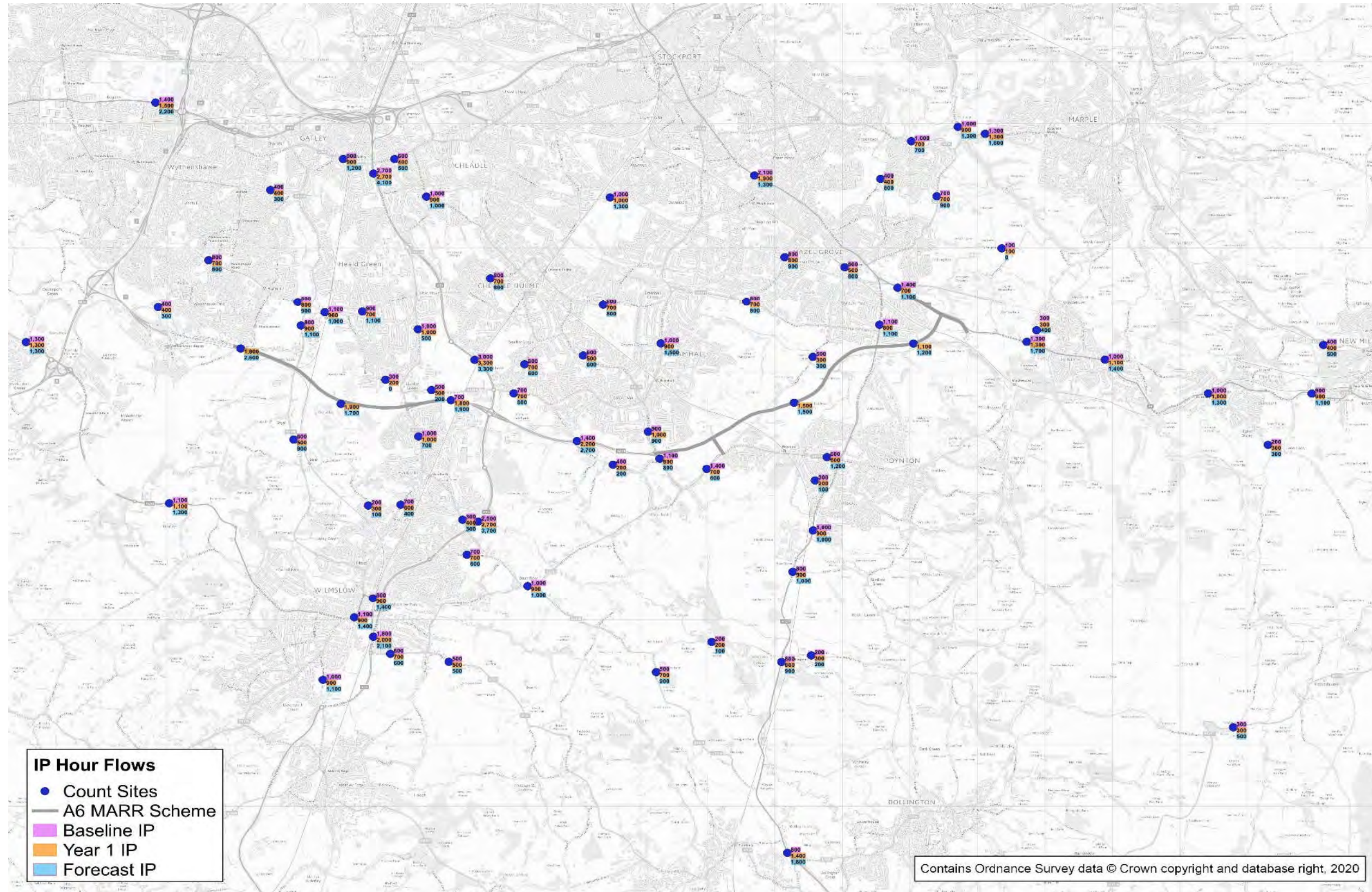
# Appendix A. Traffic Volume Plots

## A.1. AM Peak (8-9am)



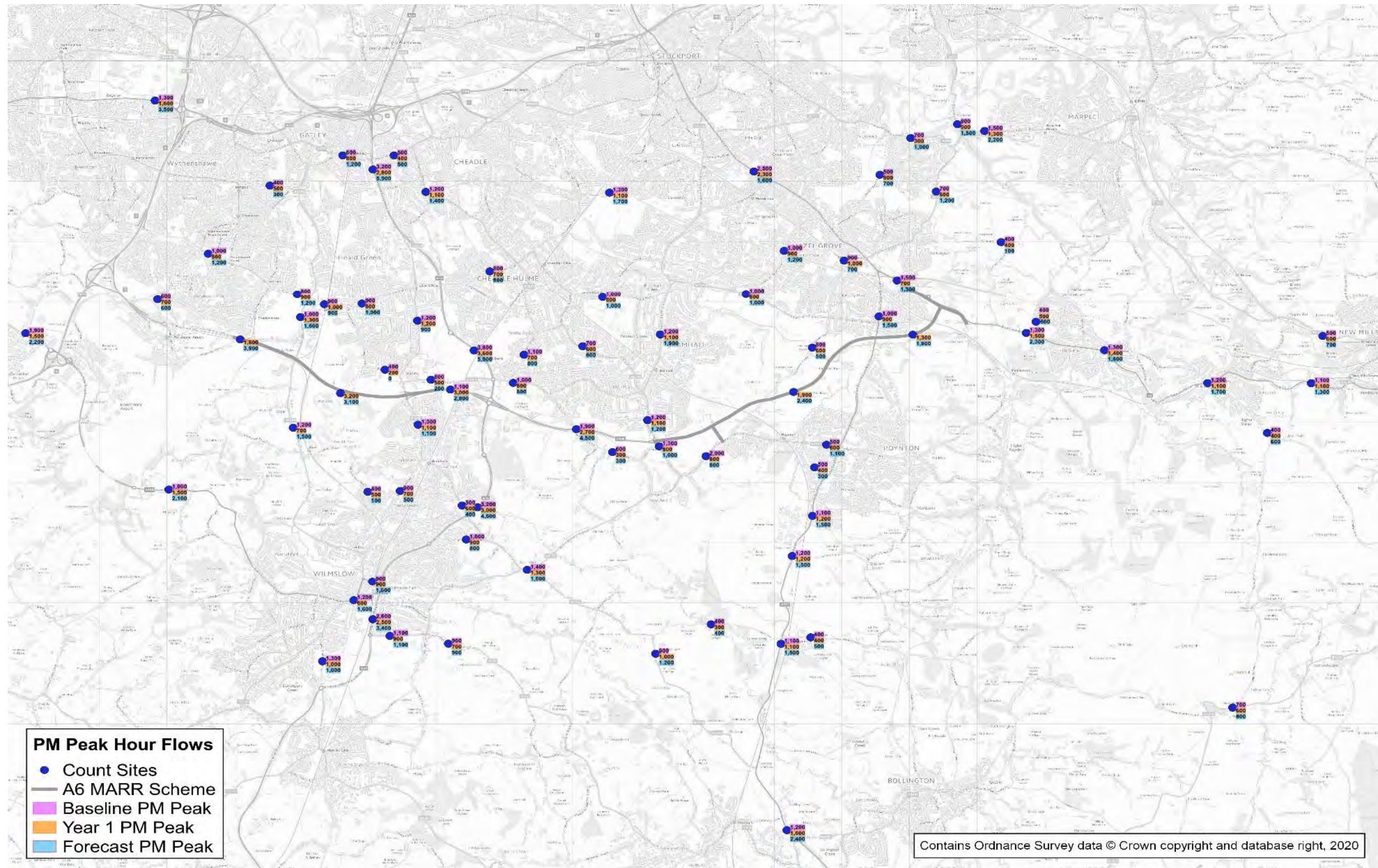


## A.2. Inter Peak (10am – 4pm)





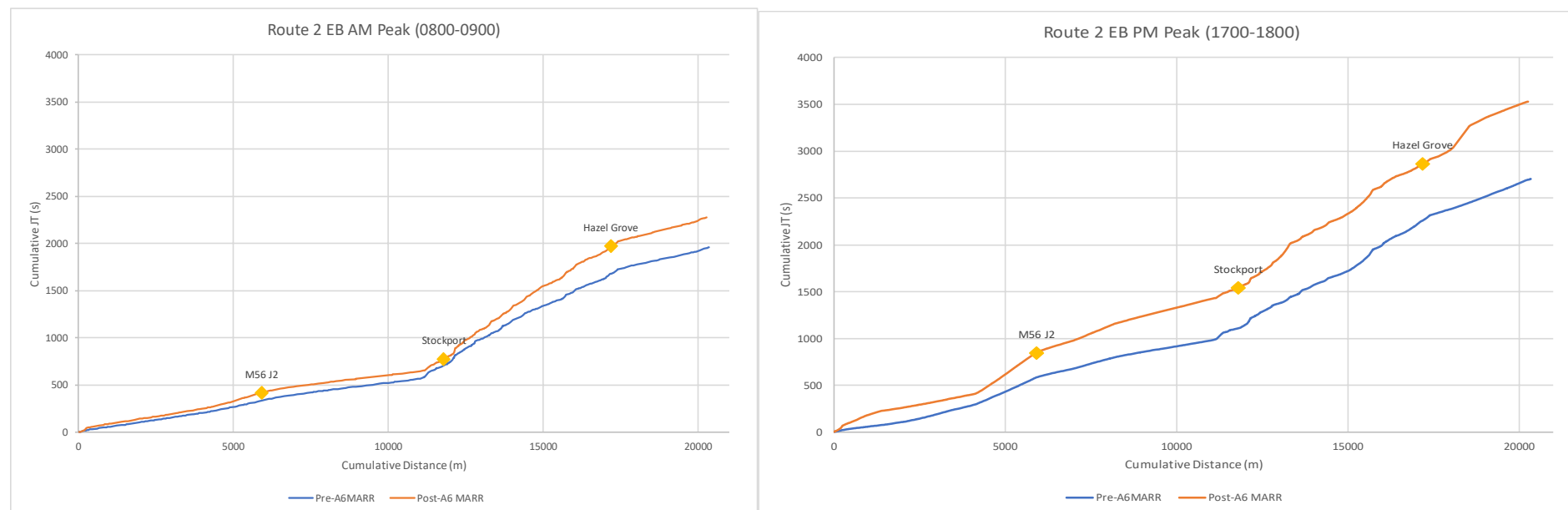
### A.3. PM Peak (5-6pm)





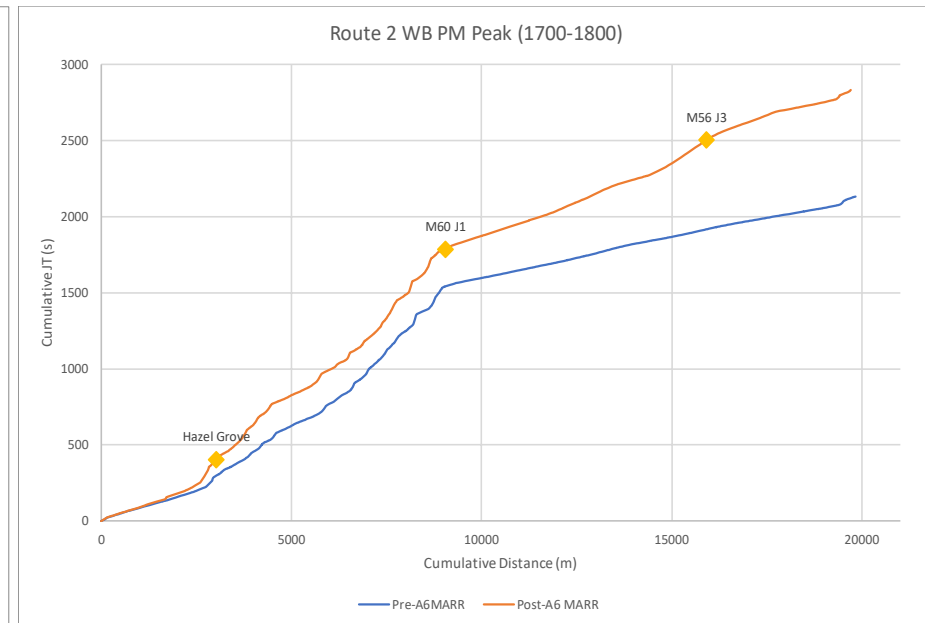
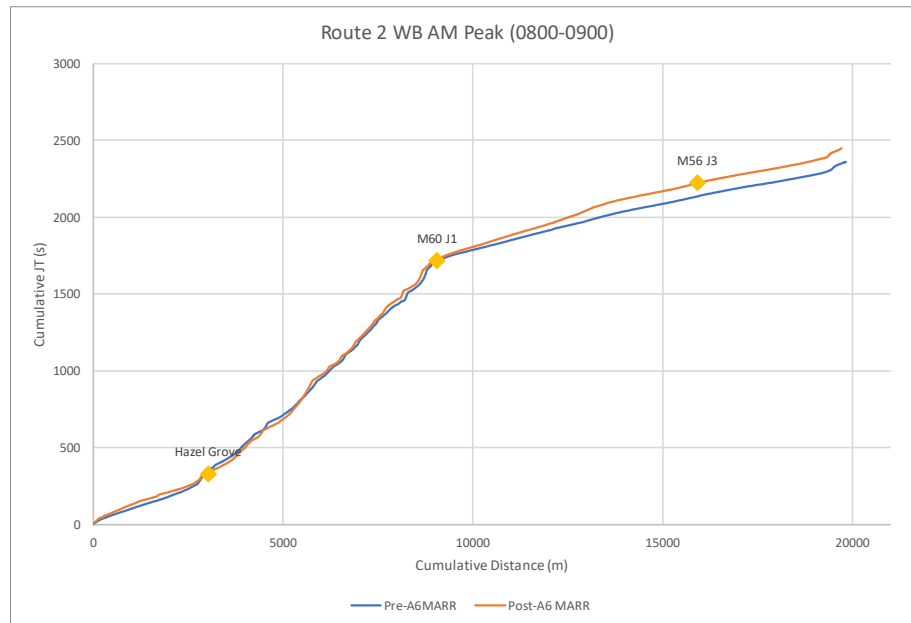
## Appendix B. Cumulative Journey Time Graphs

### B.1. Route 2 – A6 High Lane to Manchester Airport via the A6 and M60: Eastbound

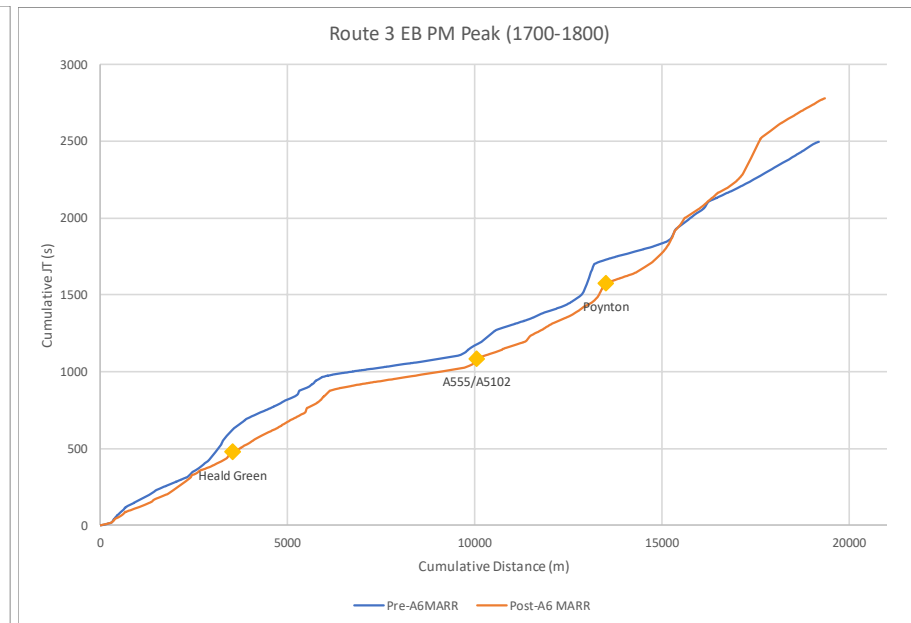
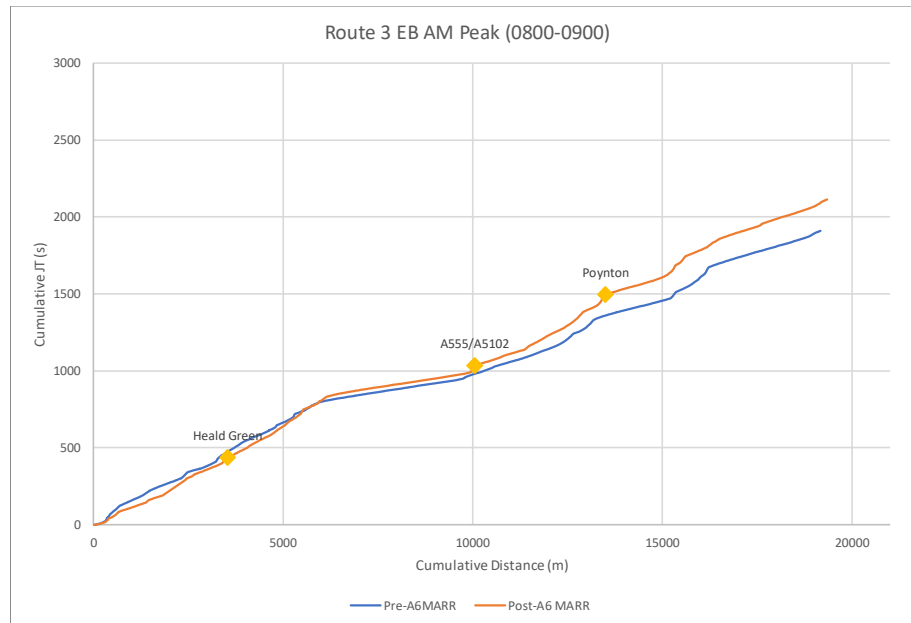




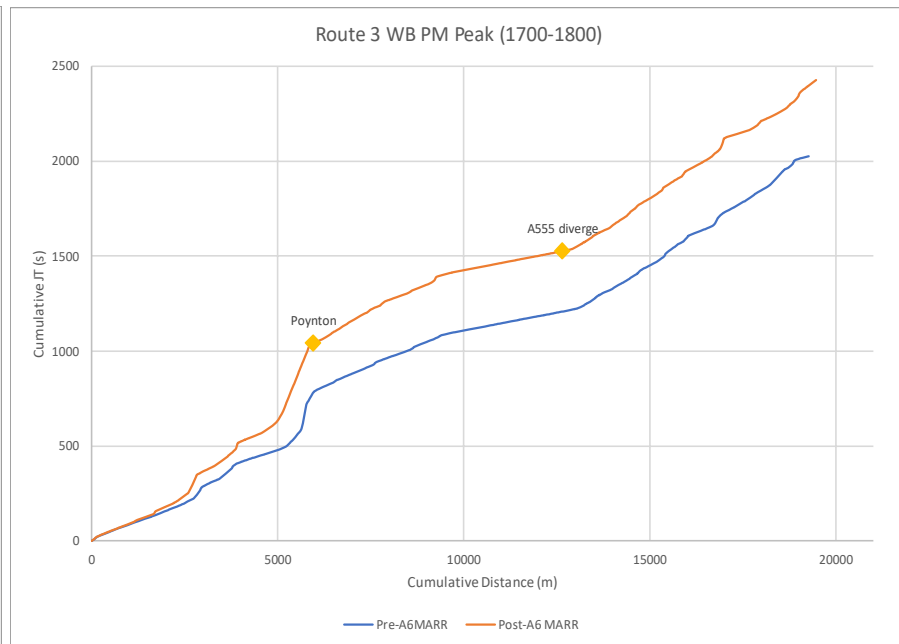
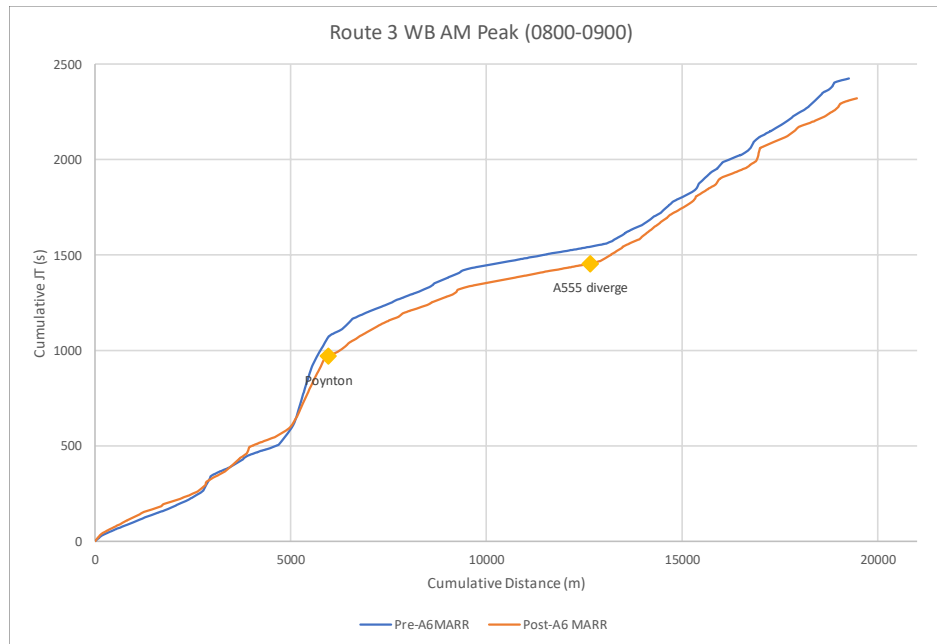
## B.2. Route 2 – A6 High Lane to Manchester Airport via the A6 and M60: Westbound



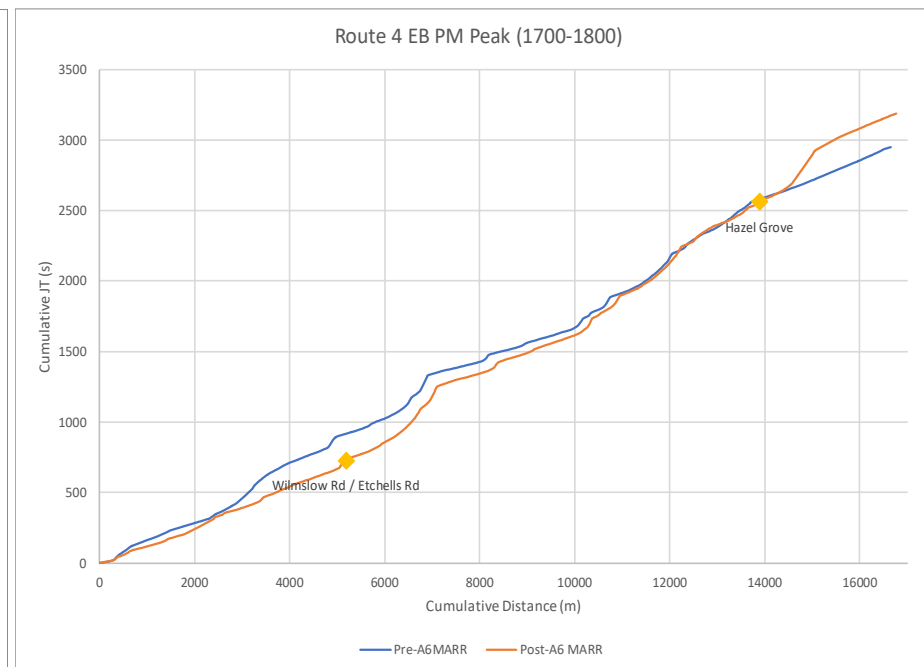
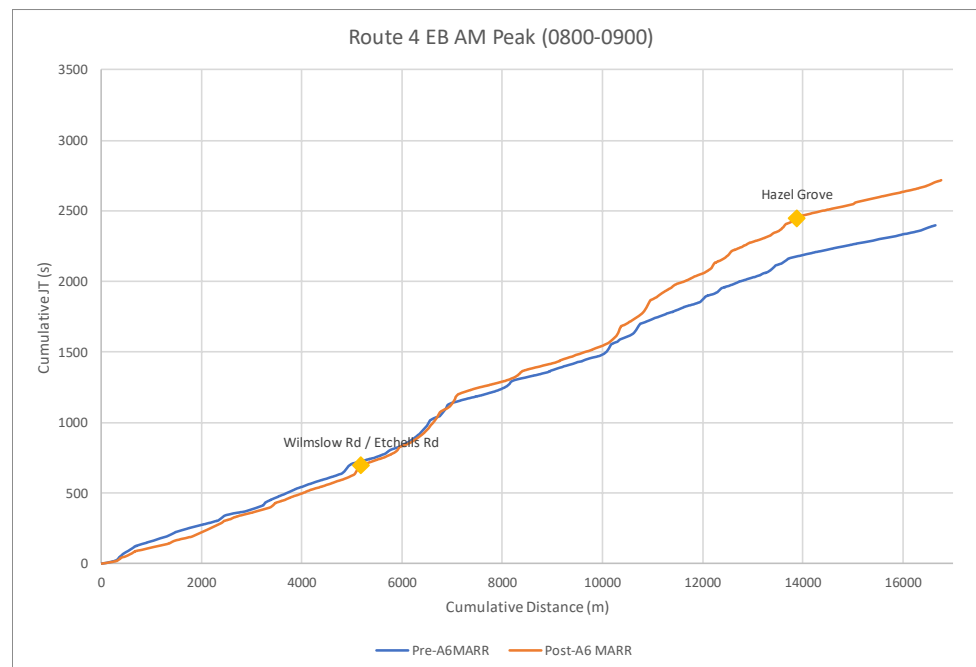
### B.3. Route 3 – A6 High Lane to Manchester Airport via Poynton and A555: Eastbound



## B.4. Route 3 – A6 High Lane to Manchester Airport via Poynton and A555: Westbound

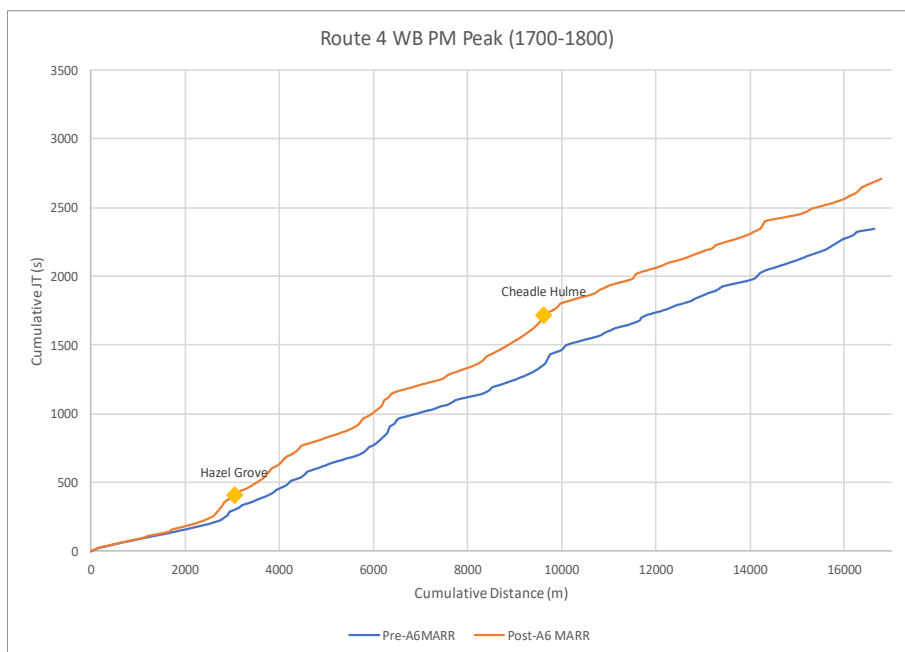
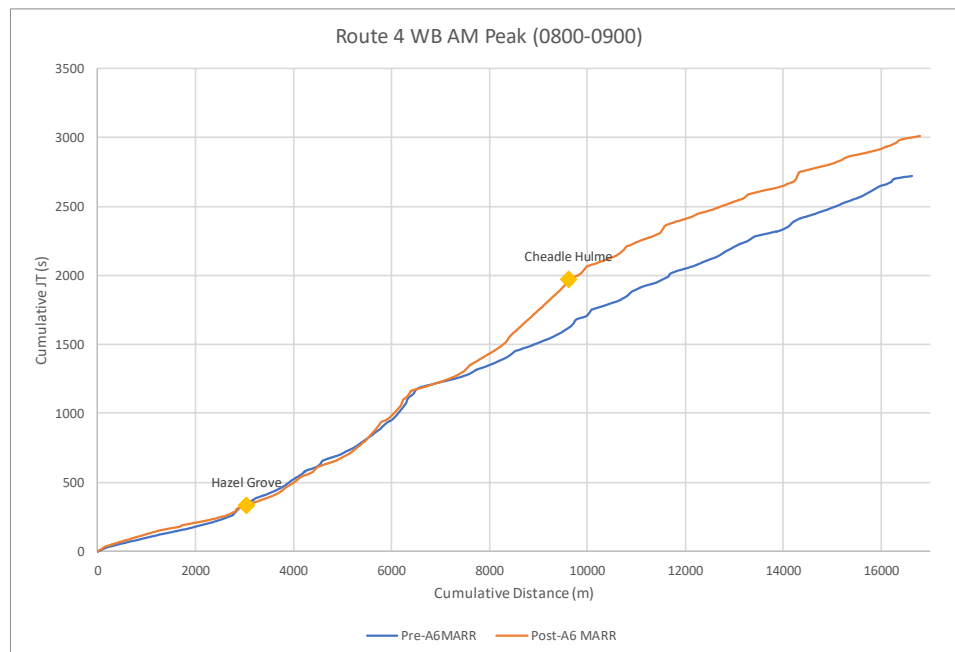


## B.5. Route 4 – A6 High Lane to Manchester Airport via Cheadle Hulme (Adswood Road and Ladybridge Road) and Heald Green: Eastbound

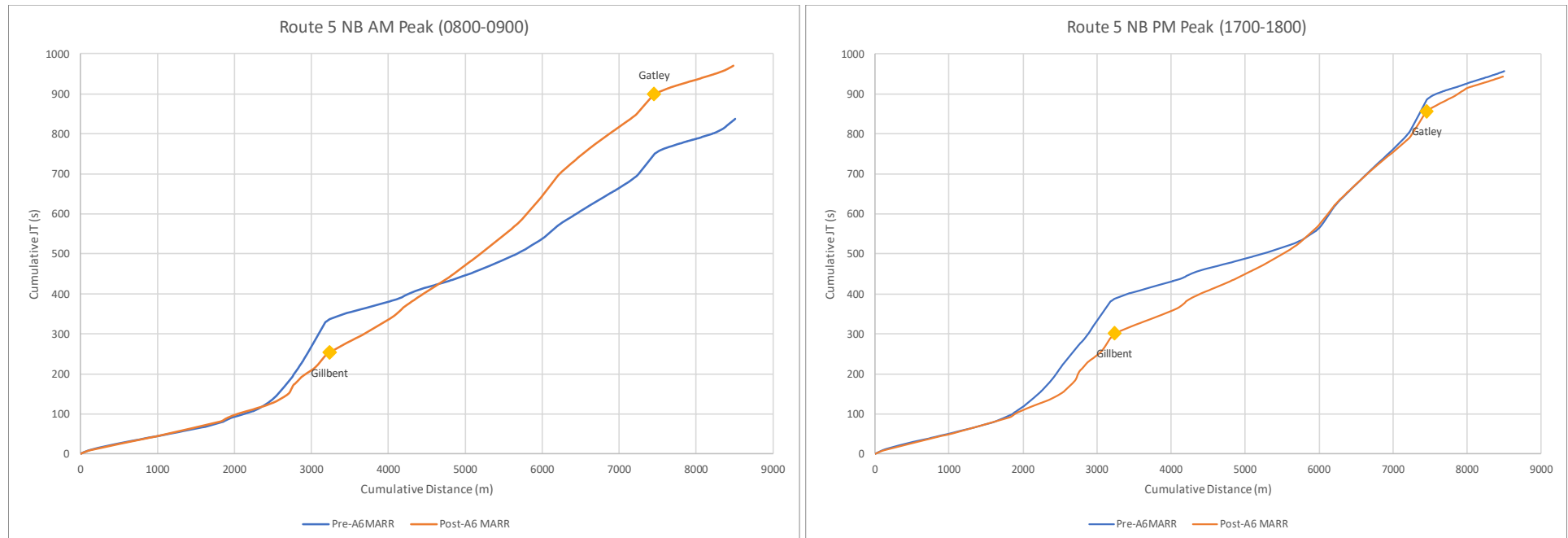




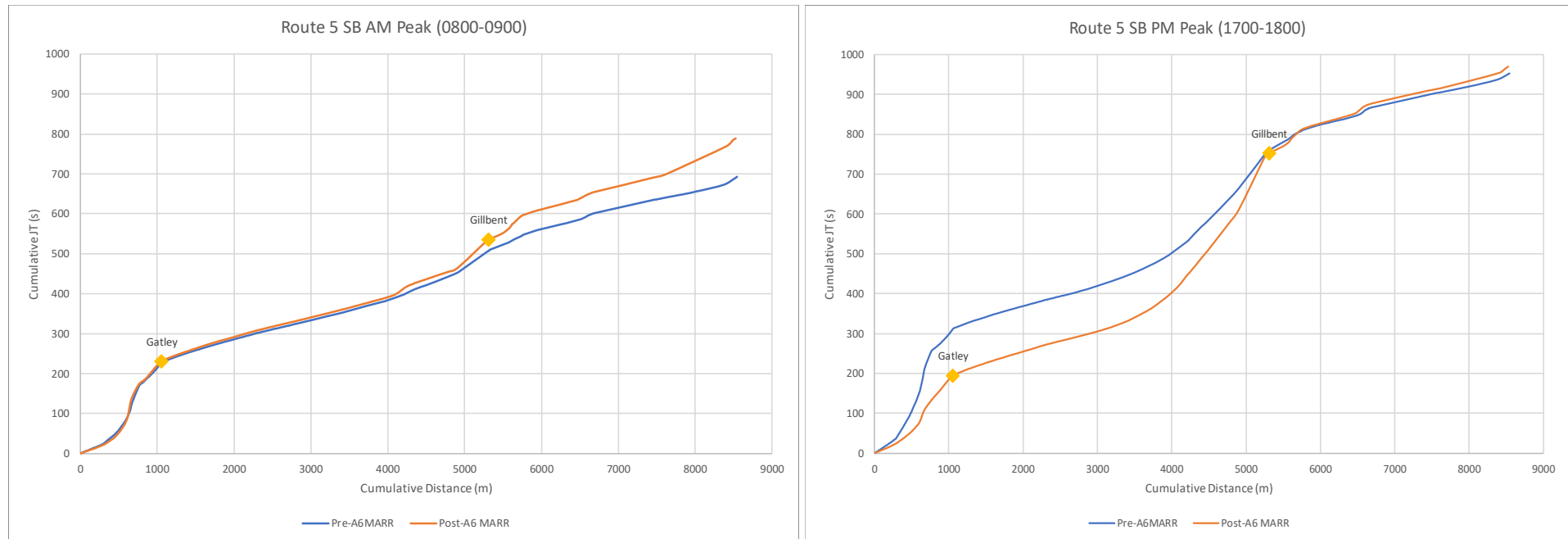
## B.6. Route 4 – A6 High Lane to Manchester Airport via Cheadle Hulme (Adswood Road and Ladybridge Road) and Heald Green: Westbound



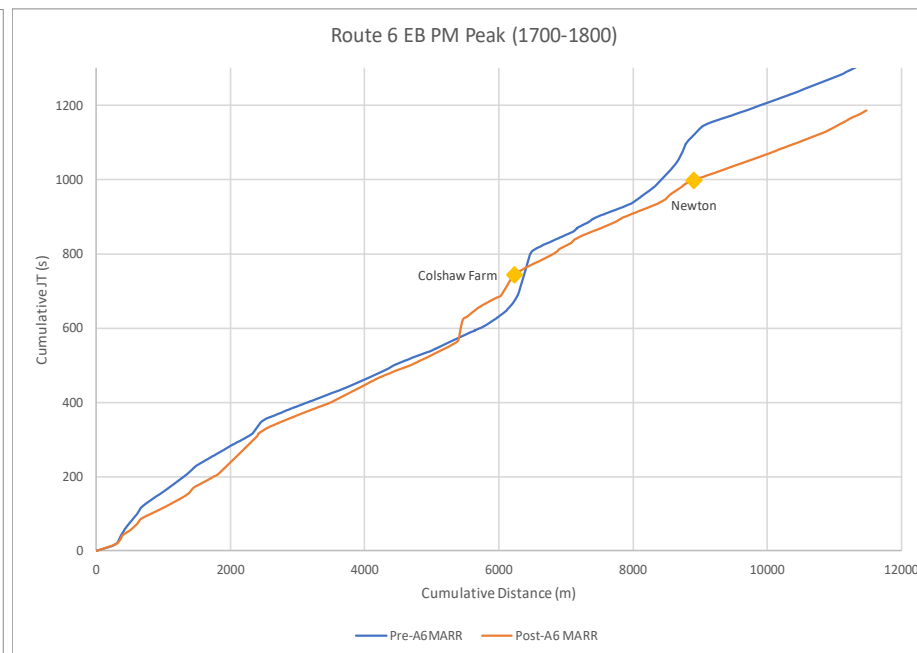
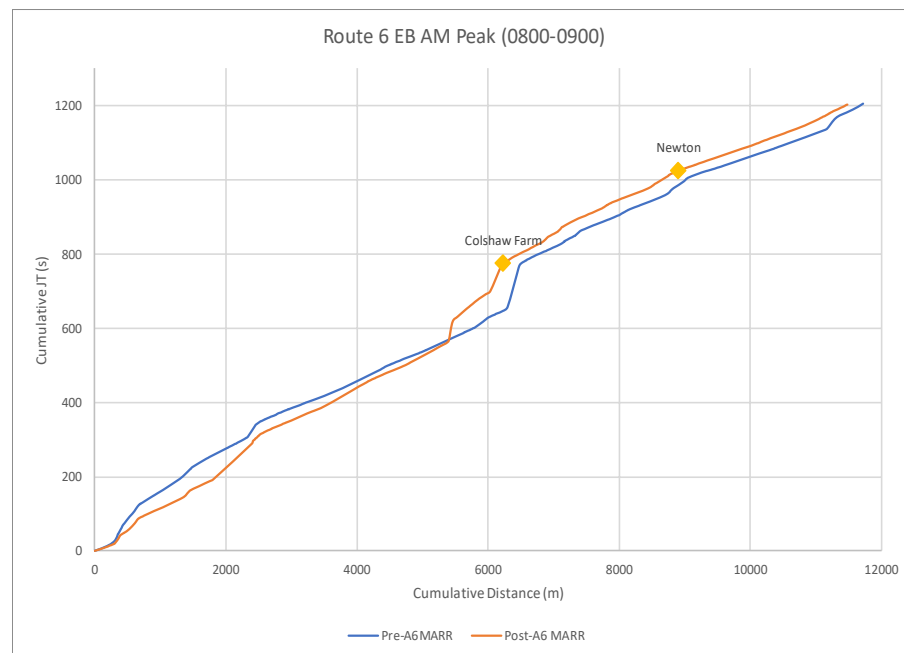
## B.7. Route 5 – A34/Dean Row Road to M60: Northbound



## B.8. Route 5 – A34/Dean Row Road to M60: Southbound

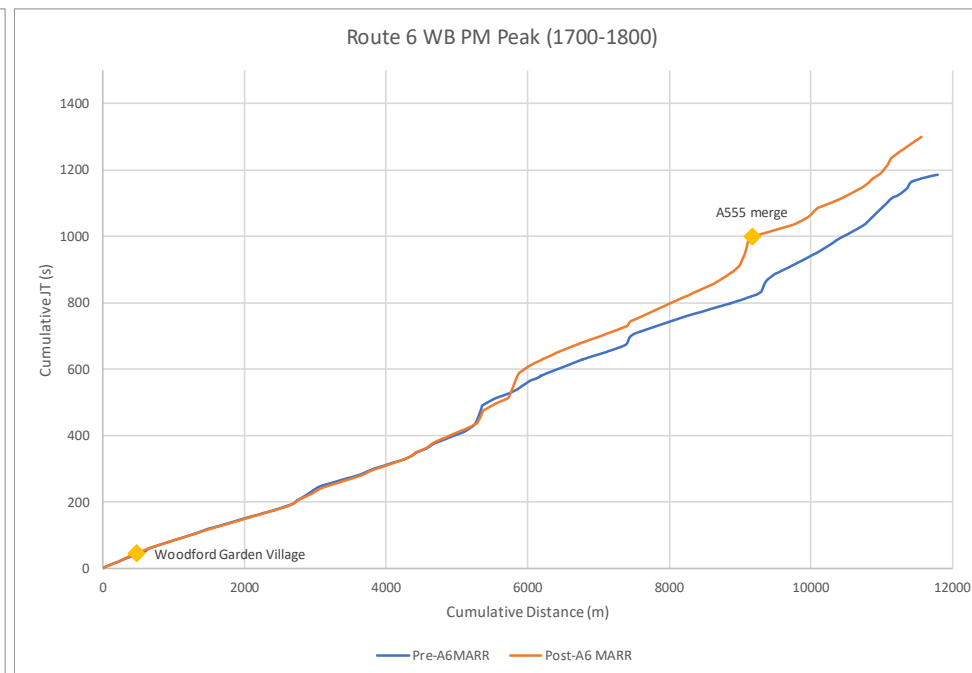
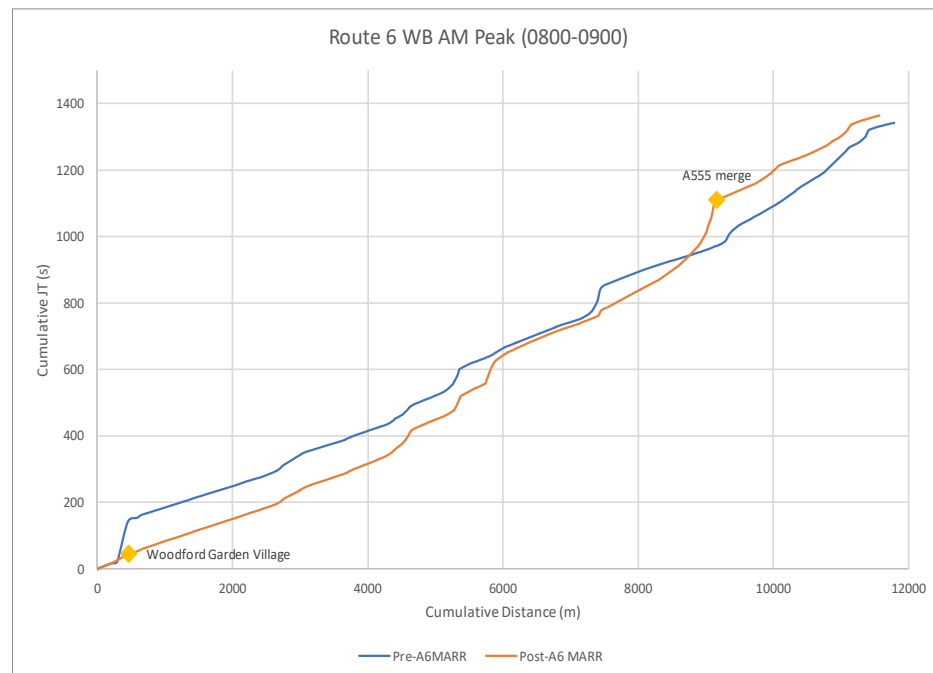


## B.9. Route 6 – Woodford to Manchester Airport via A5102 Wilmslow Road and Dean Row Road: Eastbound

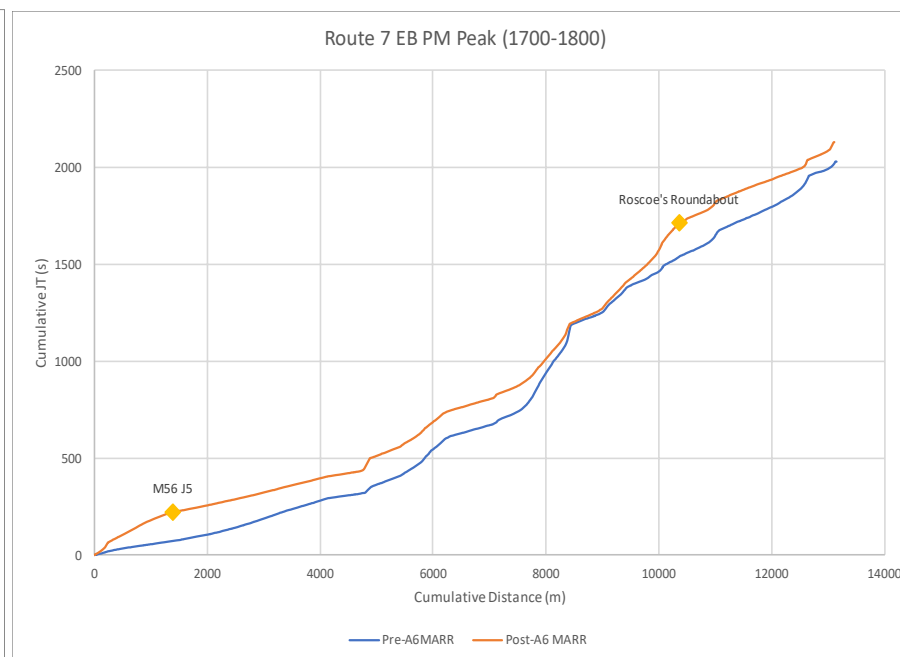
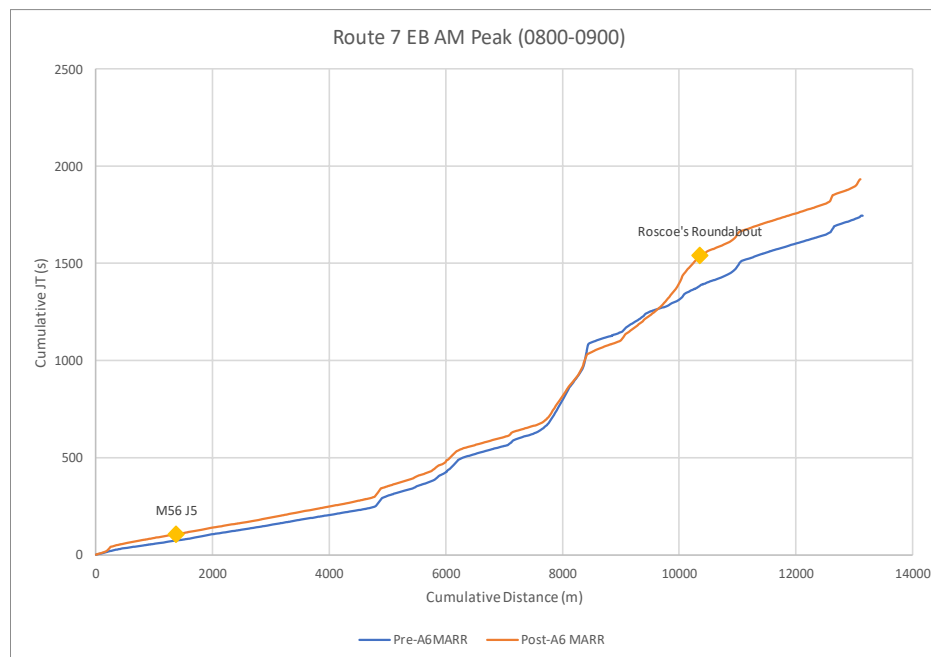




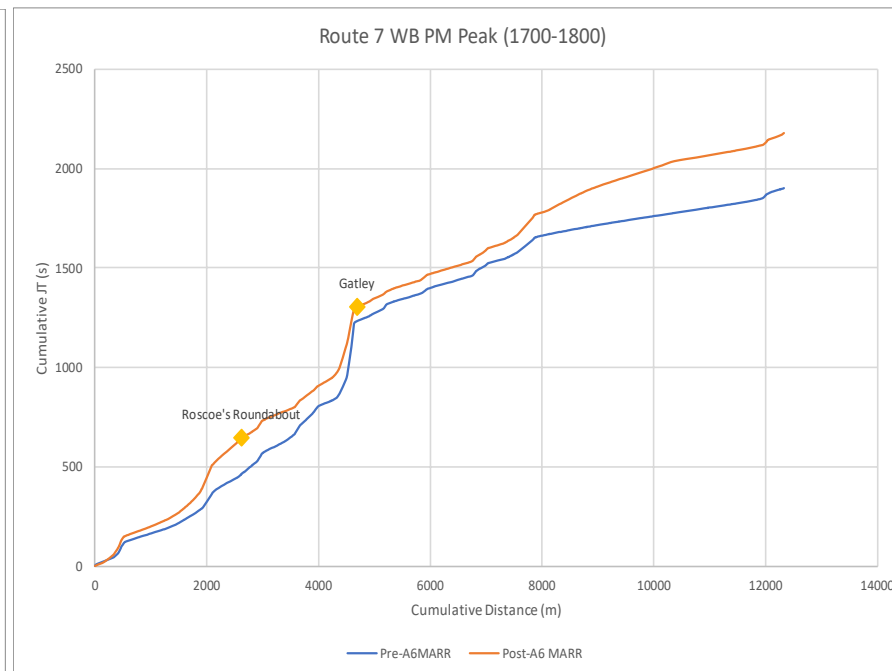
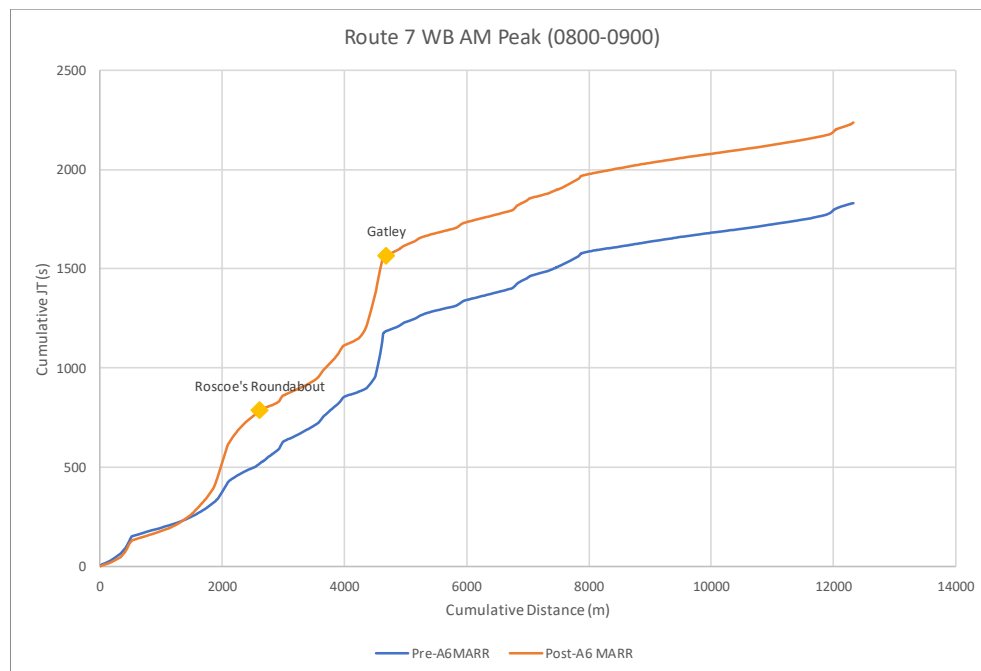
## B.10. Route 6 – Woodford to Manchester Airport via A5102 Wilmslow Road and Dean Row Road: Westbound



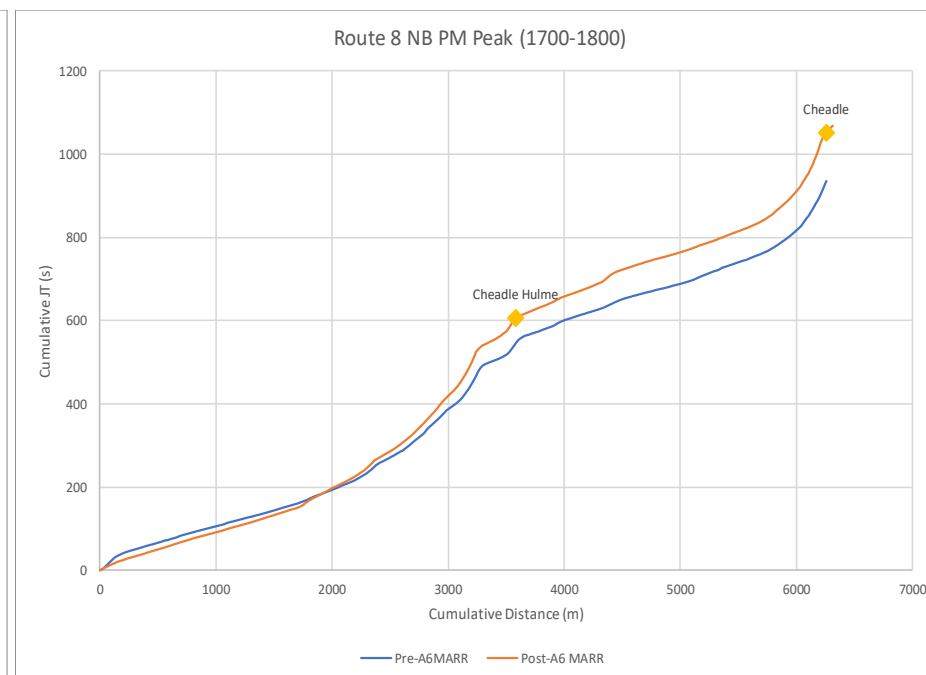
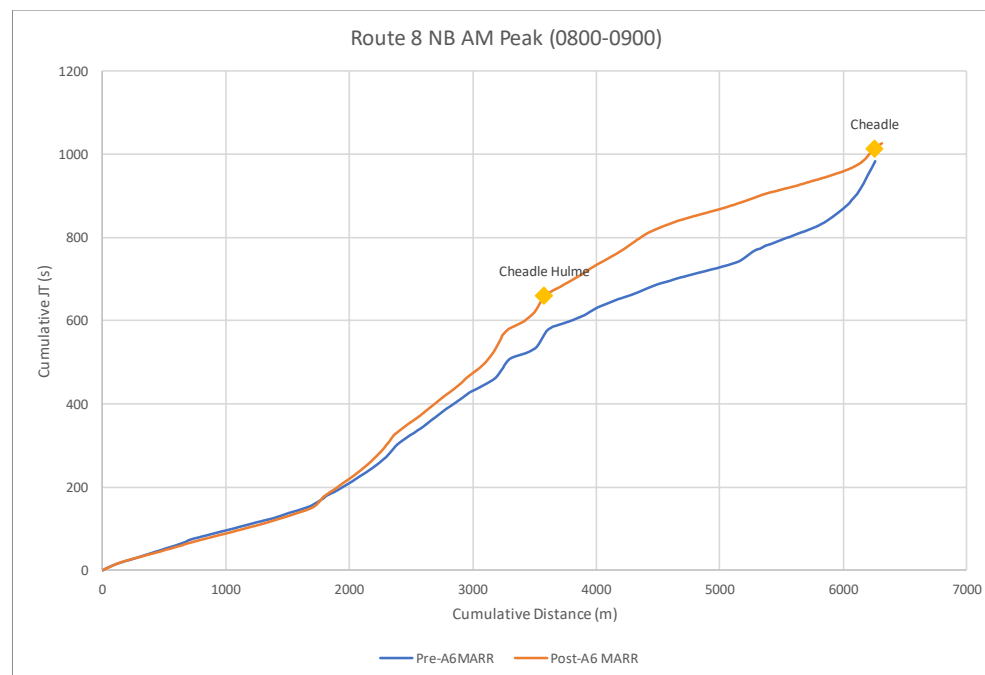
## B.11. Route 7 – E/W route Stockport Town Centre (King Street West) to Manchester Airport via A560 and M56: Eastbound



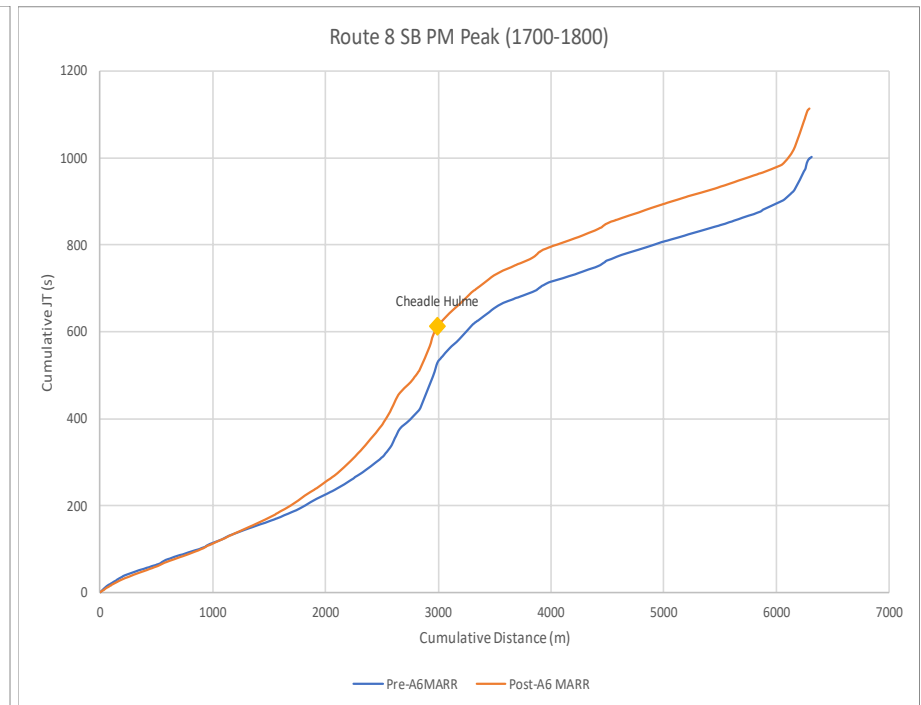
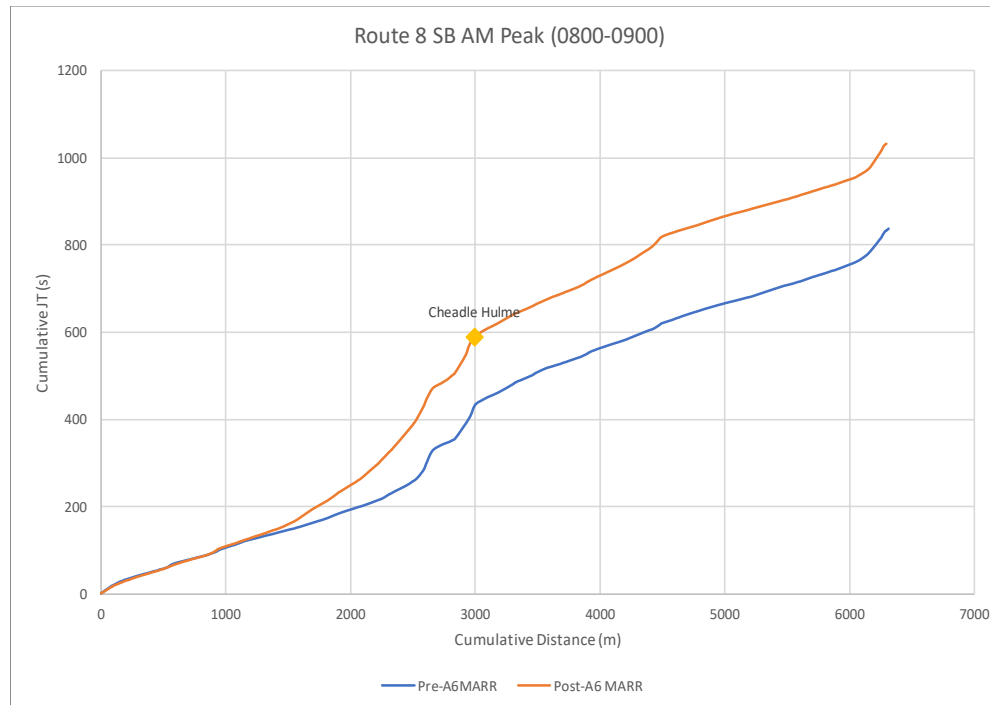
## B.12. Route 7 – E/W route Stockport Town Centre (King Street West) to Manchester Airport via A560 and M56: Westbound



## B.13. Route 8 - Cheadle to Bramhall via A5149 (A5102 to A560): Northbound

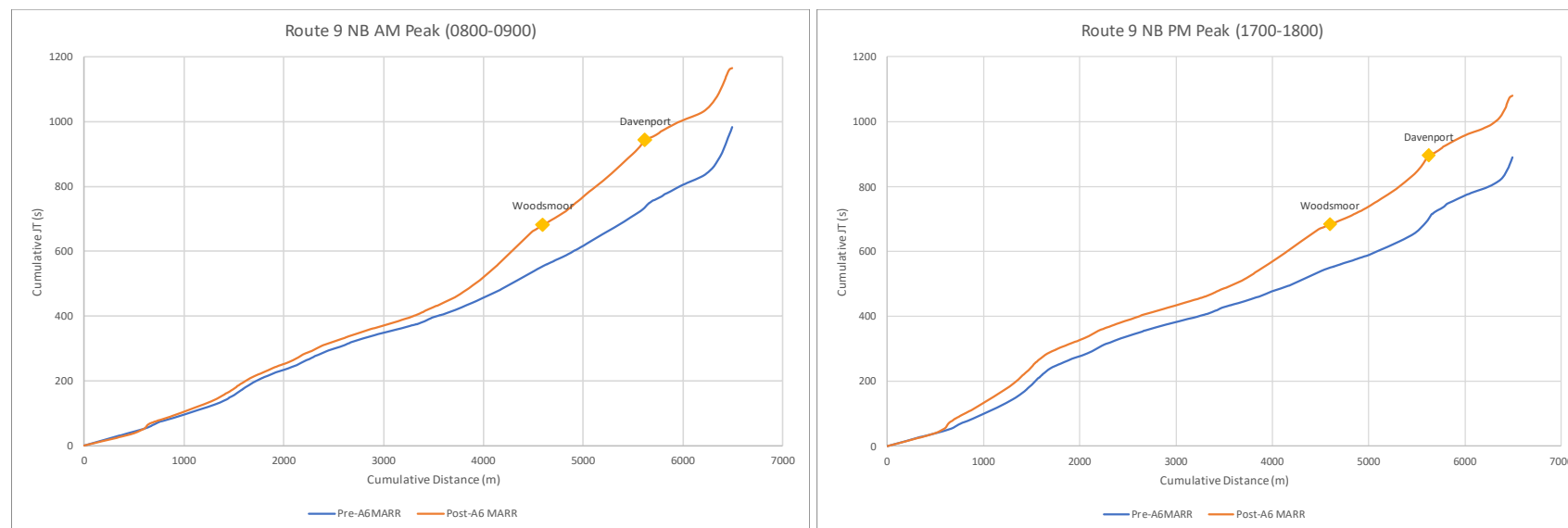


## B.14. Route 8 - Cheadle to Bramhall via A5149 (A5102 to A560): Southbound

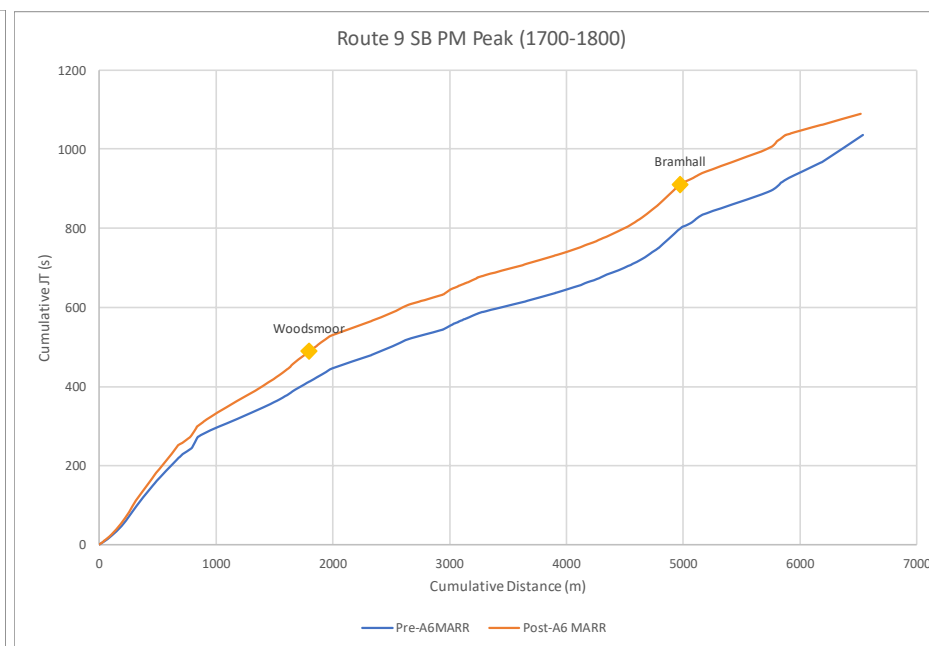
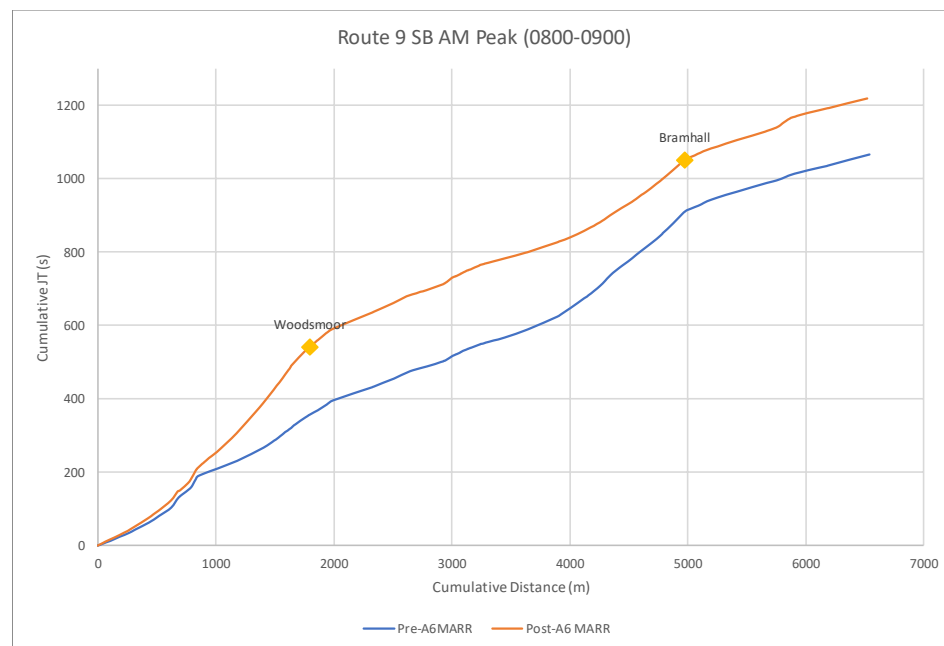




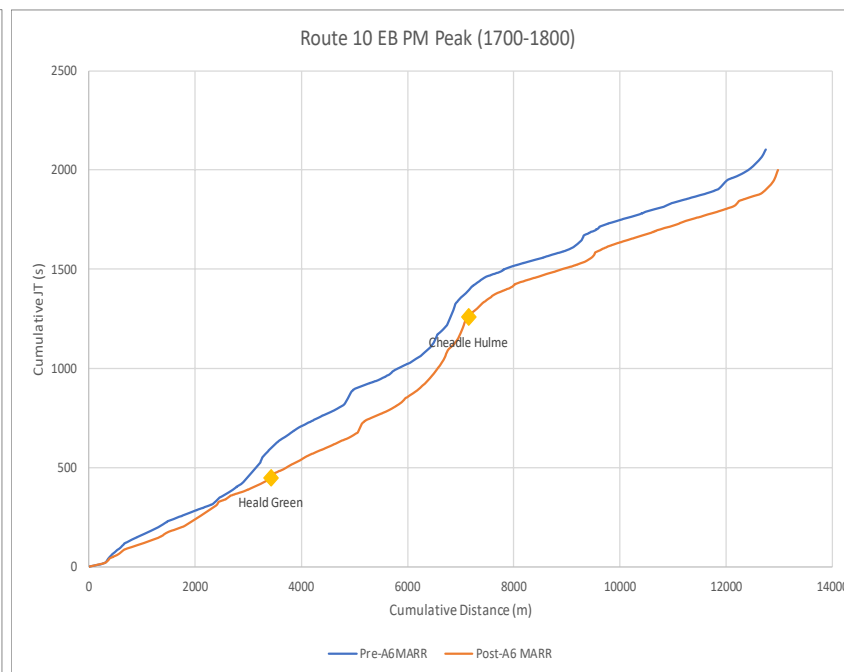
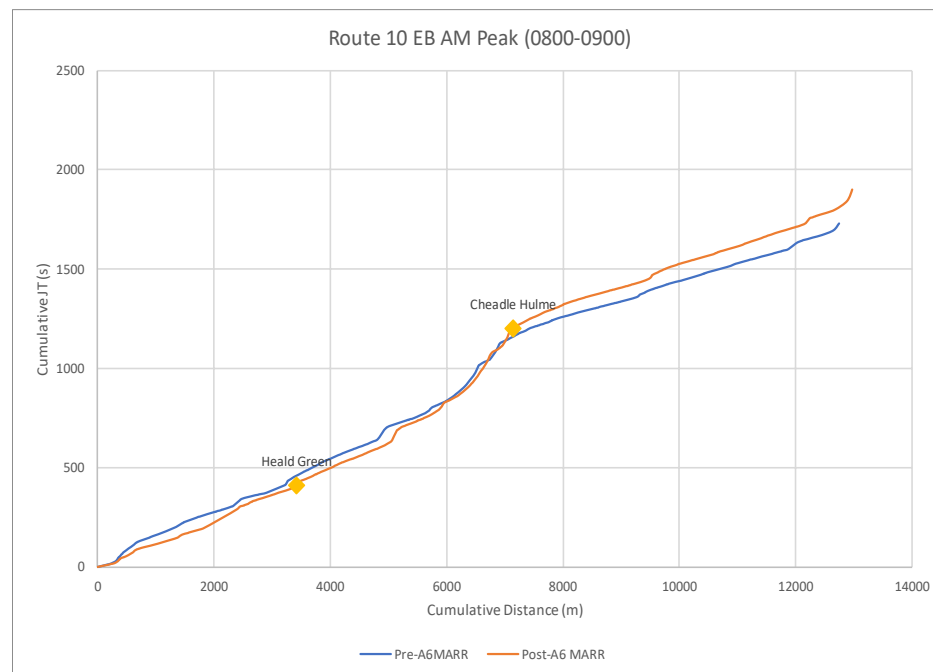
## B.15. Route 9 – A5102 (A6 to Woodford): Northbound



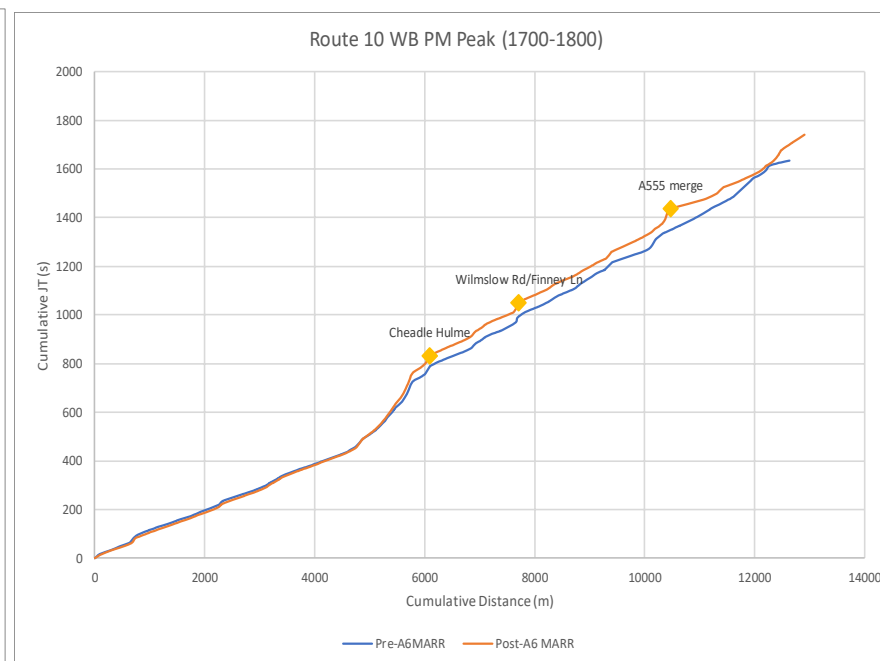
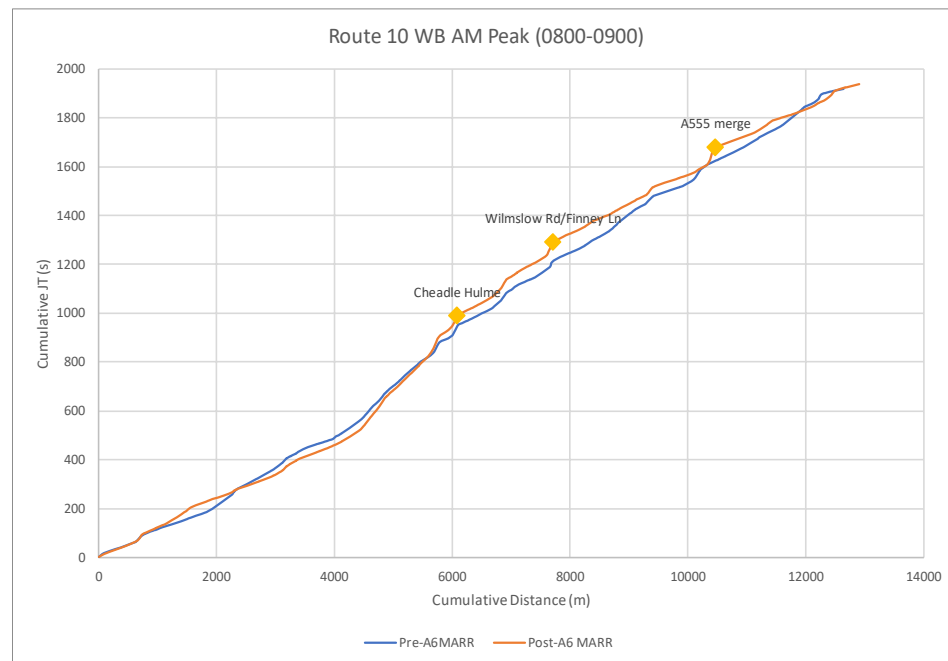
## B.16. Route 9 – A5102 (A6 to Woodford): Southbound



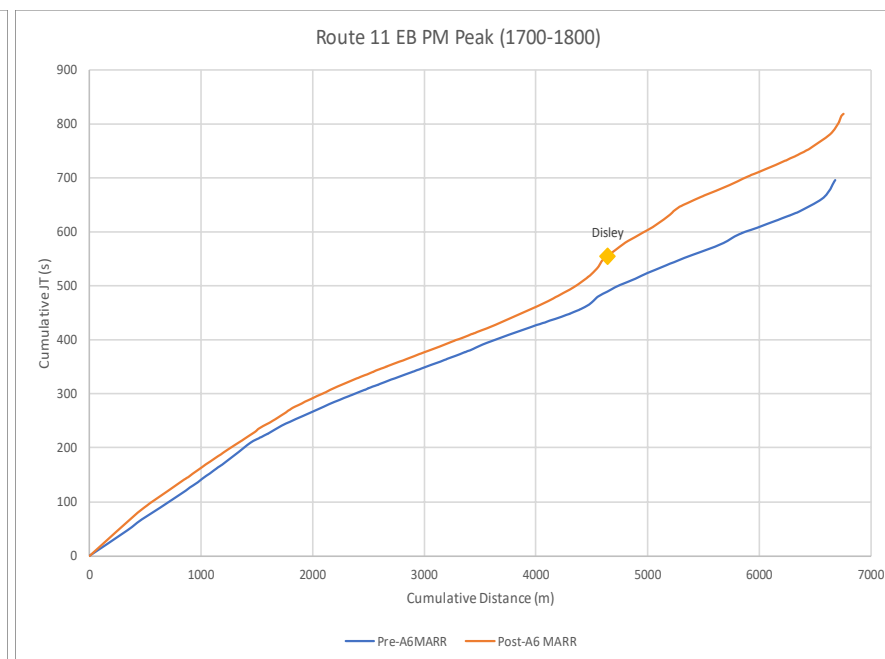
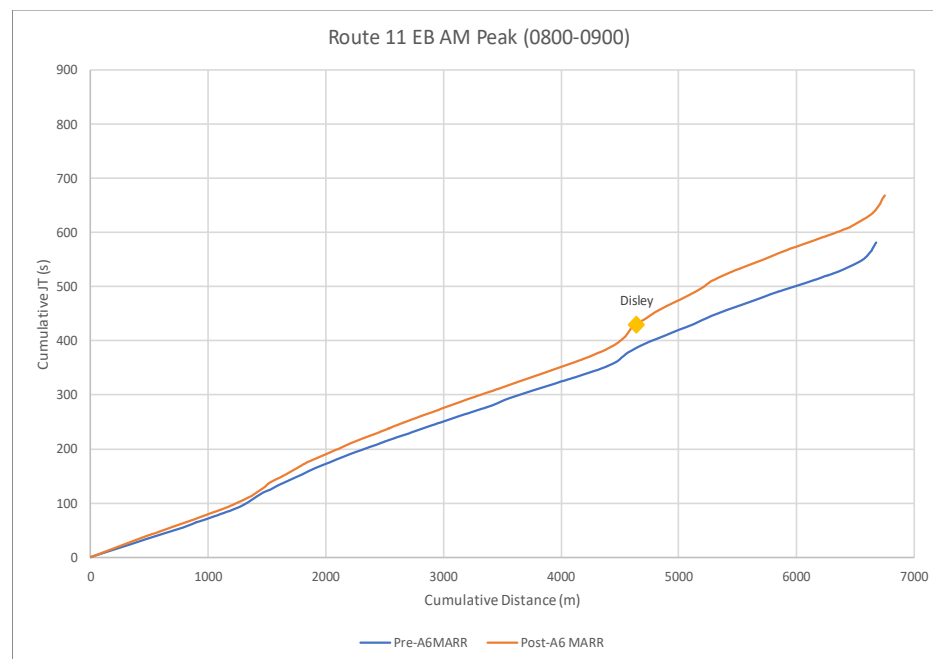
## B.17. Route 10 - Dean Lane (Hazel Grove) A523/A5143 to Manchester Airport via Cheadle Hulme and Heald Green: Eastbound



## B.18. Route 10 - Dean Lane (Hazel Grove) A523/A5143 to Manchester Airport via Cheadle Hulme and Heald Green: Westbound

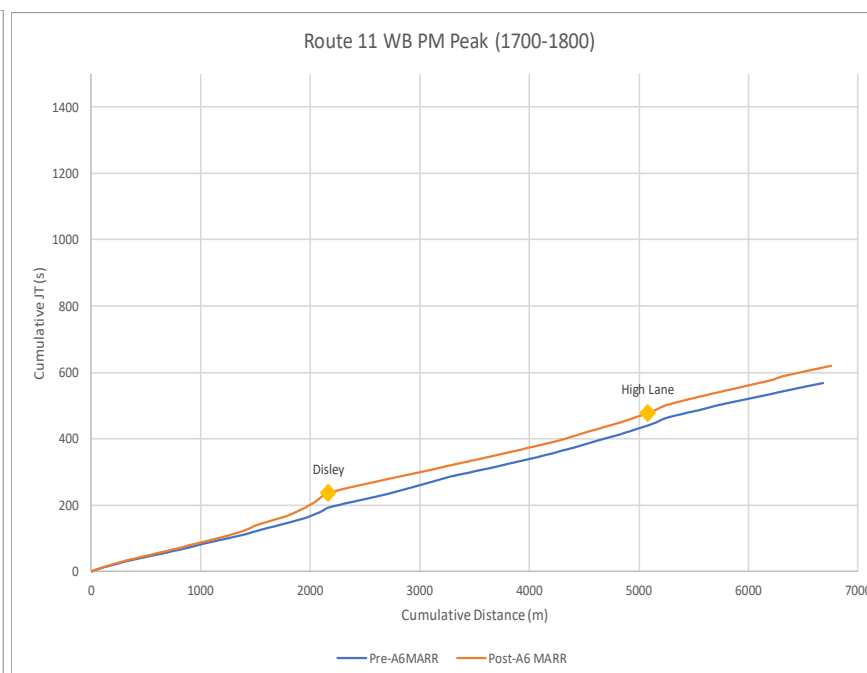
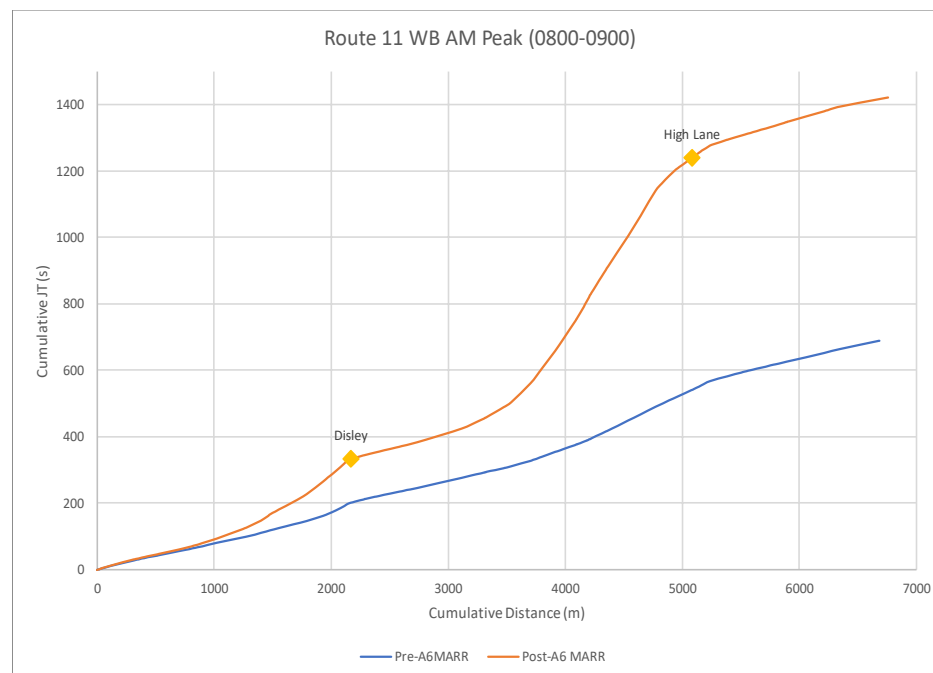


## B.19. Route 11 - A6/A6015 Albion Road to A6 (between Mill Lane and Norbury Hollow Road): Eastbound



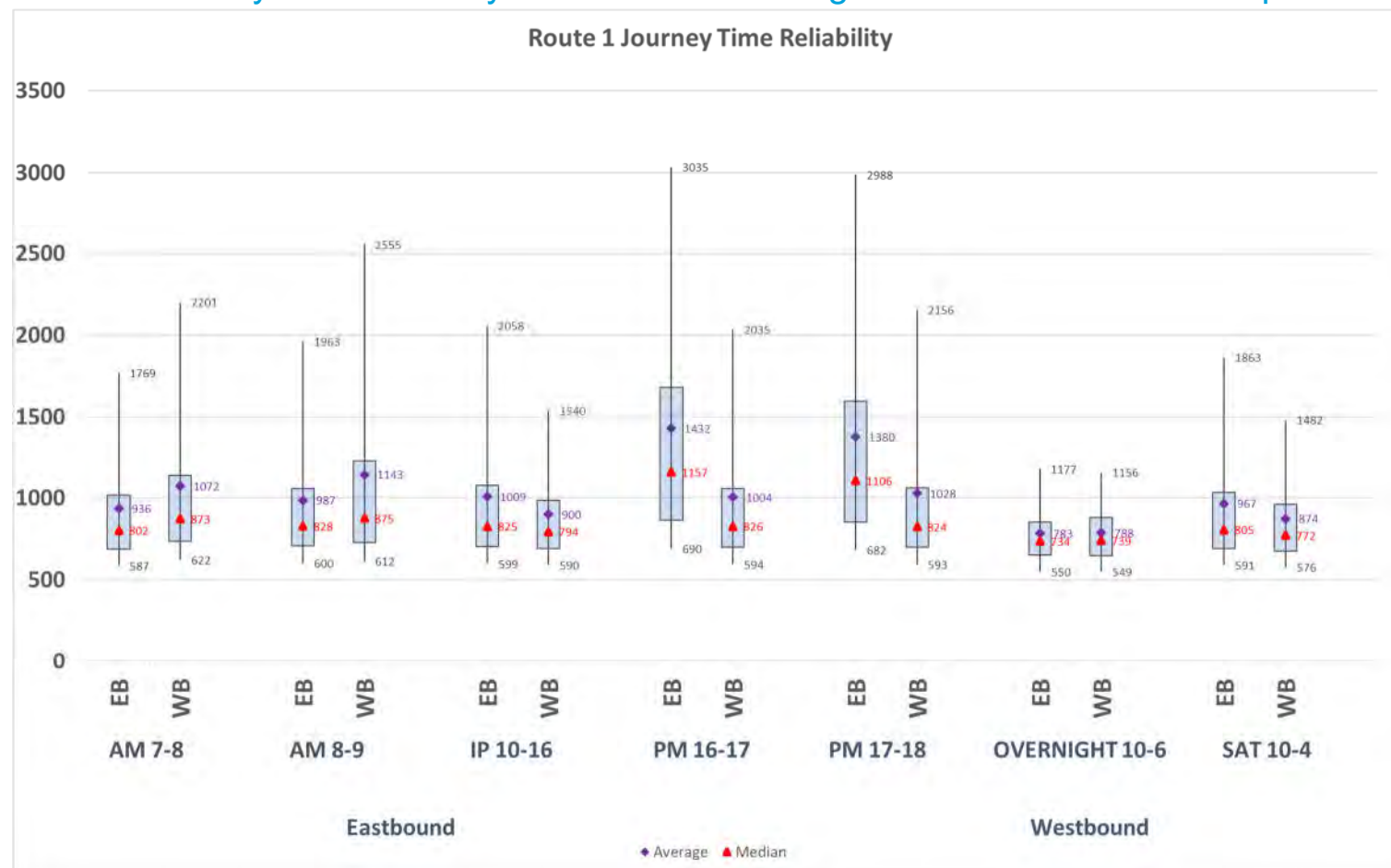


## B.20. Route 11 - A6/A6015 Albion Road to A6 (between Mill Lane and Norbury Hollow Road): Westbound

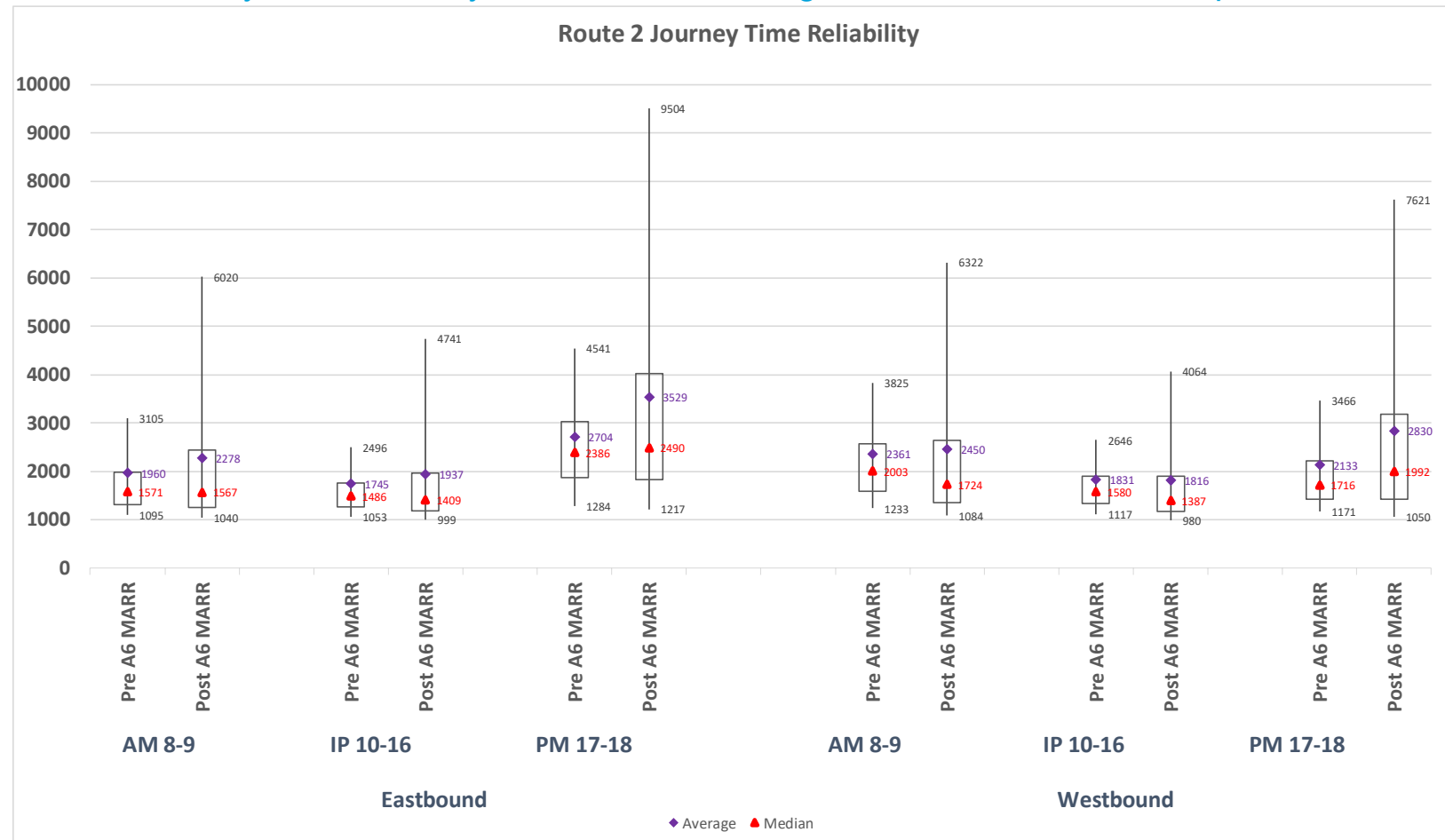


# Appendix C. Journey Time Reliability Data

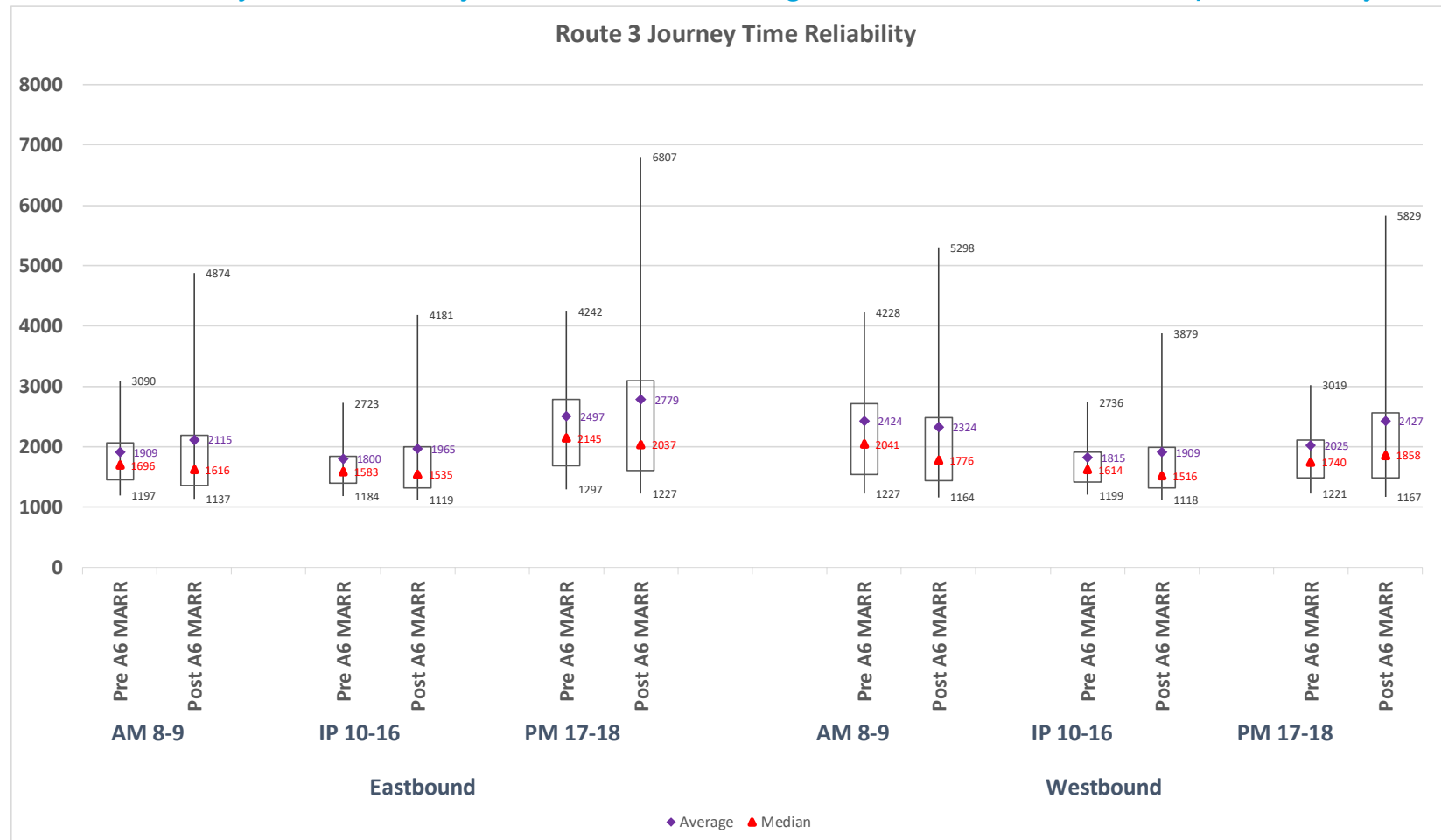
## C.1. Journey time reliability for Route 1 – A6 High Lane to Manchester Airport via the scheme



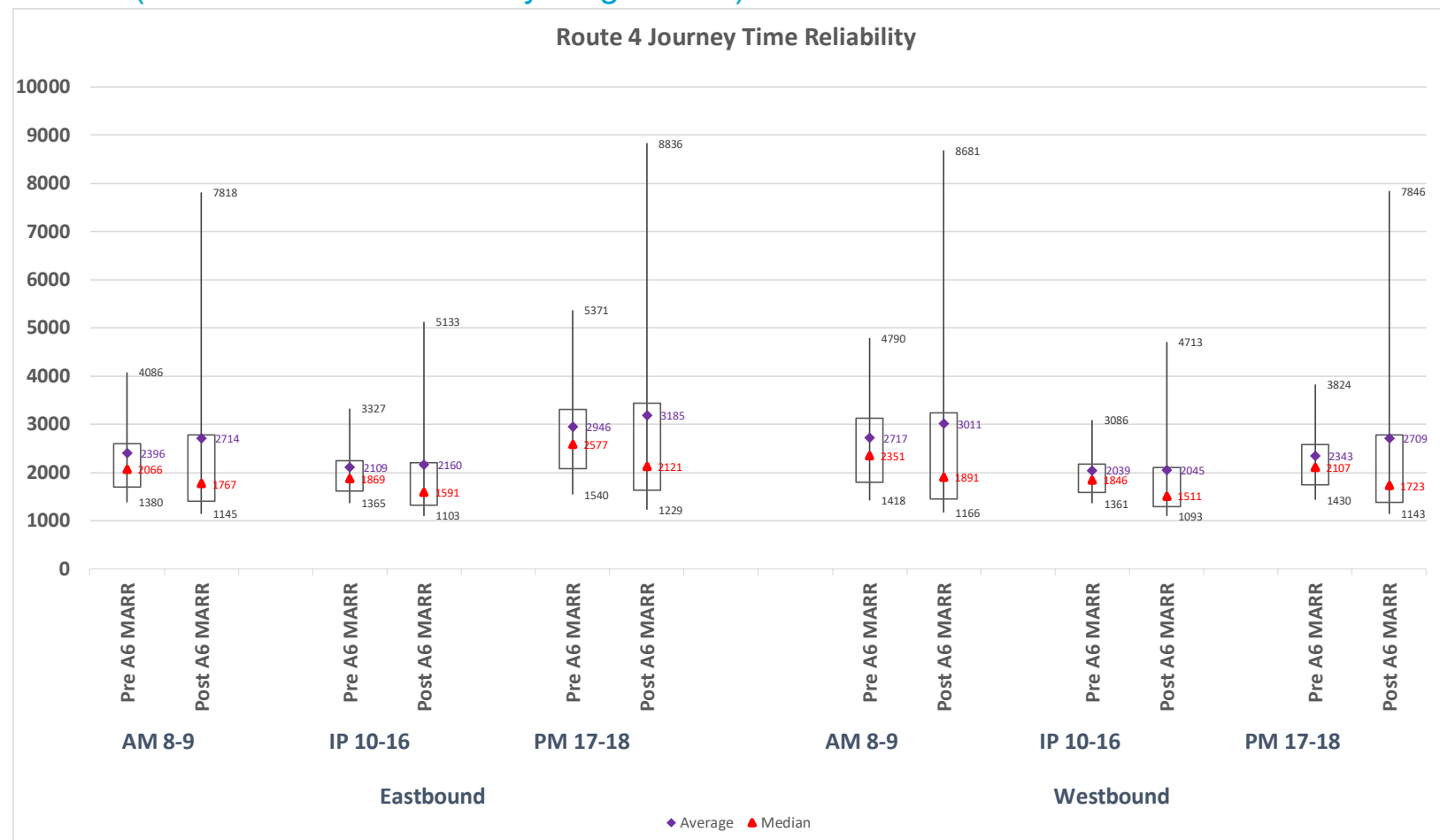
## C.2. Journey time reliability for Route 2 – A6 High Lane to Manchester Airport via the A6 and M60



### C.3. Journey time reliability for Route 3 – A6 High Lane to Manchester Airport via Poynton and A555

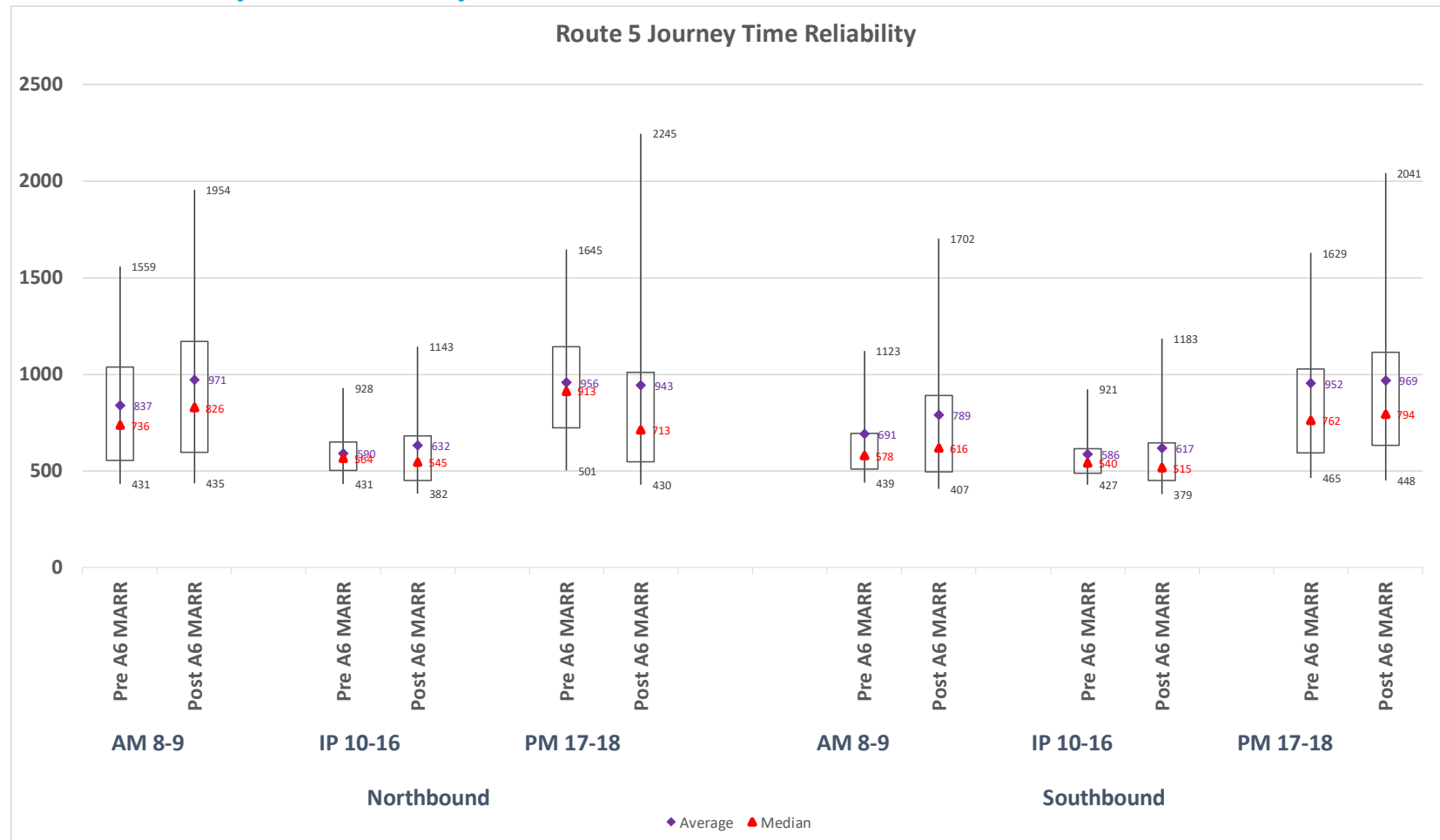


## C.4. Journey time reliability for Route 4 – A6 High Lane to Manchester Airport via Cheadle Hulme (Adswold Road and Ladybridge Road) and Heald Green

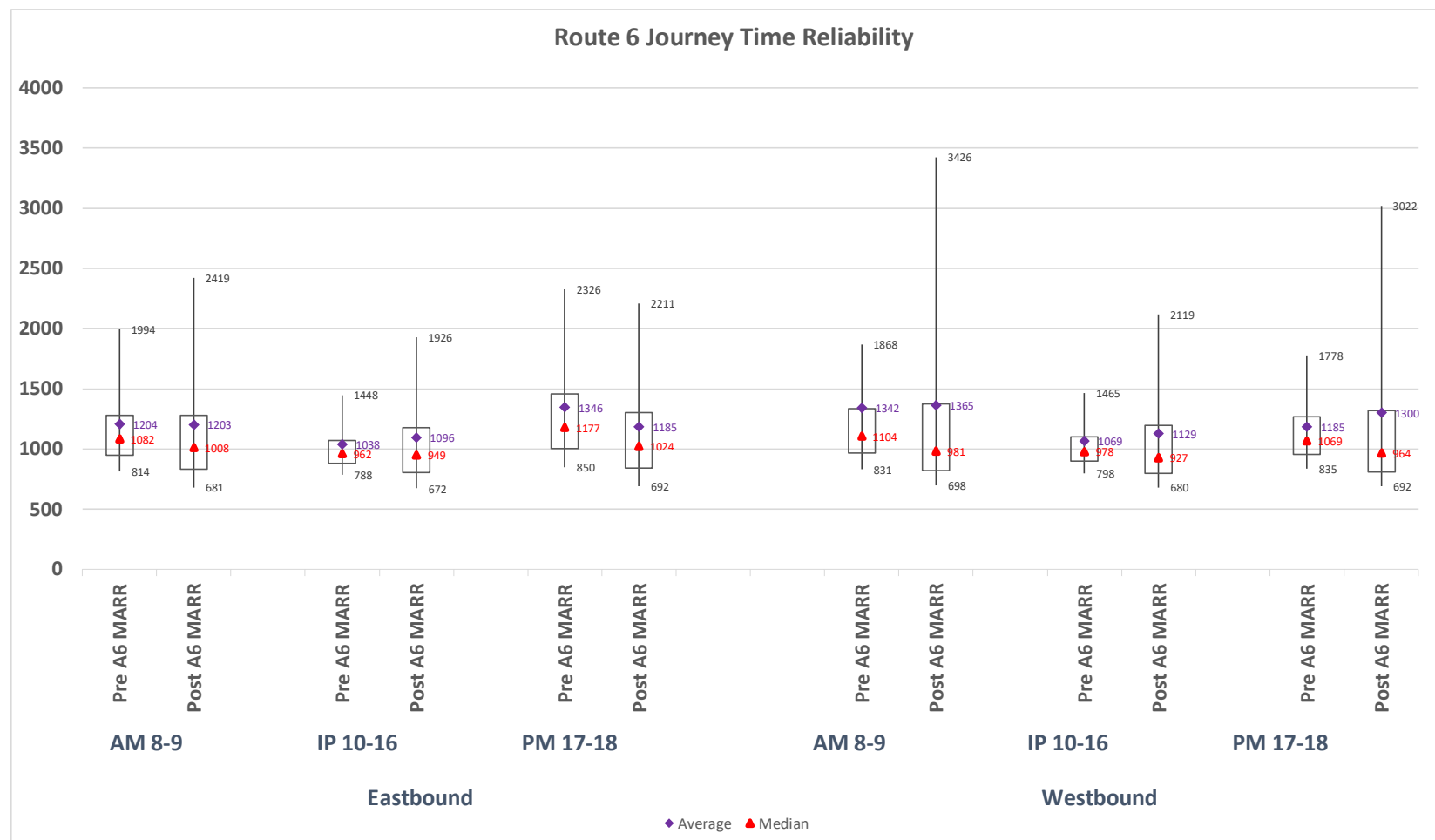




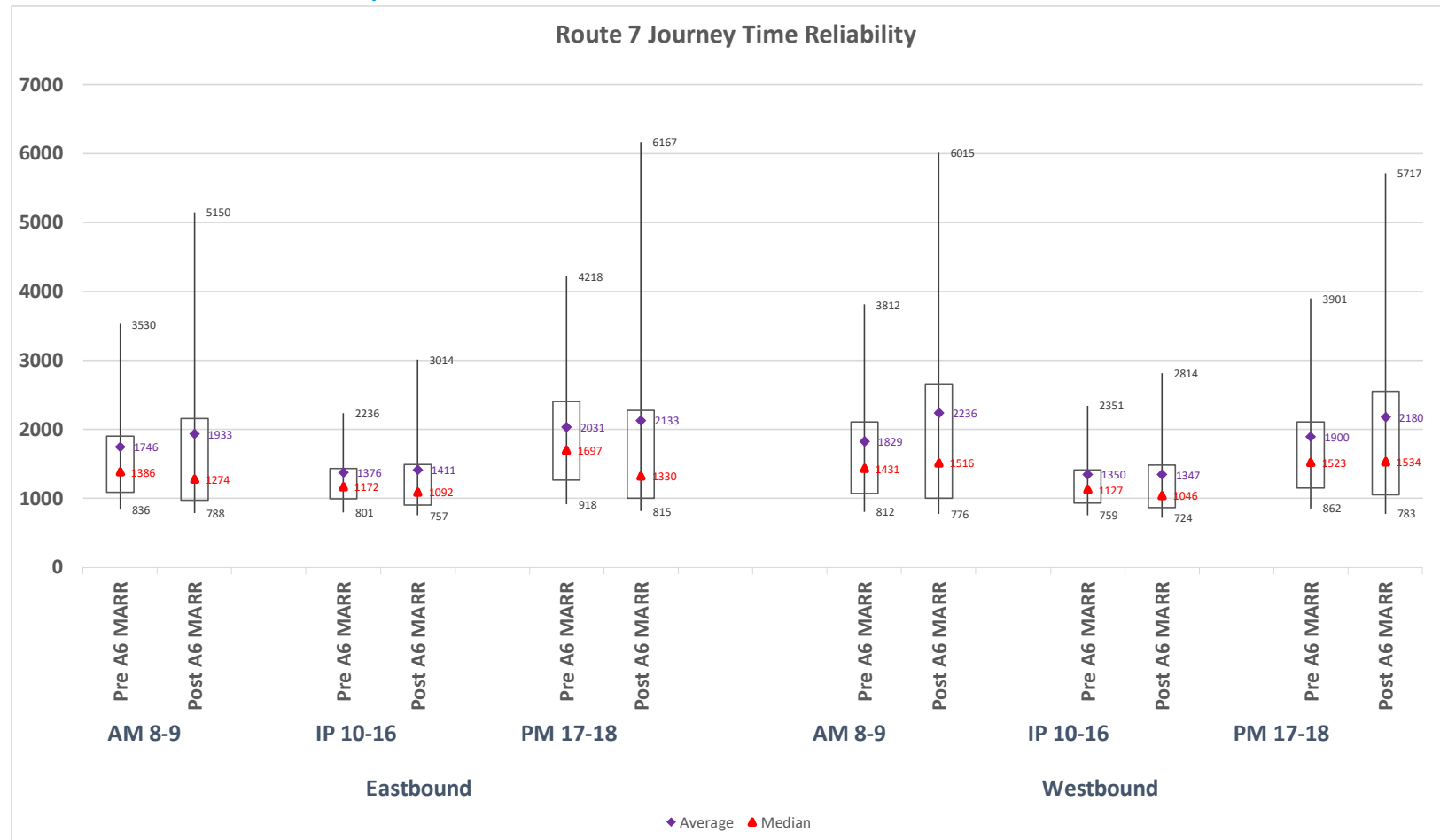
## C.5. Journey time reliability for Route 5 – A34/Dean Row Road to M60



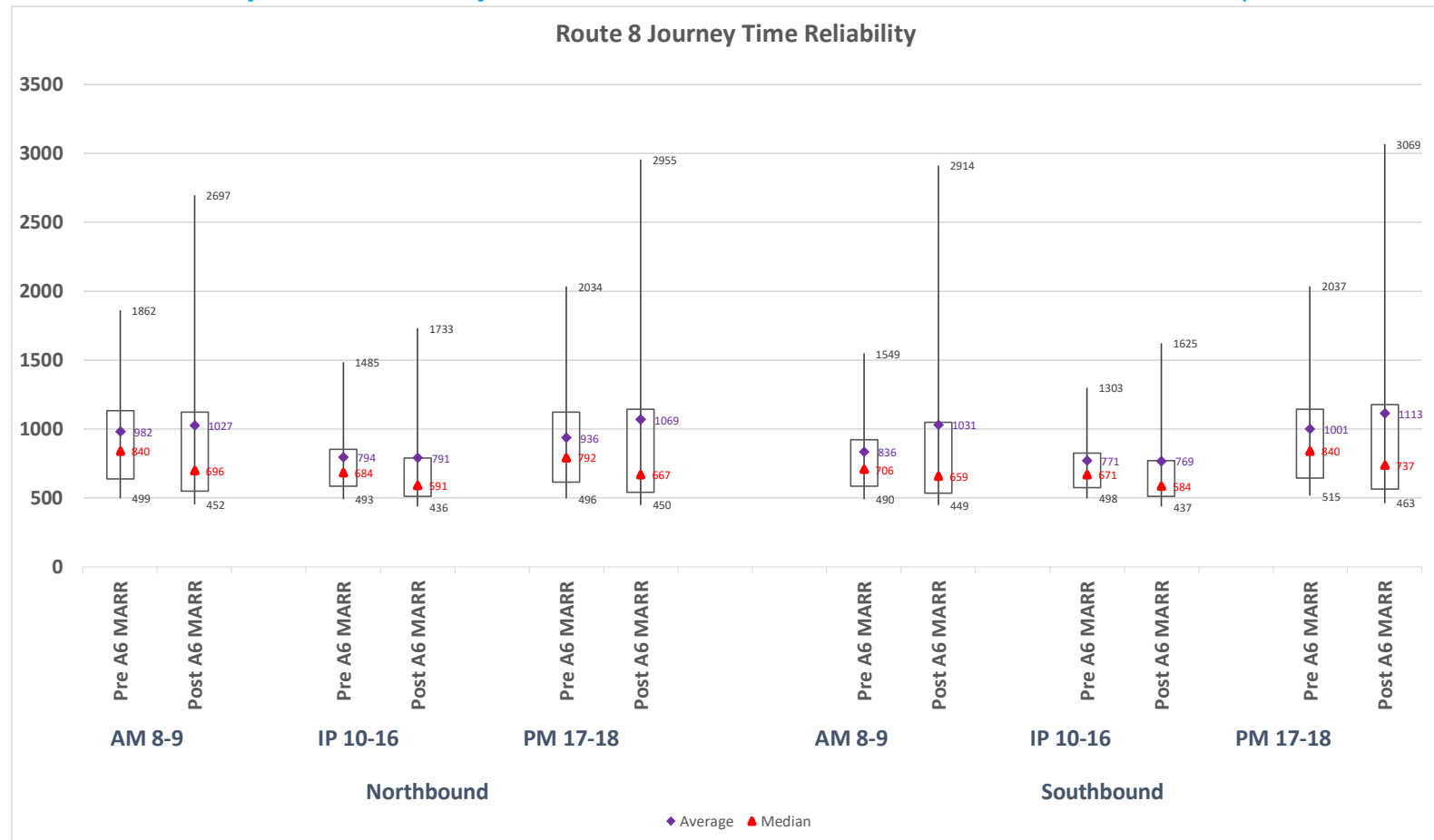
## C.6. Journey time reliability for Route 6 – Woodford to Manchester Airport via A5102 Wilmslow Road and Dean Row Road



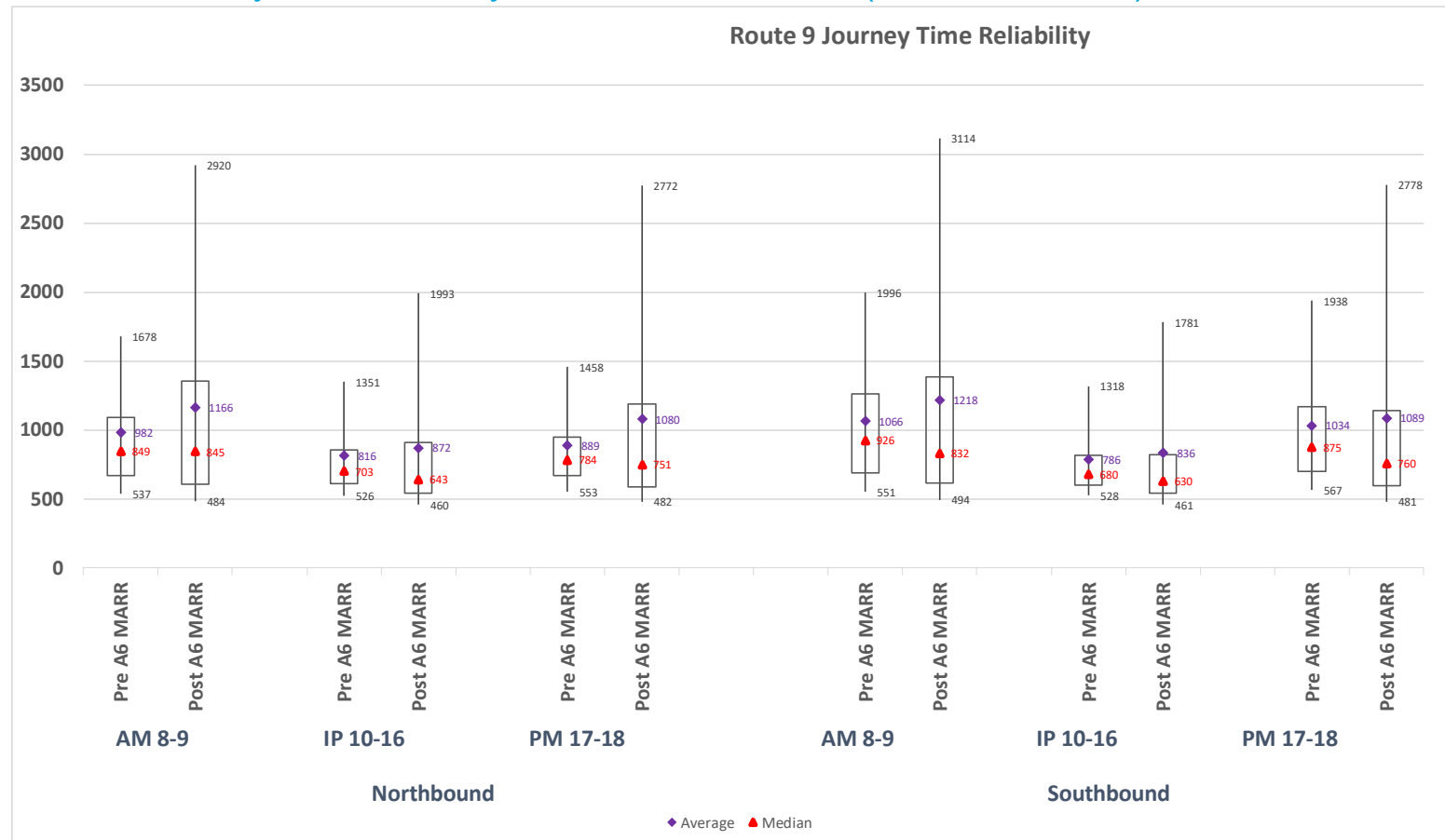
## C.7. Journey time reliability for Route 7 – E/W route Stockport Town Centre (King Street West) to Manchester Airport via A560 and M56



## C.8. Journey time reliability for Route 8 – Cheadle to Bramhall via A5149 (A5102 to A560)

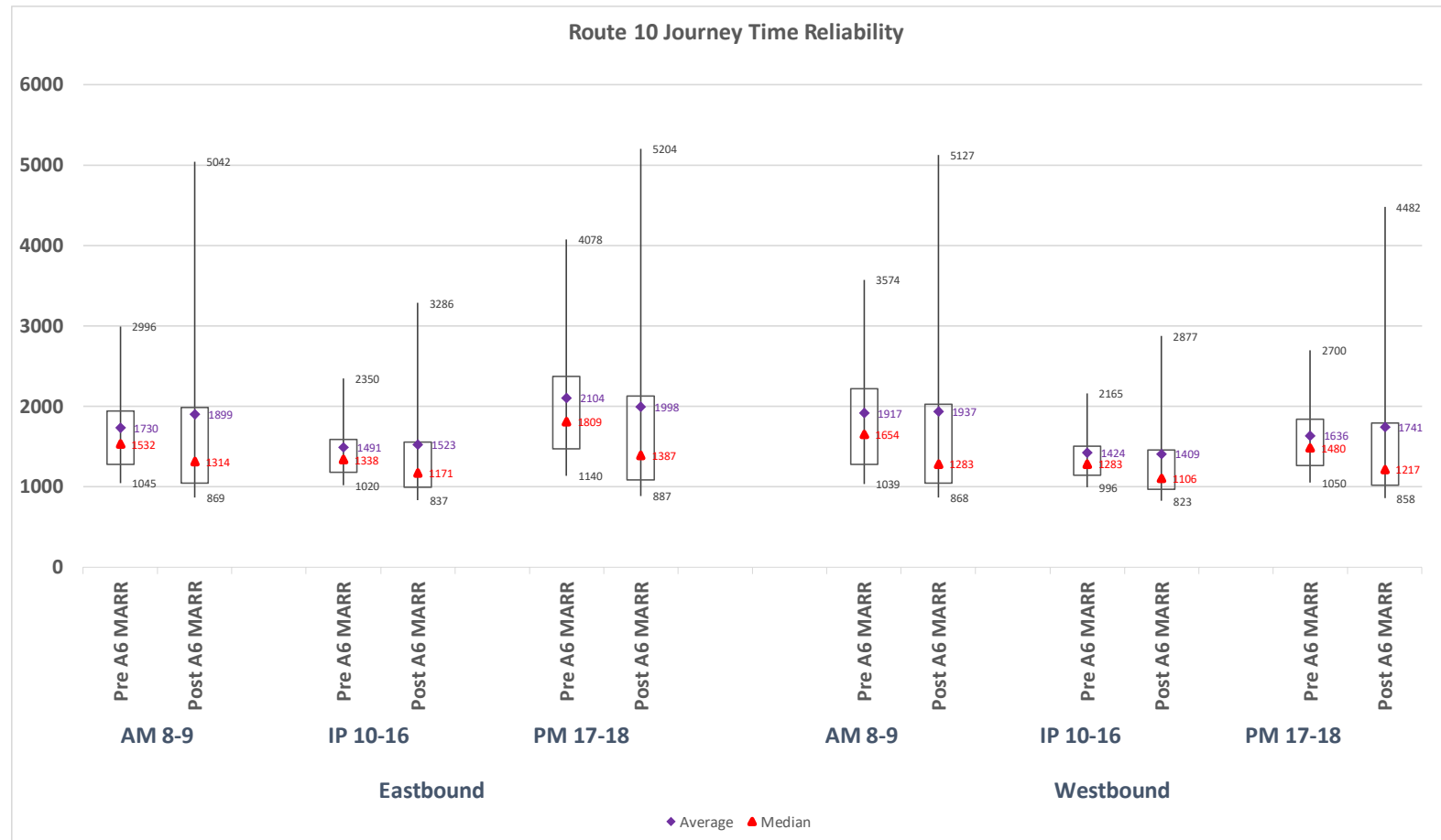


## C.9. Journey time reliability for Route 9 – A5102 (A6 to Woodford)

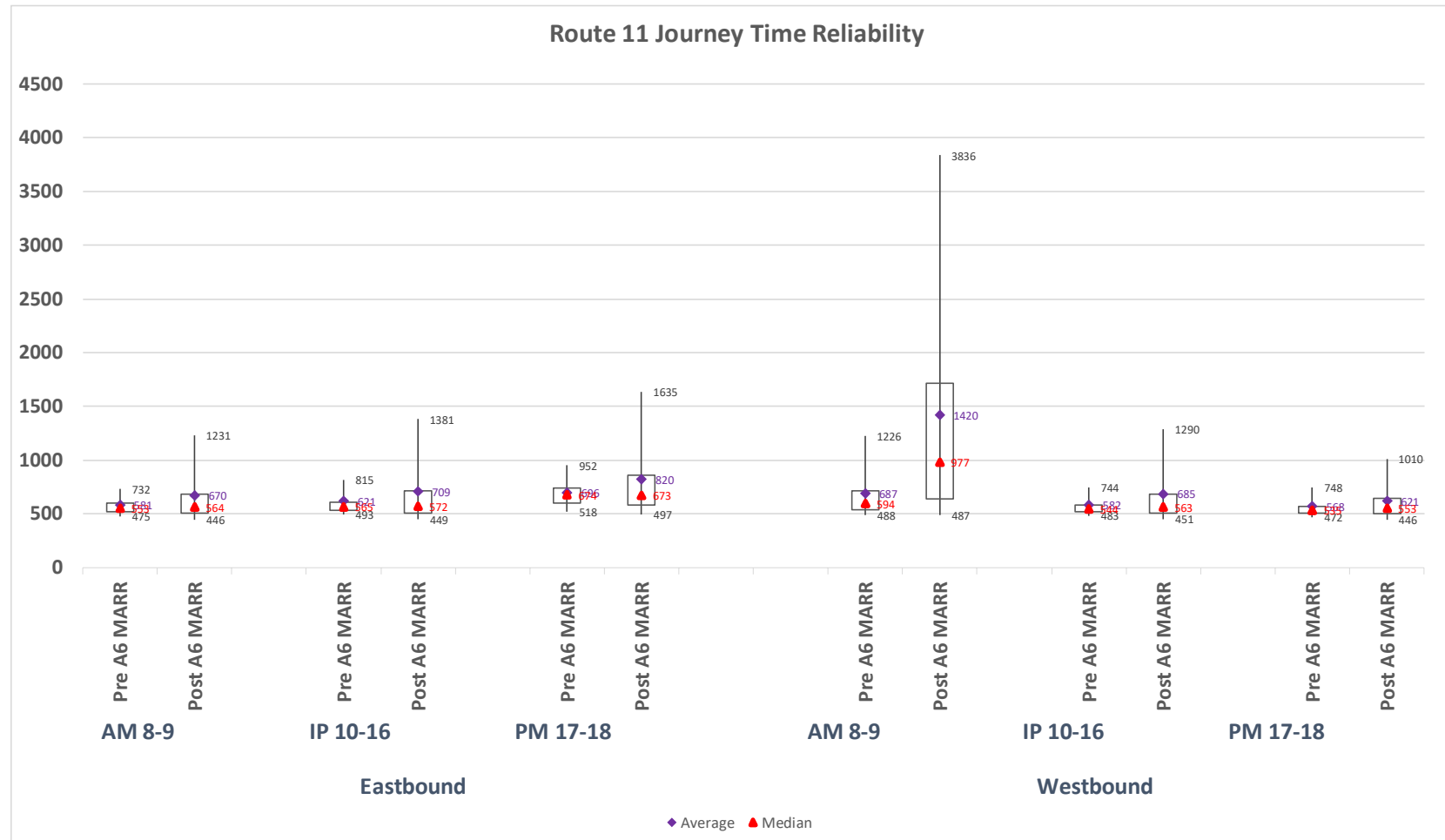




## C.10. Journey time reliability for Route 10 – Dean Lane (Hazel Grove) A523/A5143 to Manchester Airport via Cheadle Hulme and Heald Green



## C.11. Journey time reliability for Route 11 – A6/A6015 Albion Road to A6 (between Mill Lane and Norbury Hollow Road)



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