Corporate Directorate of Economy and Place
West Offices
York

1 Overview

This note sets out information as requested in Phase 2 of York's Local Plan Examination, and to provide some of the information required to discharge the traffic impact elements of the 2015 NPPF transport update "Transport evidence bases in plan making and decision taking". It is a supplement to the extensive transport information and evidence in the 2018 draft Local Plan and its Sustainability Appraisal. The modelling information presented here supersedes the modelling information presented in the 2018/ 2019 Transport Topic Papers.

This note is presented alongside the report by Wood "City of York Local Transport Plan Modelling" in which the transport impacts of different spatial distributions of development in York are considered on the CYC road network. These assessments have been made using CYC's VISUM traffic network model. This model was validated in 2021 and uses data from 2019. As well as being used by York it has been accepted by National Highways as a valid basis for the modelling being undertaken on the A64 – the only section of the Strategic Road Network (SRN) in York.

The scenarios considered in this note are essentially stress tests of the York road network. In the tests development traffic is loaded onto the York road network. The method used applies the trip growth forecasts produced by DfT in their TEMPRO dataset. This approach has been accepted by both CYC and National Highways in their modelling. In Annex A to this note we show that this is in fact a very conservative approach which is likely to **overstate** the traffic impacts of growth in York. Historical analysis of traffic growth trends in York suggest that York outpaces the nationally seen decline in trip making, so that, forecasts in trip making have tended not to present in the city. Information comparing trends is shown in Table 1 (over).

Table 1: Comparative Traffic Trends

Trend	2002	2019	% change
National car trips per person	NA		-13%
York population	197,800	210,600	+6%
Trips on city centre bridges	12 hr 40,182	12 hr 34,759	-13.5%
Trips on York radials	12 Hour 153,236	12 Hour 151,250	12 Hour -1%
Trips on A1237	12 Hour 284,118	12 Hour 295,689	12 hour +4%
Trips on A64	12 Hour 46,087	12 Hour 49,794	12 Hour +8%
TEMPRO growth forecast	Approximately 1% pa = 15% to 20% between 2002 and 2019.		

As such, it is accepted that TEMPRO is a robust assessment of growth for York. More information on TEMPRO is given in Annex A.

Scenarios

Given the base forecast of traffic growth under TEMPRO, which modelling assumes growth presents under whatever spatial distribution of development comes forward for York, an exercise has been undertaken to assess the effect of the different spatial distributions – specifically:

- The distribution assumed in the Local Plan **(DS – LP)**
- An alternative distribution **(DM)** where:
    - Developments which already have planning permission come forward
    - Other development is distributed across the city through generalised growth of zones.

Results

The result of this exercise is shown in Table 3 (overleaf) demonstrates. The Table shows that the alternative distributions at 2033 show similar traffic impacts across the city. In terms of the overall travel times, delays and congestion figures the Local Plan (DS – LP) performs marginally better than the DM distribution (Table 2, below).

Table 2 also shows travel times in the model base year (2019). Whilst inclusion of the base travel times allows comparison of base and the two 2033 scenarios, this is a false comparison – in practice York will see growth between 2019 and 2033 in any circumstance because developments will still come forward and be constructed on the basis of existing planning permissions. Other new developments will also come forward. Consequently, the 2019 base travel times are not an indication of the travel times on York's network in the event that the Local Plan is not adopted.

Table 2 Total changes to travel time

	2033 DM		2033 DS - LP		2033 DS - LP vs DM	
Growth	Total time	Total delay	Total time	Total delay	Total time	Total delay
AM	19%	53%	19%	52%	0%	-1%
PM	14%	42%	14%	42%	0%	-1%

Spatial distribution of impacts

There are only a small number of instances where journey times are worse under the DS Local Plan scenario (for example, Hull Road outbound and A1237 SB in the AM peak hour). Some impacts are substantially lower in the DS - LP scenario (e.g. Malton Rd Inbound AM and PM peaks, Boroughbridge Road AM peak both directions. There are also gains on Water End, although these are small in absolute terms because of the short length of the corridor).

Consequently, the modelling forecasts supports the assessment that impacts will be lower with the spatial distribution in the Local Plan than with a likely alternative, and the spatial distribution in the Local Plan will be better at managing the growth.

Table 3: Changes in Journey Time. Numbers are decimal minutes (e.g. 10 mins 30 secs = 10.5) (AMP = AM peak hour; IP = interpeak average hour; PMP = PM peak hour)

			2019			2033 DM			2033 DS LP			Change Base - DM			Change Base - DS LP			Change DS-DM			Mins difference DS LP to Base			Mins difference DS LP to DM		
Route nur	Description	Direction	AMP	IP	PMP	AMP	IP	PMP	AMP	IP	PMP	AMP	IP	PMP	AMP	IP	PMP	AMP	IP	PMP	AMP	IP	PMP	AMP	IP	PMP
1	A1237	NB	27.7	23	34.9	33.8	25.1	36.3	33.8	25.5	35.8	22%	9%	4%	22%	11%	3%	0%	2%	-1%	6.1	2.5	0.9	0	0.4	-0.5
	A1237	SB	27.8	23.1	31.8	32.3	24.9	36.2	33.3	25.1	35.7	16%	8%	14%	20%	9%	12%	4%	1%	-2%	5.5	2	3.9	1	0.2	-0.5
2	A64	NB	17.5	15.5	16.7	18.2	15.9	17.5	18.2	15.9	17.5	4%	3%	5%	4%	3%	5%	0%	0%	0%	0.7	0.4	0.8	0	0	0
	A64	SB	16.7	15.3	16.6	17.3	15.7	17.2	17.4	15.7	17.1	4%	3%	4%	4%	3%	3%	1%	0%	-1%	0.7	0.4	0.5	0.1	0	-0.1
3	A1036 Tadcaster Rd	IB	18.5	13.7	17	20.3	15.5	18.6	20.2	15.5	18.1	10%	13%	9%	9%	13%	6%	-1%	0%	-3%	1.7	1.8	1.1	-0.1	0	-0.5
	A1036 Tadcaster Rd	OB	14.7	13.7	15.9	16.8	14.2	17.5	16.5	14.2	17.1	14%	4%	10%	12%	4%	8%	-2%	0%	-3%	1.8	0.5	1.2	-0.3	0	-0.4
4	A19 Fulford Road	IB	20.1	12.3	14.6	23.1	13	17.2	21.9	13	16.6	15%	6%	18%	9%	6%	14%	-6%	0%	-4%	1.8	0.7	2	-1.2	0	-0.6
	A19 Fulford Road	OB	11.8	12.1	16	12.4	12.5	18.5	12.3	12.5	18.2	5%	3%	16%	4%	3%	14%	-1%	0%	-2%	0.5	0.4	2.2	-0.1	0	-0.3
5	A1079 Hull Road	IB	18.5	17.1	16.2	21.1	17.5	18.3	20.9	17.7	19	14%	2%	13%	13%	4%	17%	-1%	1%	4%	2.4	0.6	2.8	-0.2	0.2	0.7
	A1079 Hull Road	OB	14	13.7	16.7	15.2	14.9	19	15.9	15.2	20	9%	9%	14%	14%	11%	20%	5%	2%	6%	1.9	1.5	3.3	0.7	0.3	1
6	A1036 Malton Road	IB	9.6	7.9	10.3	12.8	8.2	11.7	11.2	8.2	10.5	33%	4%	14%	17%	4%	2%	-17%	0%	-12%	1.6	0.3	0.2	-1.6	0	-1.2
	A1036 Malton Road	OB	8.3	8.1	9	9.9	9	9.5	9.6	9	9.8	19%	11%	6%	16%	11%	9%	-4%	0%	3%	1.3	0.9	0.8	-0.3	0	0.3
7	B1363 Wigginton Road	IB	16.9	13.4	15.6	18	14	15.5	18.3	14.1	15.4	7%	4%	-1%	8%	5%	-1%	2%	1%	-1%	1.4	0.7	-0.2	0.3	0.1	-0.1
	B1363 Wigginton Road	OB	13.3	13.3	14.9	14.2	13.1	15.1	14	13.2	15.2	7%	-2%	1%	5%	-1%	2%	-2%	1%	1%	0.7	-0.1	0.3	-0.2	0.1	0.1
8	A19 Shipton Road	IB	17.4	10.5	14.8	20.7	10.5	12.7	20	10.5	13	19%	0%	-14%	15%	0%	-12%	-4%	0%	2%	2.6	0	-1.8	-0.7	0	0.3
	A19 Shipton Road	OB	11.6	10.6	12.7	12.8	11	13.8	12.6	11	13.5	10%	4%	9%	9%	4%	6%	-2%	0%	-2%	1	0.4	0.8	-0.2	0	-0.3
9	A59 Boroughbridge Road	IB	15.9	14.3	15.4	20	14.8	15.8	17.4	14.7	16.7	26%	3%	3%	9%	3%	8%	-16%	-1%	6%	1.5	0.4	1.3	-2.6	-0.1	0.9
	A59 Boroughbridge Road	OB	15	14.2	14.6	19.8	14.8	15	16.9	14.7	14.9	32%	4%	3%	13%	4%	2%	-19%	-1%	-1%	1.9	0.5	0.3	-2.9	-0.1	-0.1
10	B1224 Wetherby Road	IB	11.1	10.2	11.5	12.3	10.4	12.1	11.7	10.3	12	11%	2%	5%	5%	1%	4%	-5%	-1%	-1%	0.6	0.1	0.5	-0.6	-0.1	-0.1
	B1224 Wetherby Road	OB	10.3	9.4	10.2	10.7	9.5	10.3	10.6	9.5	10.2	4%	1%	1%	3%	1%	0%	-1%	0%	-1%	0.3	0.1	0	-0.1	0	-0.1
11	Haxby Road	IB	15.6	15.6	14.1	17.4	17.3	15.6	16.9	17.2	16.3	12%	11%	11%	8%	10%	16%	-3%	-1%	5%	1.3	1.6	2.2	-0.5	-0.1	0.7
	Haxby Road	OB	14	13.6	14.9	14.7	14.6	16	14.4	14.5	15.8	5%	7%	7%	3%	7%	6%	-2%	-1%	-1%	0.4	0.9	0.9	-0.3	-0.1	-0.2
12	Waterend	NE	3.7	3.4	4	5.7	3.9	4.5	5.7	3.8	4.5	54%	15%	13%	54%	12%	13%	0%	-3%	0%	2	0.4	0.5	0	-0.1	0
	Waterend	SW	6.6	3.6	3.9	7	4	7.5	6.9	4	6.5	6%	11%	92%	5%	11%	67%	-2%	0%	-26%	0.3	0.4	2.6	-0.1	0	-1
13	Leeman Rd	IB				5.2	5.1	5.2	5.2	5.1	5.1													0	0	-0.1
	Leeman Rd	OB				8.2	7.4	7	8.1	7.4	7													-0.1	0	0
14	Bishopthorpe Rd	IB	15.3	11.6	14.5	18.7	14.5	17.7	18.9	14.6	17.5	22%	25%	22%	24%	26%	21%	1%	1%	-1%	3.6	3	3	0.2	0.1	-0.2
	Bishopthorpe Rd	OB	12	11.3	12.7	12.7	12	13.8	12.7	12	13.9	6%	6%	9%	6%	6%	9%	0%	0%	1%	0.7	0.7	1.2	0	0	0.1
15	Strensall Rd	IB	20.3	17.2	17.9	21.6	18.3	18.6	21.1	18.2	18.3	6%	6%	4%	4%	6%	2%	-2%	-1%	-2%	0.8	1	0.4	-0.5	-0.1	-0.3
	Strensall Rd	OB	16.6	16.1	17.3	17.6	17	18.5	17.4	17	18.2	6%	6%	7%	5%	6%	5%	-1%	0%	-2%	0.8	0.9	0.9	-0.2	0	-0.3
16	Inner Ring Road	CW	21.9	21.7	24.2	25.5	26.9	29.8	24.9	26.5	28.7	16%	24%	23%	14%	22%	19%	-3%	-2%	-5%	3	4.8	4.5	-0.6	-0.4	-1.1
	Inner Ring Road	ACW	23	20.3	25.2	26.7	28.4	29.4	25.6	27.8	28.9	16%	40%	17%	11%	37%	15%	-5%	-3%	-2%	2.6	7.5	3.7	-1.1	-0.6	-0.5
	Sum of all		465.7	405.8	474.1	542.7	453.9	531.4	530.5	453.6	527	17%	12%	12%	14%	12%	11%	-3%	0%	-1%	64.8	47.8	52.9	-12.2	-0.3	-4.4

Mitigation Strategy

Policies T1 to T9 and the site specific policies provide guidance on mitigation of the impact of individual sites, including CYC's policies to ensure that a high proportion of the trips generated by the Local Plan sites will use sustainable modes. These policies are stronger if advanced within a Local Plan where cumulative impacts can be assessed and mitigations co-ordinated providing a clear framework for development management decisions and the imposition of requirements for mitigation. This co-ordination is in itself a key mitigation for the potential for traffic growth identified in the modelling presented in Table 3.

The IDP presented to Phase 2 of the Examination identifies a series of site specific mitigations.

The draft York Local Transport Strategy, which will be presented to Phase 4 of the Examination will provide further detail of policies which will be used to achieve effective mode share in the existing built-up area of York. This will be additional mitigation to that assumed in the modelling presented here and is intended to deal with general transport issues and ones that lie outside the Local Plan, although they will also assist in managing the trip growth from the development proposed by the Local Plan.

Annex A: Traffic Forecasting Methodology

1. York Local Plan Trip Forecasting Approach

We (City of York Council) are updating our Local Transport Plan Transport Evidence Base.

It is necessary to estimate future travel demand resulting from Local Plan developments to the end of the plan period. The impact of future travel demand in York will be modelled in our VISUM transport model. This will assess impacts on Highway and Public Transport.

The approach taken to forecasting future transport demand must be accepted by statutory bodies such as National Highways who manage the A64.

2 Forecasting Trips from New Developments

The standard approach to estimate trip numbers from new developments is to interrogate the TRICS® database. This estimates trip numbers based on a developments type and location.

The Local Plan would increase household numbers by 11,400 from 2019 to 2040.

One approach to forecasting would be to simply add car trips forecast using TRICS® on top of existing car trips.

We have not taken this approach. We do not believe this approach is sound or reasonable.

In the past York's population growth has not caused a directly proportional increase in vehicular traffic. In many areas traffic flows have not grown, in some locations traffic flows have declined and some areas have seen traffic growth.

Simply adding forecast traffic demand from TIRCS on top of existing traffic flows would overestimate future car trips.

We have taken a balanced approach by using Department for Transports TEMPro forecast. Our forecast accounts that a larger population would result in more travel demand. It accounts for national changes in travel behaviour, local transport policy, and the fact that a constrained highway network means vehicle trips are supressed.

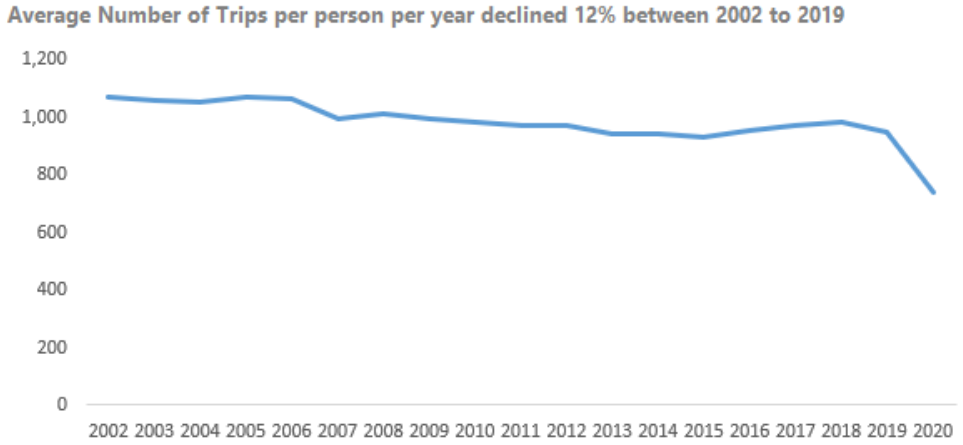
The next section of this report examines:

- National Transport Trends:
- Changes to York's population: and
- Transport Trends in York;
- Transport Policy; and
- Sets out our methodology for forecasting Local Plan traffic growth using TEMPro.

3 National Travel Trends

The following are key trends from National Travel Surveys and the Commuting in England report 1988 – 2015.

- Commuting trips measured as commuting per person per worker and in absolute terms have declined between 1988-2015.
- Between 1995/7 and 2013/14, England's population grew 12% while the total number of annual commuting journeys decreased from 8.5 billion to 7.9 billion.
- The average number of annual trips taken by people in England in 2019 is comparable to number of trips in 1972/73 (NTS 2019);



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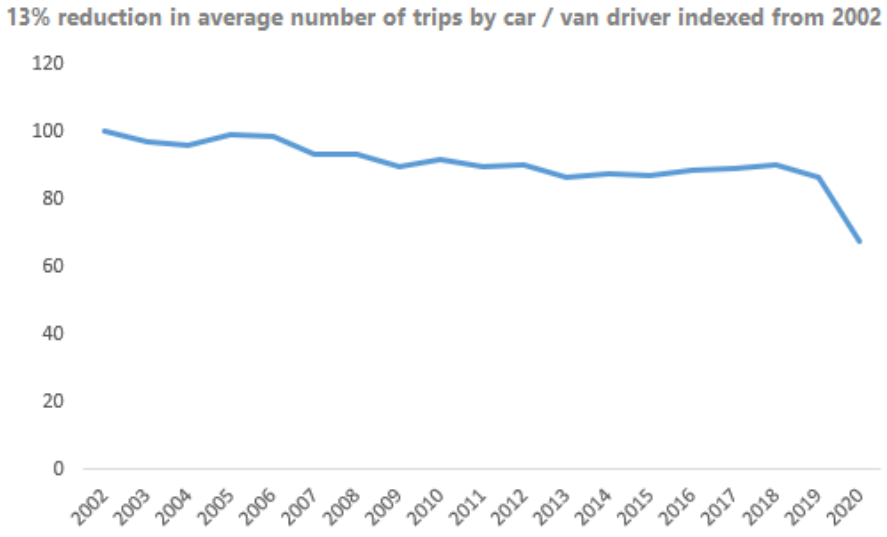
- Most of the decrease in average trips since 2002 is due to a 13% reduction in the number of car trips taken by car drivers (NTS 2019)



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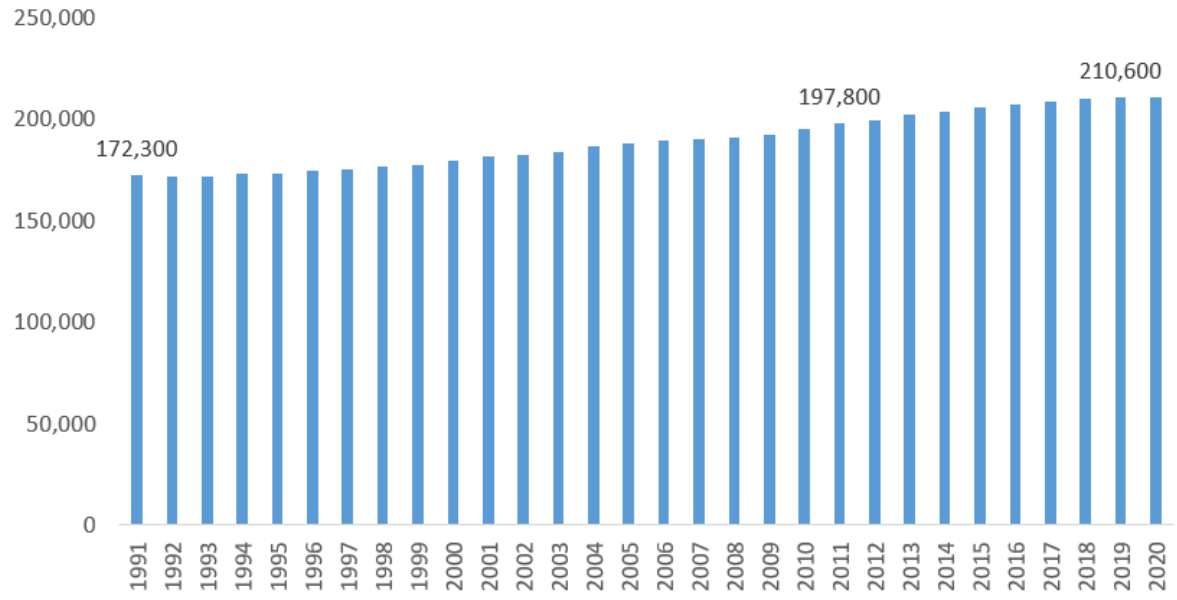
We do not know if increased home working in response to Covid epidemic will continue into the future.

4 York Population Change

York's population increased by 38,000 people (22%) from 1991 to 2019.

York Resident Population Increased by 38,000 between 1991 and 2019
increased by 13,200 between 2011 and 2019



Nomis Census Data Local Authority York

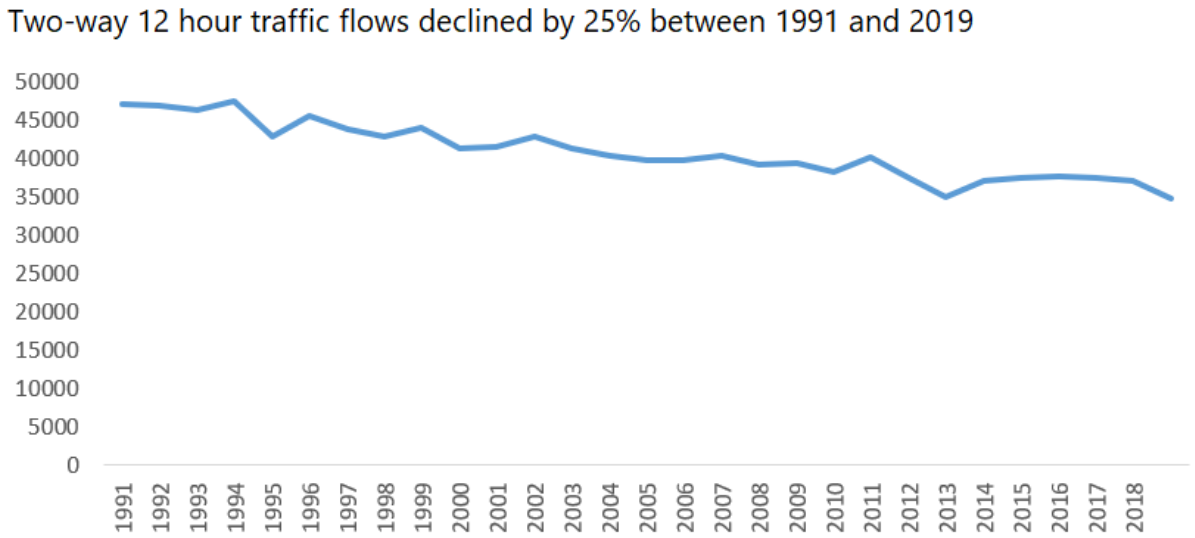
We will see in the following section that this population growth has not resulted in directly proportional increase in car traffic.

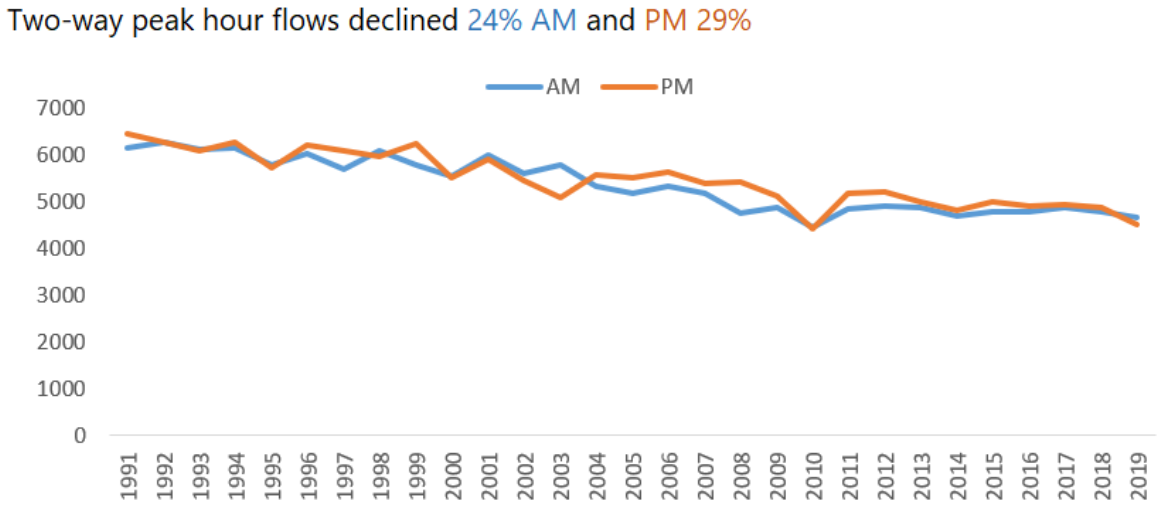
5 Traffic Trends in York

5.1 Traffic Flow has declined across City Centre Bridges

Between 1991 and 2019 two-way traffic flows have declined significantly across York's bridges. York's population has increased by 22% between 1991 and 2019 **and** traffic flows across York's City Centre bridges has declined. The charts show combined flows. Charts for each bridge are provided in Appendix A.

Location	AM Peak	PM Peak	12 Hour
Skeldergate Bridge	24% decrease	36% decrease	26% decrease
Clifton Bridge	11% decrease	24% decrease	9% decrease
Lendal Bridge	27% decrease	13% decrease	21% decrease
Ouse Bridge	30% decrease	32% decrease	30% decrease

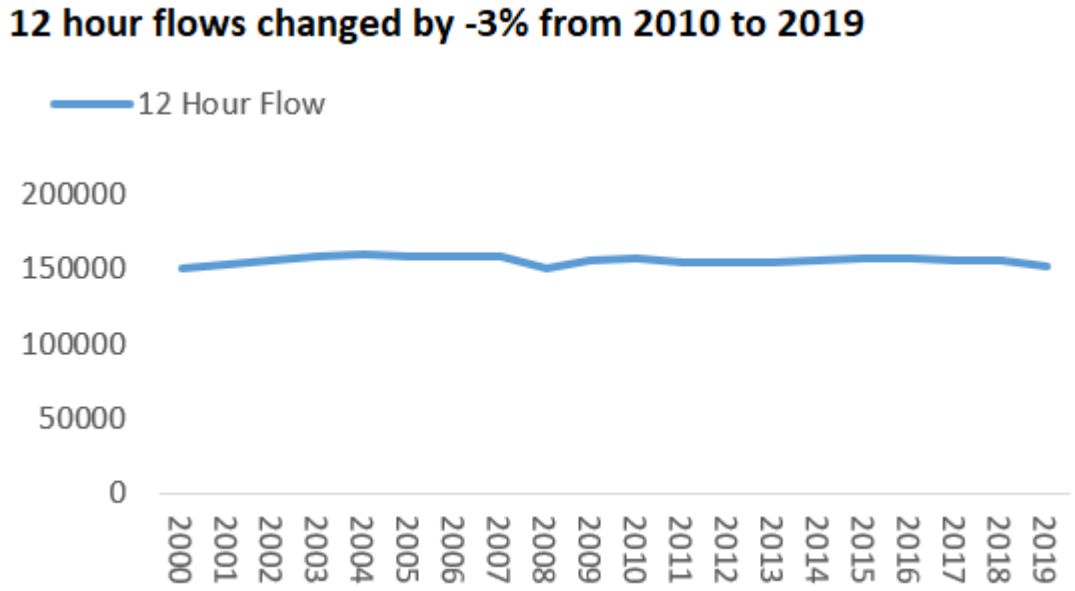


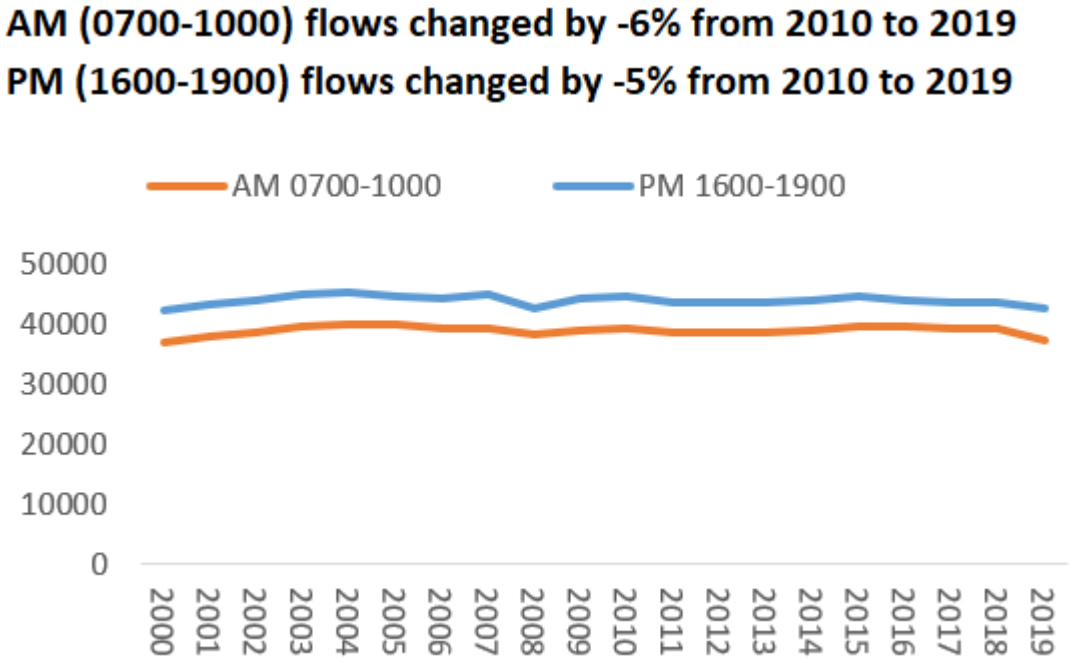


5.2 Traffic on Radial Routes

This section compares two-way neutral weekday traffic flows from 2000 and 2019 on radial roads within the outer ring road.

The charts below shows combined two way traffic flows from the sites shown in *Table 1*.





The charts show that the combined total traffic flows on York's radial routes have not increased since 2010. The combined total has been flat between 2010 and 2019. The 2019 total is less than the 2000 total. During this time York's population has increased.

Charts for individual sites are provided in Appendix B.

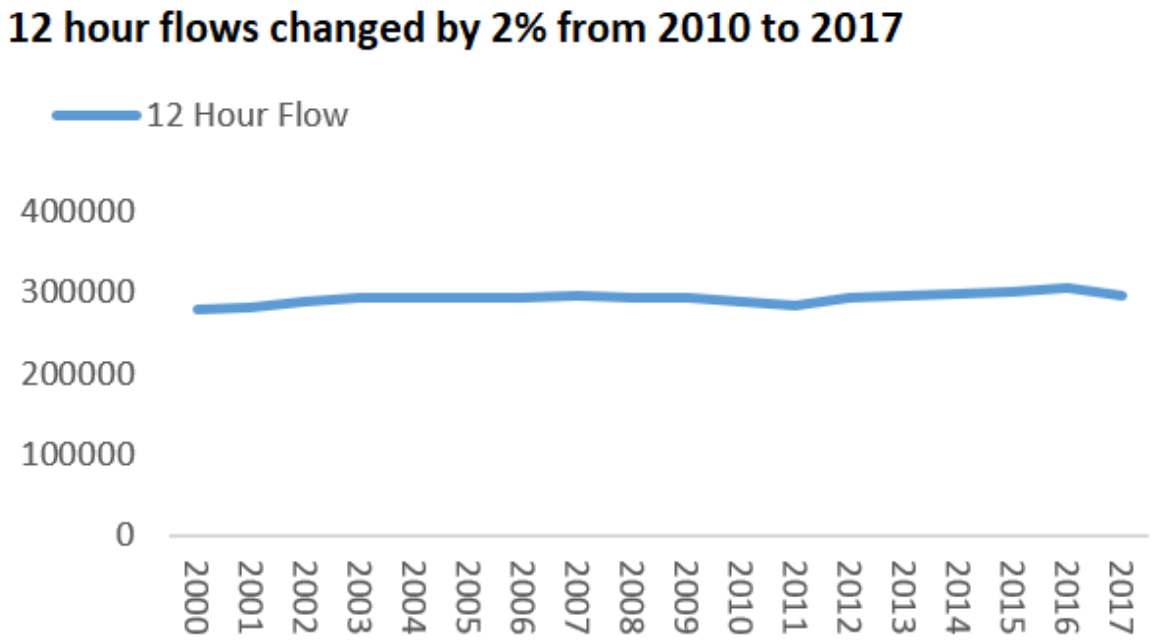
Table 1- York Radial Traffic Counts

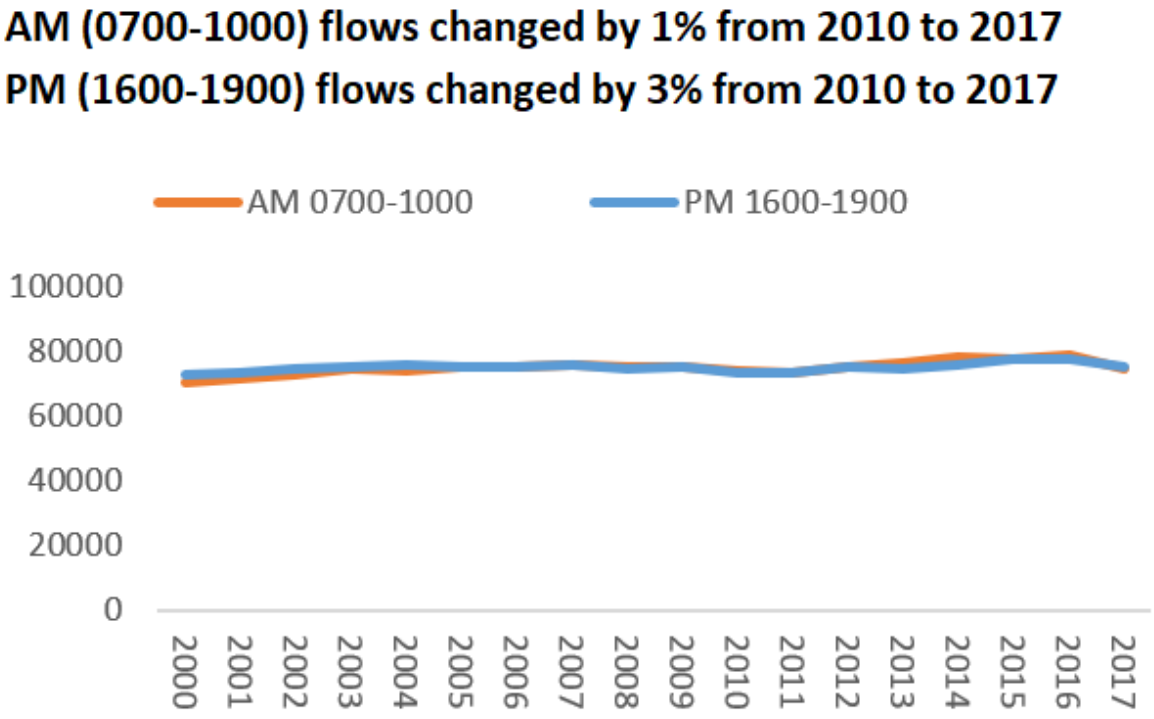
Location	Site	Location	Site
A19 Fulford	11	Boroughbridge Road	4
Hull Road	21	Wetherby Road	54
Malton Road	26	Askham Lane	2
Huntington Road	22	Moor Lane	29
Haxby Road	16	Tadcaster Road	50
Wigginton Road	56	Bishopthorpe Road	3
Shipton Road	46	Heslington Lane	17
Foss Islands Road	10	Boroughbridge Road	4

6 A1237 Traffic Flows

This section compares two-way neutral weekday traffic flows on the A1237 between 2000 and 2017.

The charts below show combined total flows for the count sites in *Table 2*.





The combined total flows from count sites on A1237 show that there has been little traffic growth across all sites added together. When flows are disaggregated, we see that capacity enhancements at roundabouts has led to traffic flows increasing.

The table shows traffic growth in a clockwise direction from Askham Bryan junction to Little Hopgrove. Charts are provided in Appendix B.

Traffic growth has been greatest between B1224 and B1363, most likely because roundabouts have had capacities increased. For example A1237 flows at A19 Rawcliffe increased once the A19 roundabout was upgraded 2011 and flows increased at A59 when the roundabout was upgraded 2014. A1237/B1224 Wetherby Road roundabout, completed in 2019.

Traffic growth has been much lower between B1363 and Little Hopgrove.

Traffic growth on the A1237 has been constrained by highway capacity.

Table 2 - A1237 Change in Traffic Flows

		2000 to 2017			2010-2017		
Location	Site	AM	PM	12 hr	AM	PM	12 hr
between A64 & Askham Byran Roundabout	36	22%	22%	25%	4%	6%	8%
between B1224 and A59	34	30%	18%	26%	29%	23%	23%
between A59 and A19	31	38%	26%	34%	12%	17%	15%
between A19 and B1363*	40	13%	19%	14%	14%	27%	16%
between B1363 and Haxby Rd**	38	5%	-2%	2%	4%	3%	3%
between Haxby Road and Strensall Road*	39	1%	-1%	1%	5%	3%	5%
Between North Lane and Little Hopgrove*	37	12%	17%	8%	11%	11%	9%

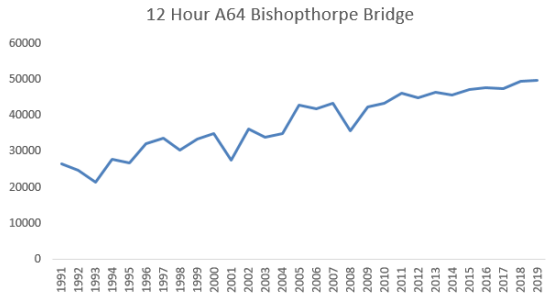
*2003 to 2017

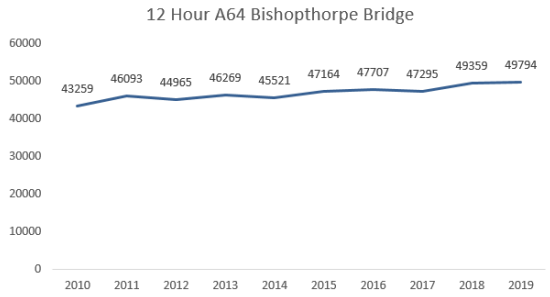
**2007 to 2017

6.1 A64

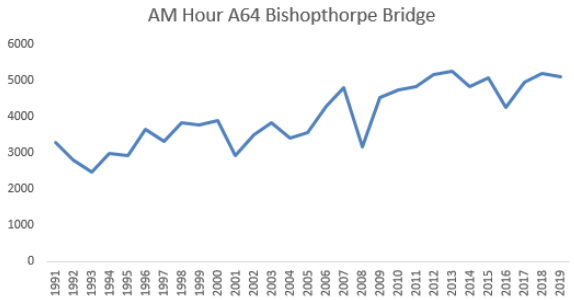
Traffic has grown consistently on the A64. 12 hour flows on the A64 (at Bishopthorpe Bridge) increased 64% increase between 1991 and 2019 and 8% increase between 2011 and 2019. Data from additional sites are included in Appendix C.

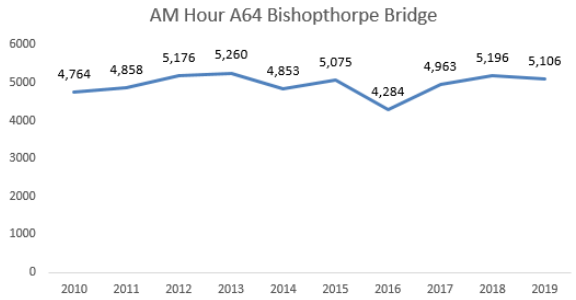
The A64 is a high-capacity road and unlike the A1237 demand has not been constrained by capacity. Roads that take traffic to and from the A64 in York are constrained by capacity.



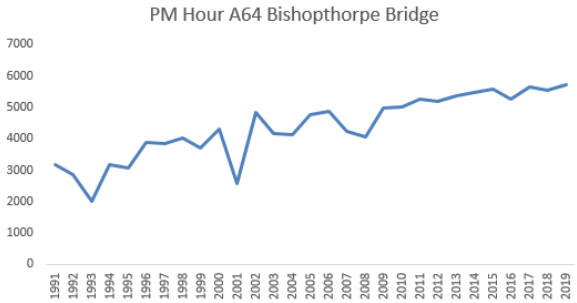


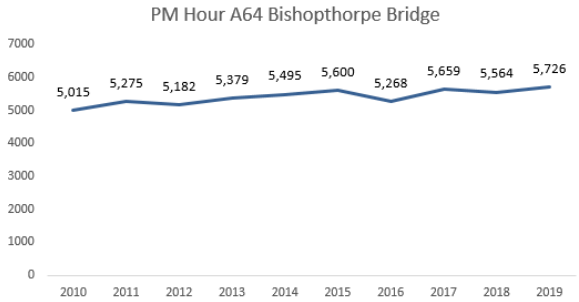
AM peak 54% increase between 1991 and 2019 and 5% increase between 2011 and 2019.





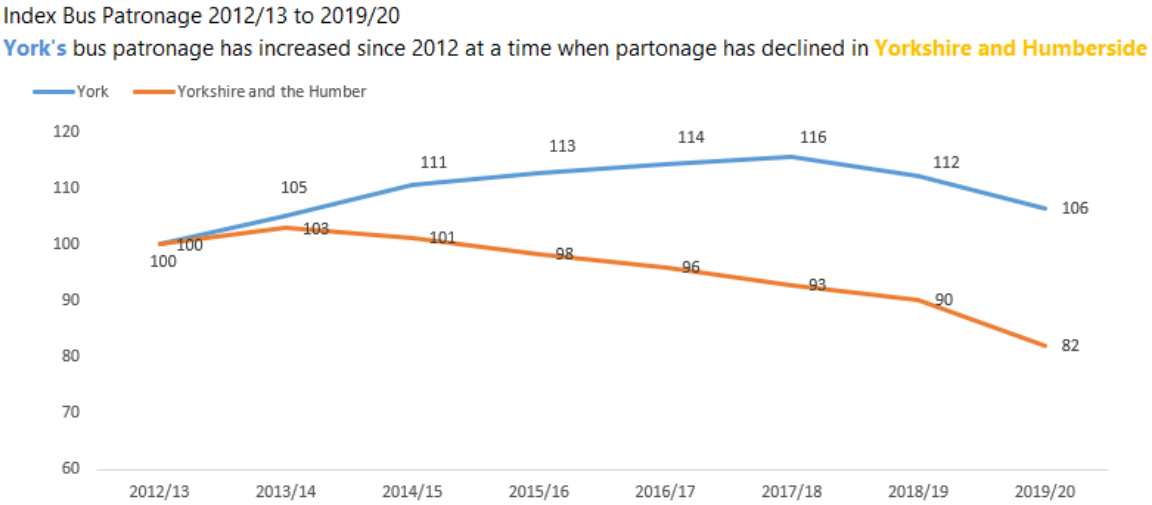
PM peak 80% increase between 1991 and 2019 and 8% increase between 2011 and 2019.





7 Bus Patronage

York's Bus patronage has increased because of successful measures to improve bus services. Bus patronage has declined in Yorkshire and Humberside and nationally.



City of York Council has been awarded £17.36 million over three years to support the development of key bus schemes and initiatives across the city.

Key objectives within the plan include:

- Improving the frequency of bus services, providing more routes and supporting the reintroduction of park and ride services from Poppleton Bar following its use as a COVID-19 testing centre
- Better, cheaper tickets for young people, and better tickets which are valid for travel on all bus services in York
- Completing the electrification of York's bus fleet, following in the footsteps of the 33 electric buses already operating in the city
- Providing bus priorities and supporting rapid bus services to new developments around York
- Upgrading York's Park and Ride network, allowing it to support a wider range of bus services, providing overnight parking at more sites and refurbishing the two oldest sites, at Rawcliffe Bar and Grimston Bar.

These measures offer an alternative to car use and could lead to patronage increasing further in future. The BSIP forecasts bus patronage to increase by 25% by 2025.

8 Active Travel Schemes

We've provisionally allocated around £3.3 million to support active travel schemes to be implemented by 2023.

The Active Travel Programme is part of our overall Transport Capital Programme and highlights upcoming projects and proposed schemes (some projects are subject to successful bids) to be implemented by the end of 2023.

9 Tempro Forecast

The Department for Transport (DfT) has a national transport model called the National Trip End Model NTEM. DfT provide a database called TEMPro which forecasts travel demand by all transport modes. They represent the Department's best estimate of the long-term response to demographic and economic trends.

We decided to use the latest TEMPro forecast (7.2) to forecast overall trip numbers in York for Car and Public Transport. LGV and HGV trip numbers have been forecast using Road Traffic Forecast 2018.

TEMPro 7.2 assumes less housing growth than is set out in the Local Plan.

It is possible to argue that constraining trip matrices to TEMPro could underestimate future trips by private transport. If we added all forecast trips based on TRICS rates, then we would have to assume that no trips were supressed by congestion and existing trip car trip rates continue.

In contrast, our traffic analysis has shown that:

- traffic flows within the inner ring road have been flat since 2010;
- in some locations traffic flows have fallen significantly since 1991;
- there **has** been continuous traffic growth on the A64;
- there has been limited growth on the A1237, with some growth where capacity has been increased since 2000.
- TEMPro assumes public transport trips decrease over time but they have increased in York. Our BSIP aims to further increase public transport trips.

TEMPro planning data factors for 2019 and 2033 for York are:

- Population under 16 Factor 0.099
- Population 16 to 74 Factor 1.0138
- **Population 75+ Factor 1.3916**
- Households 1.0752

- Jobs 1.0381
- Workers 1.0673

Tempro forecasts that the bulk York's population growth will come from those aged over 75. People aged over 75 are likely to make fewer trips than those aged 16 to 74.

It is difficult to predict future travel patterns. Tempro assumes less development than contained in the Local Plan. Tempro assumes increases in private car trips where traffic data shows traffic flows are decreasing or are stable.

Tempro assumes public transport trips will fall, but up until Covid struck public transport trips increased significantly. Bus passenger numbers have increased in York between 2000 to 2019 by 65%, whilst they have fallen nationally.

TEMPro 2001 to 2019 forecast average weekday bus passengers would decline by circa 8% (dataset 62). TEMPro 2011 to 2019 forecast average weekday bus passengers would decline by circa 8% (dataset 72).

TEMPro assumes that Trip rates are constant from 2016 onwards but we know that trip rates have been declining.

The final forecast matrix totals for highway and public transport for the 2025, 2033 and 2040 scenarios are presented in the tables below.

Table 3 Forecast Matrix totals (Highway)

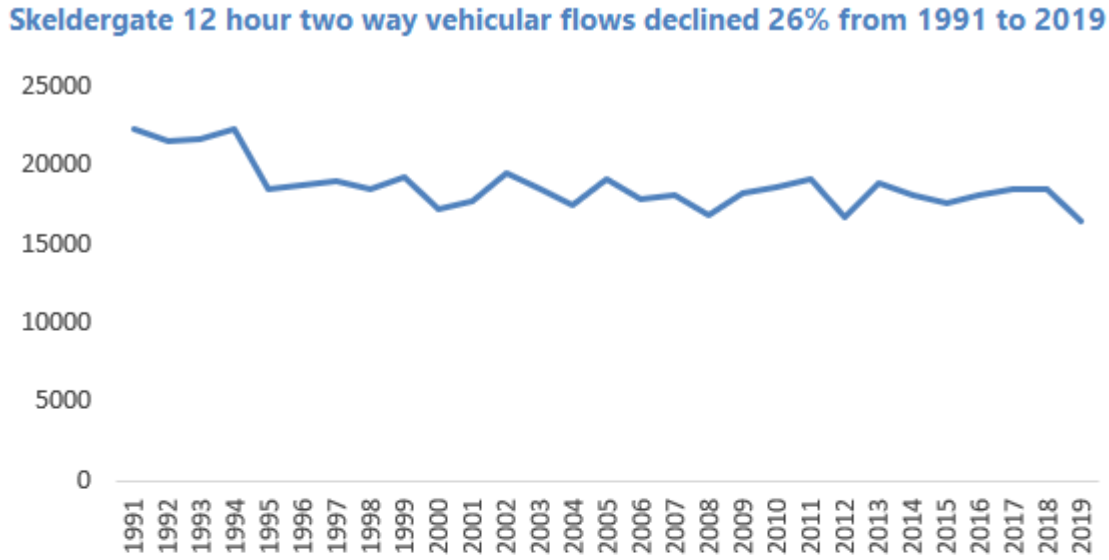
User Class	Matrix Totals				% Difference from Base Matrix		
	Base	2025	2033	2040	2025	2033	2040
				AM			
Commuting	14,538	15,868	17,264	18,217	9%	19%	25%
Business	5,088	5,539	5,944	6,393	9%	17%	26%
Other	16,834	18,141	19,609	21,280	8%	16%	26%
LGV	1,006	1,080	1,187	1,297	7%	18%	29%
HGV	1,734	1,729	1,749	1,777	0%	1%	2%
				IP			
Commuting	3,923	4,067	4,341	4,619	4%	11%	18%
Business	6,660	6,897	7,377	7,873	4%	11%	18%
Other	23,159	24,869	27,028	29,114	7%	17%	26%
LGV	1,238	1,329	1,460	1,596	7%	18%	29%
HGV	1,407	1,403	1,419	1,441	0%	1%	2%
				PM			
Commuting	13,968	15,499	16,040	17,736	11%	15%	27%
Business	4,396	4,775	4,938	5,477	9%	12%	25%
Other	21,681	23,786	24,608	27,664	10%	13%	28%
LGV	880	945	1,039	1,135	7%	18%	29%
HGV	1,227	1,225	1,242	1,266	0%	1%	3%

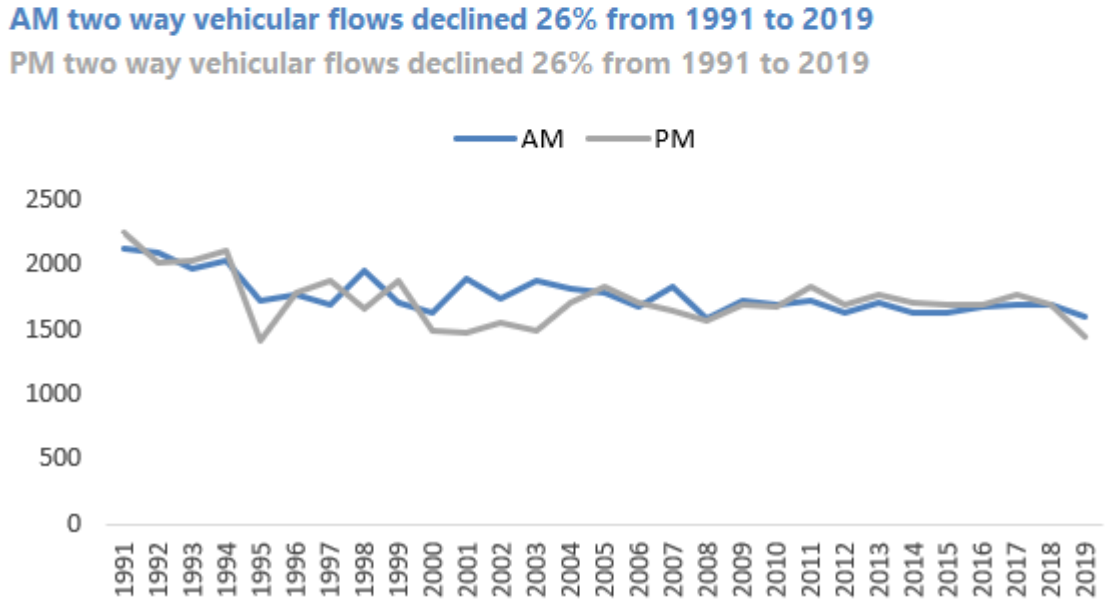
Table 4 Forecast Matrix totals (Public Transport)

User Class	Matrix Totals				% Difference from Base Matrix		
	Base	2025	2033	2040	2025	2033	2040
				AM			
Commuting	3,067	2,987	2,942	2,828	-3%	-4%	-8%
Business	1,710	1,653	1,633	1,558	-3%	-5%	-9%
Other	3,416	3,400	3,418	3,497	-1%	0%	2%
				IP			
Commuting	2,012	1,945	1,913	1,864	-3%	-5%	-7%
Business	2,478	2,433	2,400	2,331	-2%	-3%	-6%
Other	4,064	3,973	4,015	4,044	-2%	-1%	0%
				PM			
Commuting	3,489	3,247	3,142	3,067	-7%	-10%	-12%
Business	2,087	1,966	1,887	1,849	-6%	-10%	-11%
Other	5,025	4,865	4,870	4,935	-3%	-3%	-2%

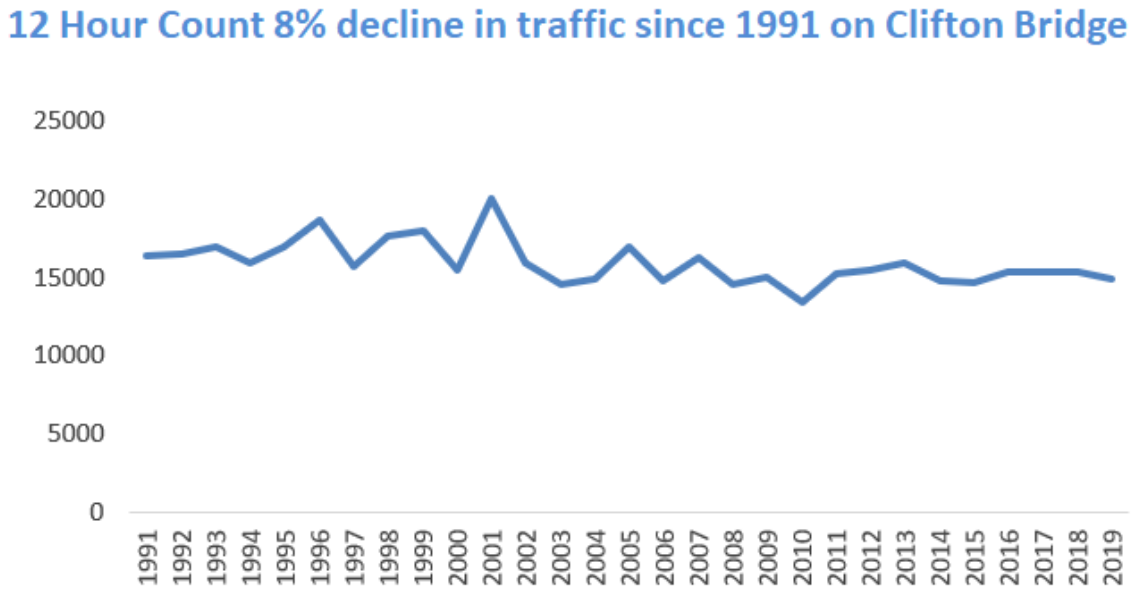
10 Appendix A – Bridge Counts

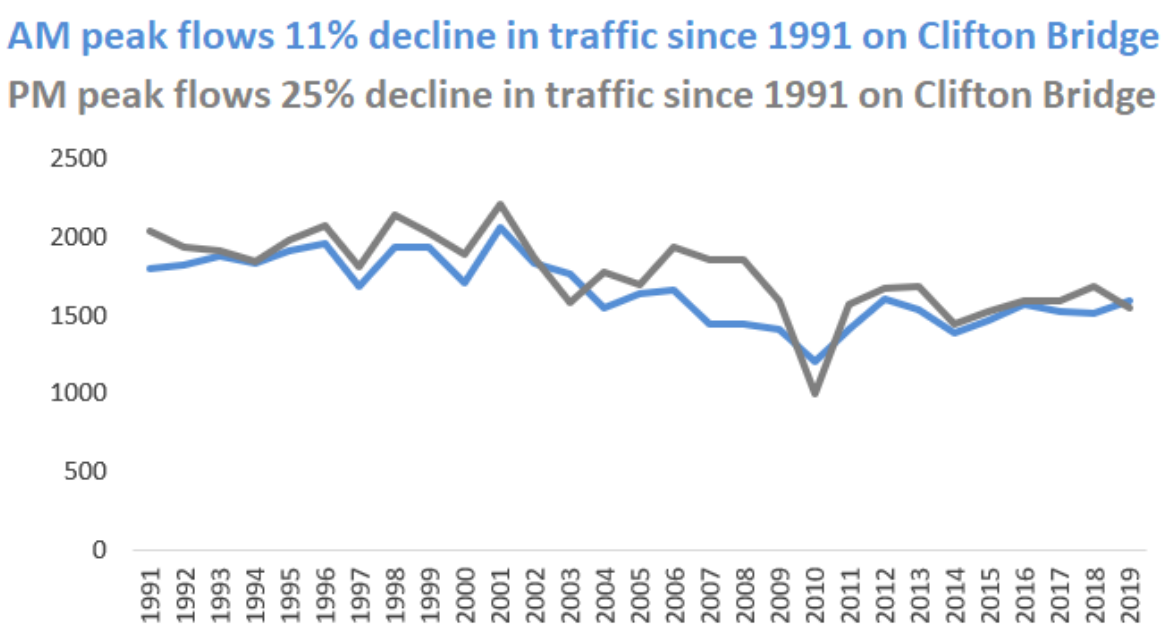
10.1 Skeldergate Bridge



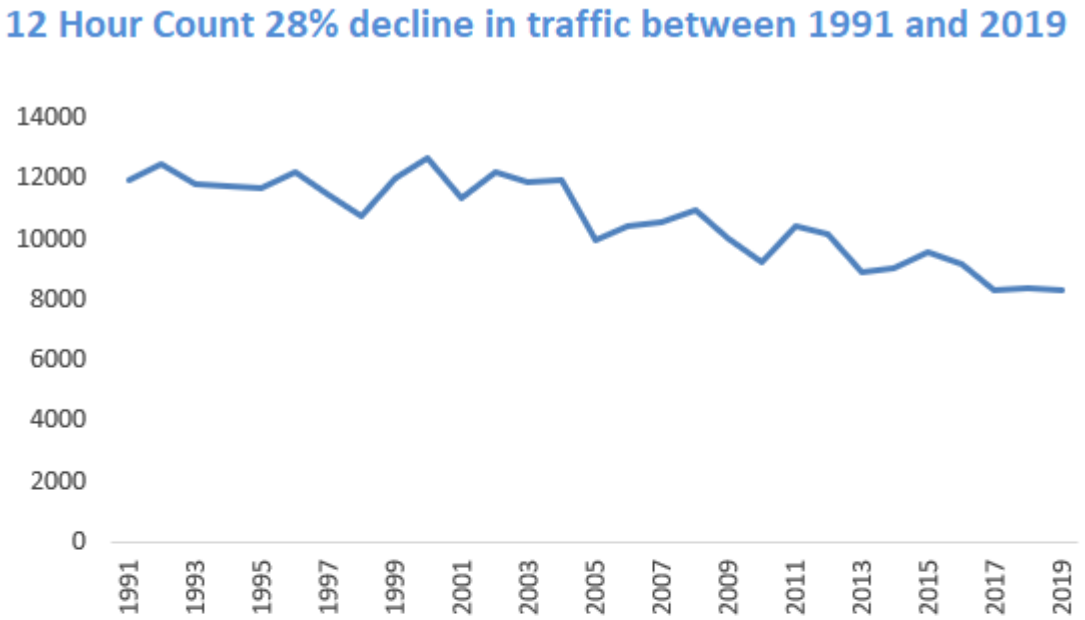


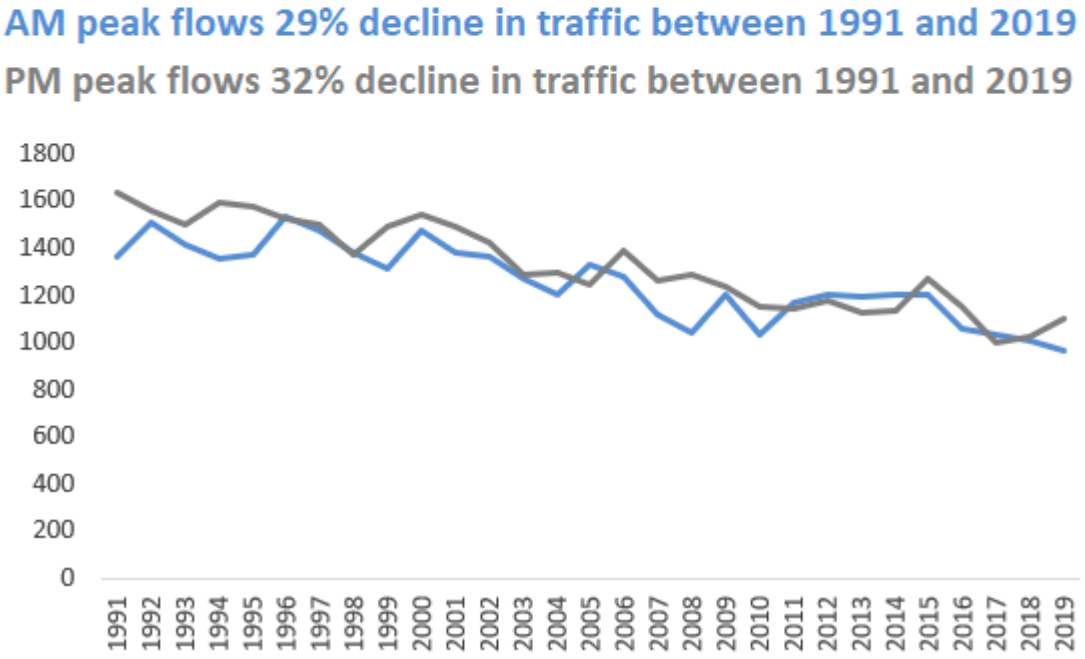
10.2 Clifton Bridge



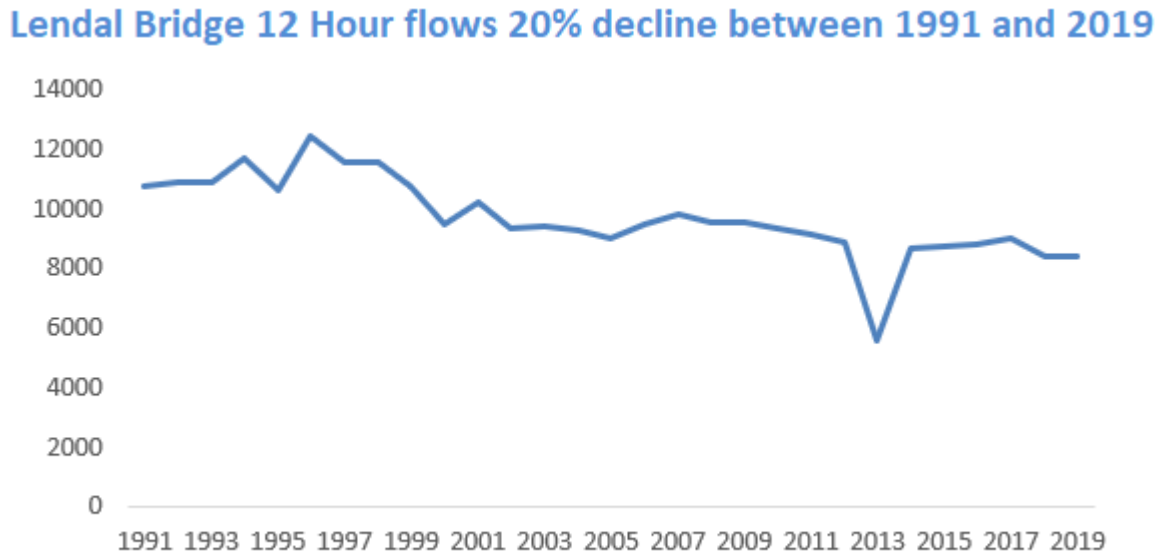


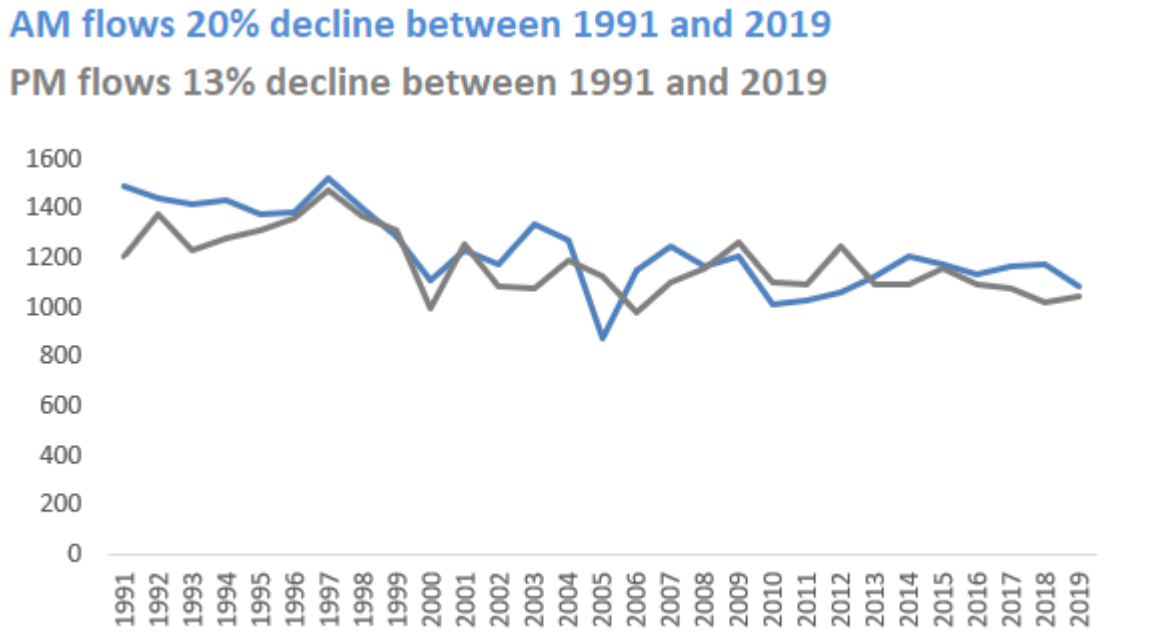
10.3 Ouse Bridge





11 Lendal Bridge



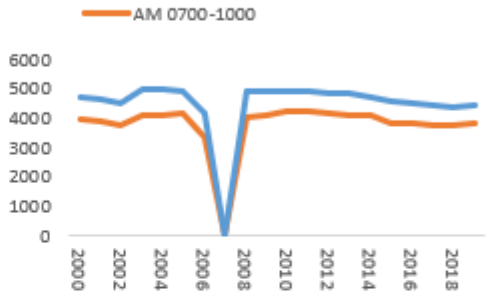


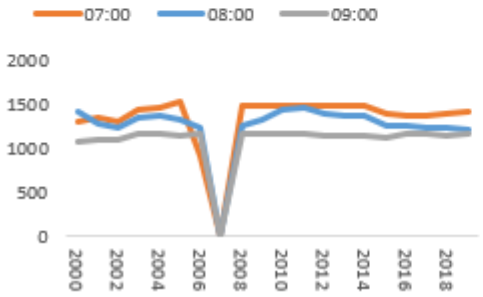
12 Appendix B Radial Routes

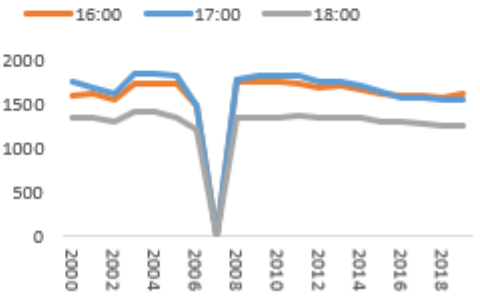
12.1 Site 11

12 hour flows changed by -1% from 2000 to 2019

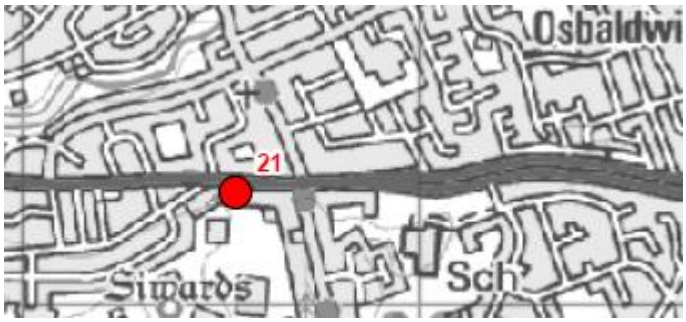
AM (0700-1000) flows changed by -4% from 2000 to 2019
PM (1600-1900) flows changed by -6% from 2000 to 2019



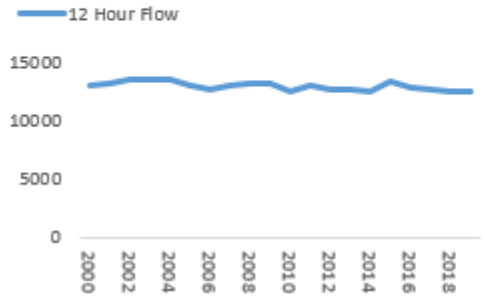




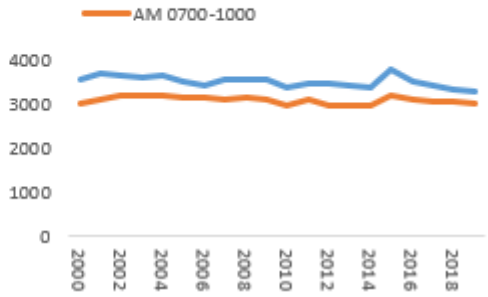
12.2 Site 21 Hull Road

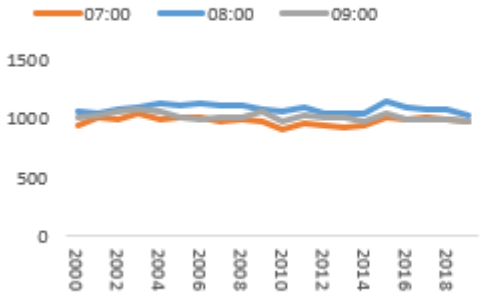


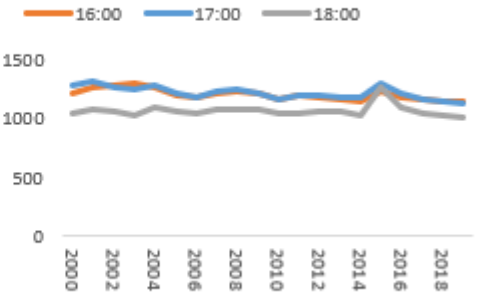
12 hour flows changed by -4% from 2000 to 2019



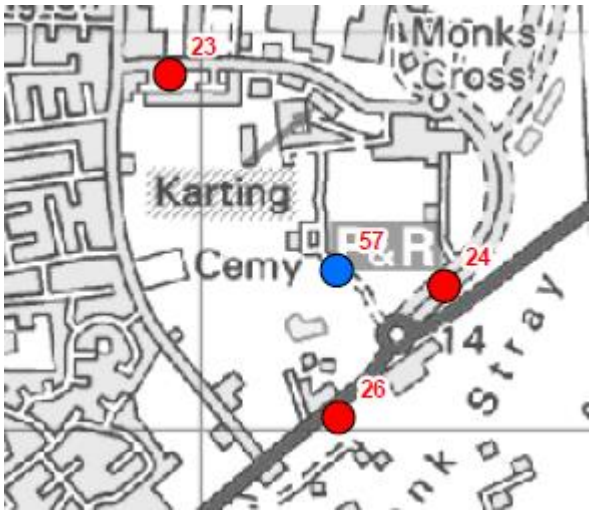
AM (0700-1000) flows changed by -1% from 2000 to 2019
PM (1600-1900) flows changed by -7% from 2000 to 2019



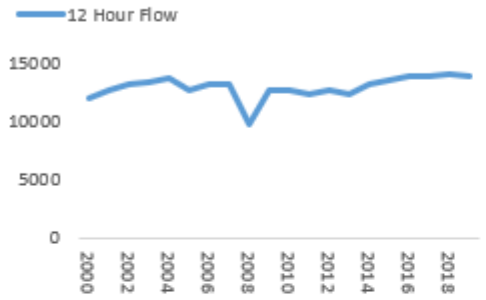




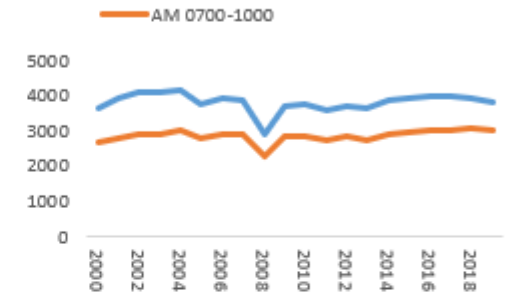
12.3 Site 26 Malton Road

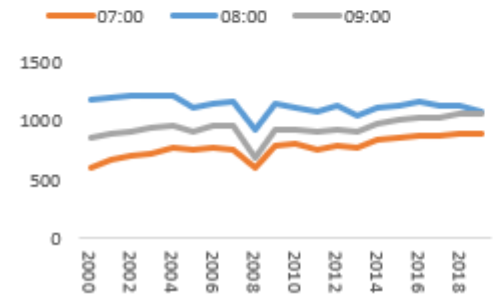


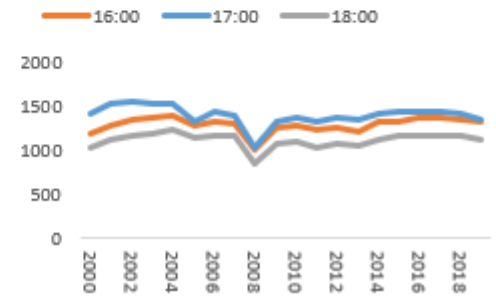
12 hour flows changed by 15% from 2000 to 2019



AM (0700-1000) flows changed by 13% from 2000 to 2019
PM (1600-1900) flows changed by 4% from 2000 to 2019

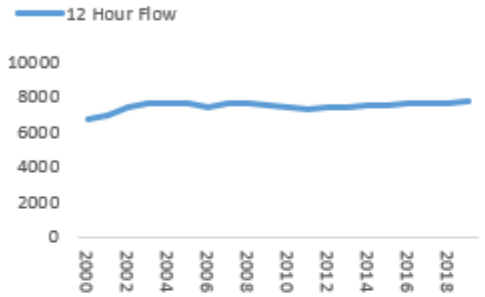




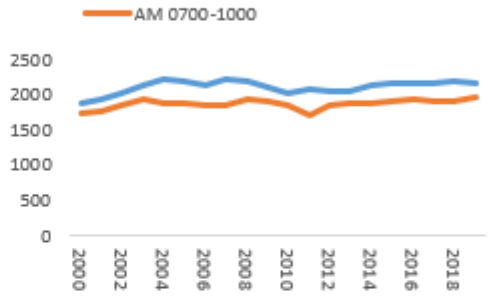


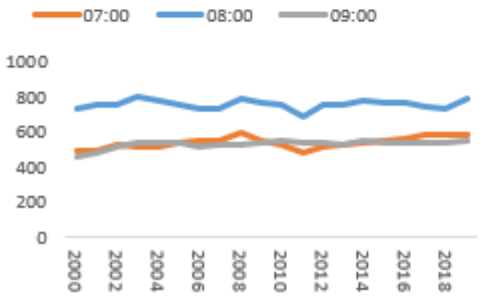
12.4 Site 22 Huntington Road

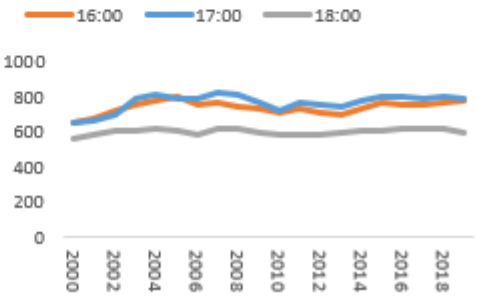
12 hour flows changed by 15% from 2000 to 2019



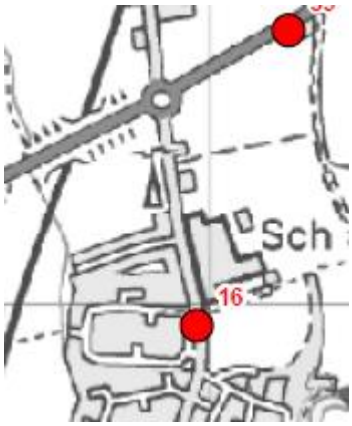
AM (0700-1000) flows changed by 14% from 2000 to 2019
PM (1600-1900) flows changed by 16% from 2000 to 2019



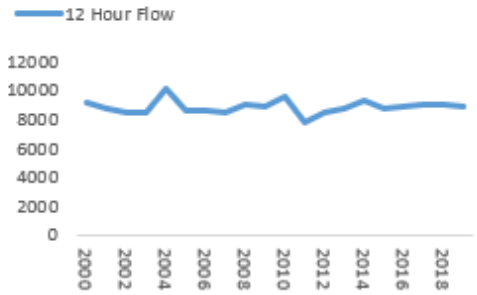




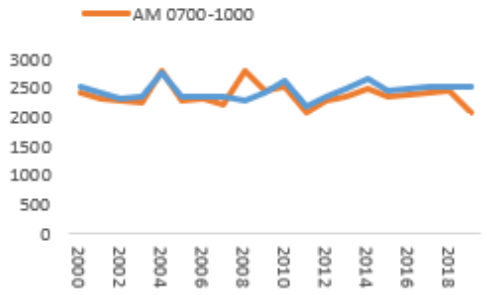
12.5 Site 16 Haxby Road

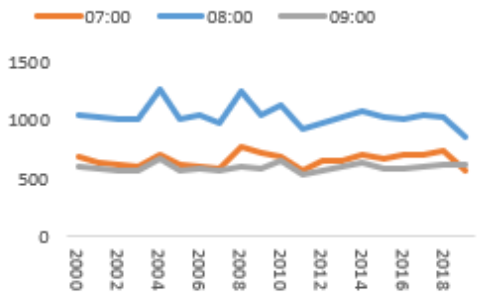


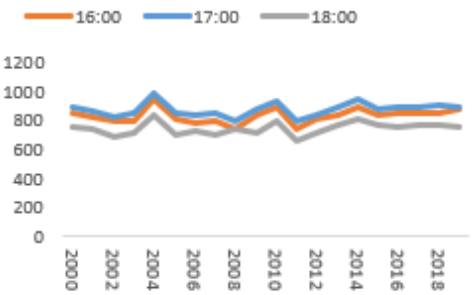
12 hour flows changed by -3% from 2000 to 2019



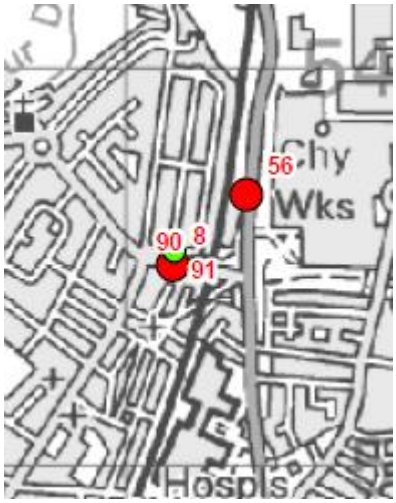
AM (0700-1000) flows changed by -14% from 2000 to 2019
PM (1600-1900) flows changed by 0% from 2000 to 2019



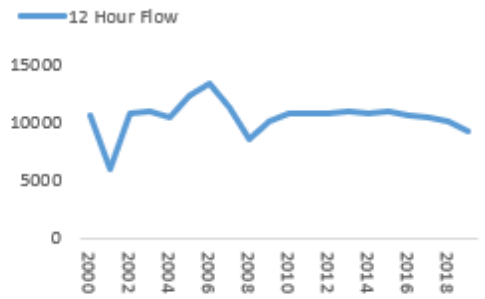




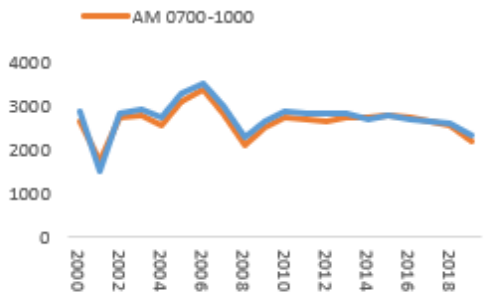
12.6 Site 56 Wigginton Road

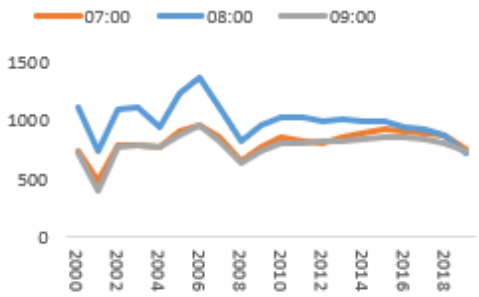


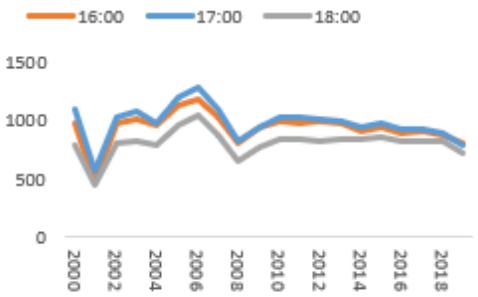
12 hour flows changed by -13% from 2000 to 2019



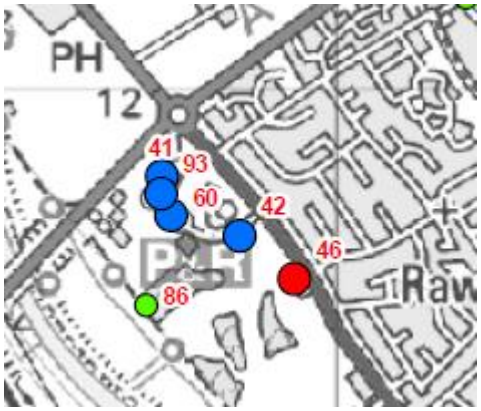
AM (0700-1000) flows changed by -17% from 2000 to 2019
PM (1600-1900) flows changed by -19% from 2000 to 2019



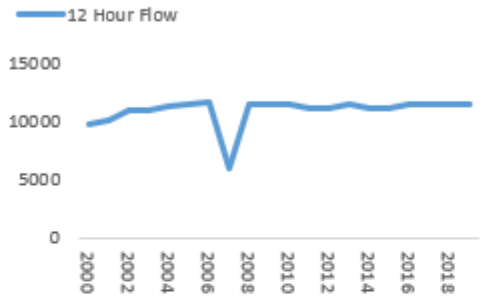




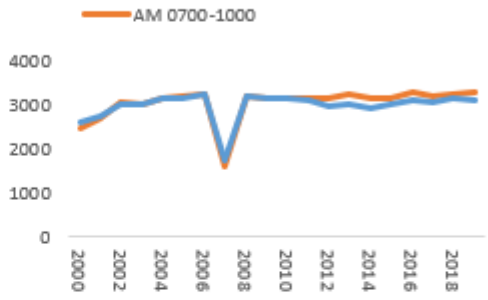
12.7 Site 46 Shipton Road

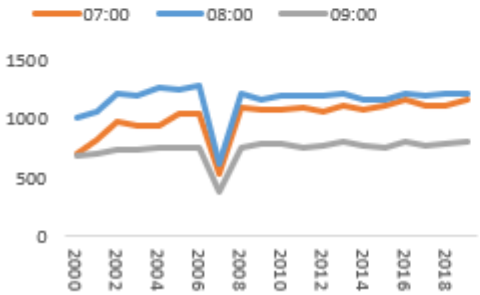


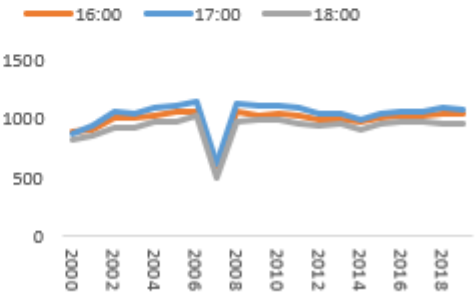
12 hour flows changed by 19% from 2000 to 2019



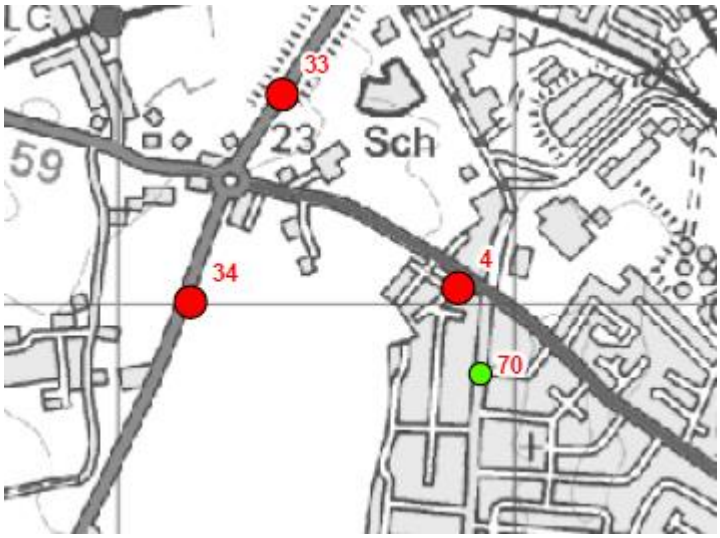
AM (0700-1000) flows changed by 33% from 2000 to 2019
PM (1600-1900) flows changed by 20% from 2000 to 2019





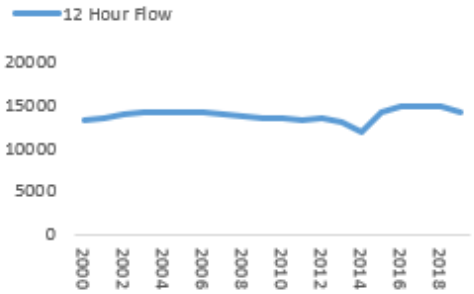


12.8 Site 4 Boroughbridge Road

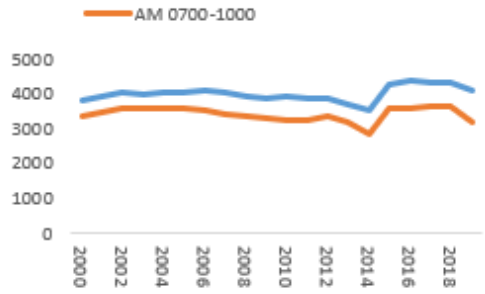


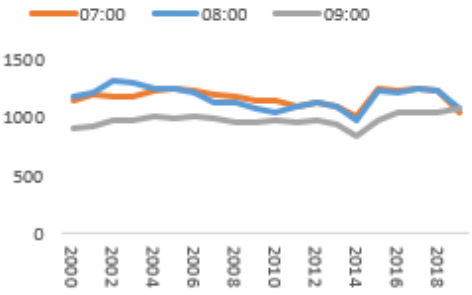
A1237/ A59 Roundabout upgraded 2015.

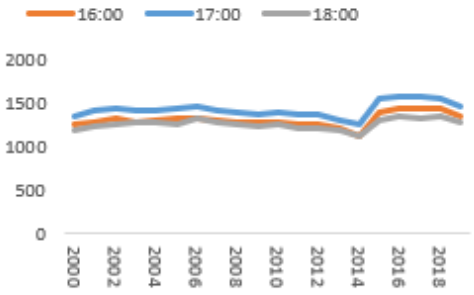
12 hour flows changed by 7% from 2000 to 2019



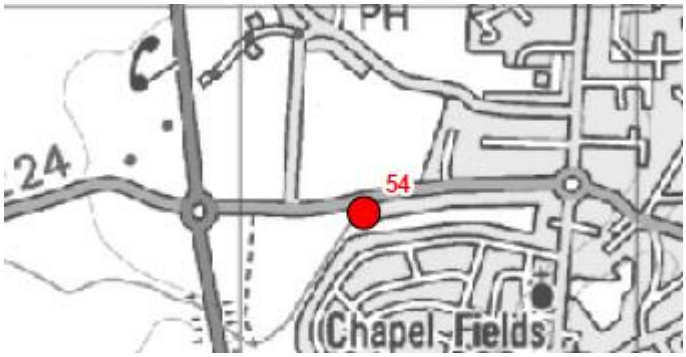
AM (0700-1000) flows changed by -4% from 2000 to 2019
PM (1600-1900) flows changed by 8% from 2000 to 2019



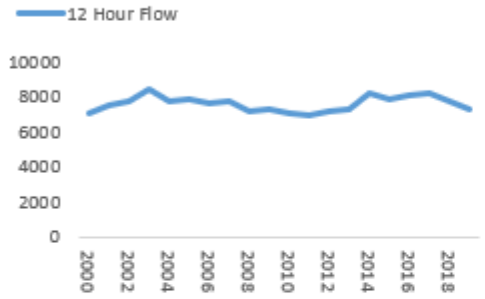




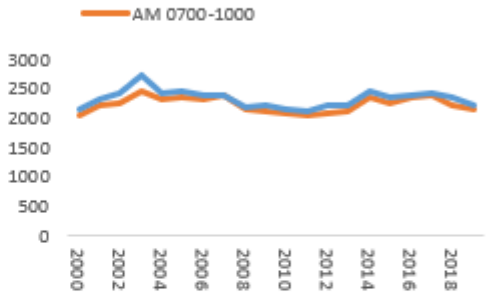
12.9 Site 54 Wetherby Road

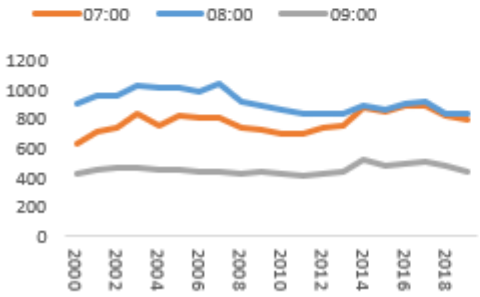


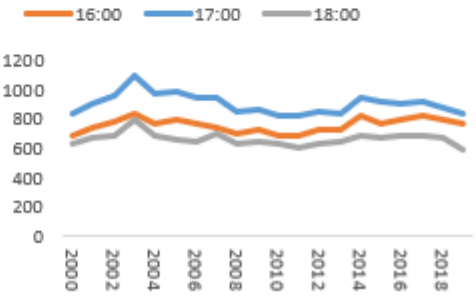
12 hour flows changed by 4% from 2000 to 2019



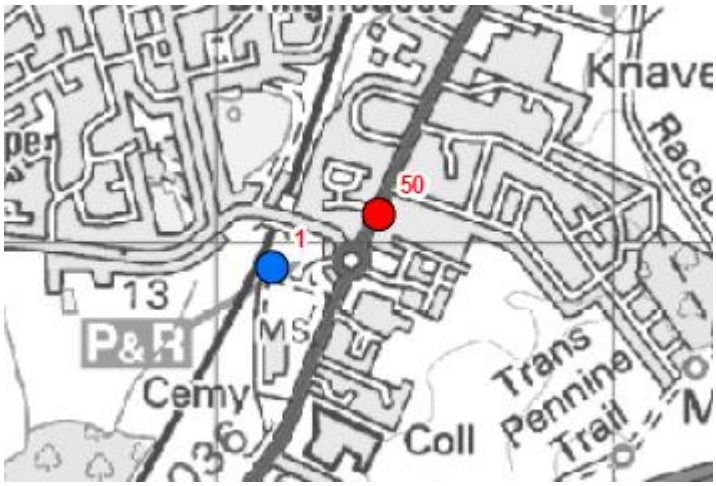
AM (0700-1000) flows changed by 5% from 2000 to 2019
PM (1600-1900) flows changed by 2% from 2000 to 2019



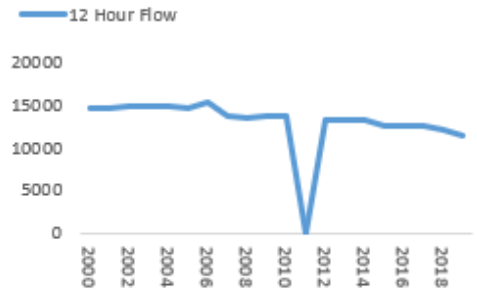




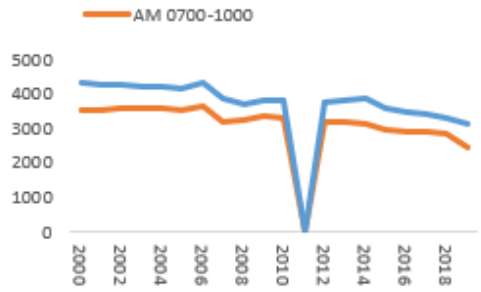
12.10 Site 50 Tadcaster Road

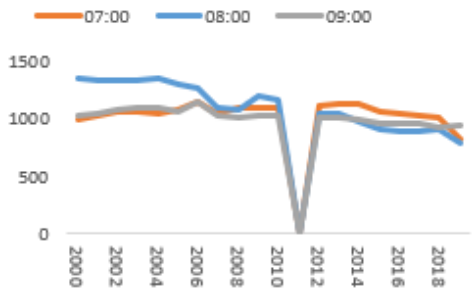


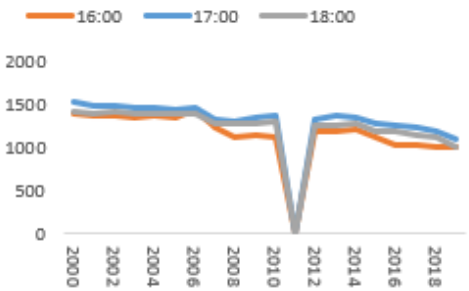
12 hour flows changed by -22% from 2000 to 2019



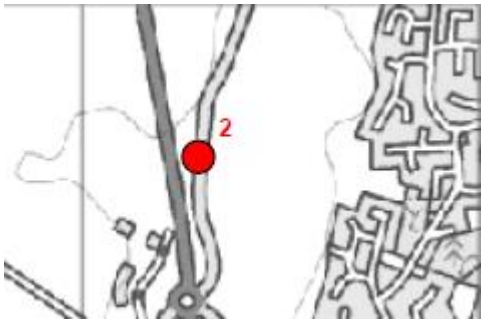
AM (0700-1000) flows changed by -30% from 2000 to 2019
PM (1600-1900) flows changed by -28% from 2000 to 2019



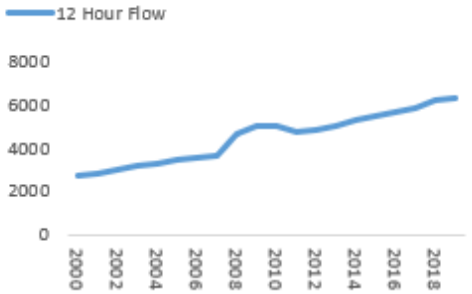


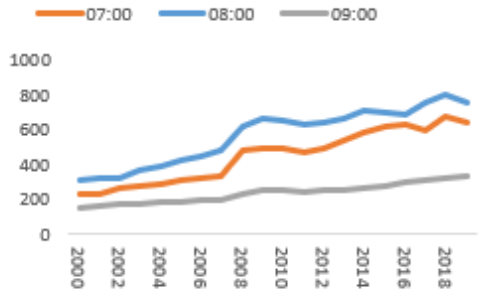


12.11 Site 2 Askham Lane

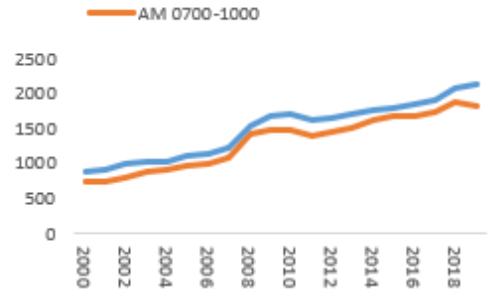


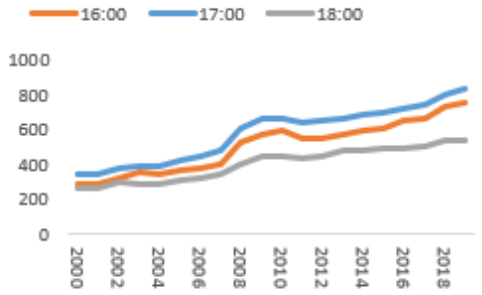
12 hour flows changed by 134% from 2000 to 2019





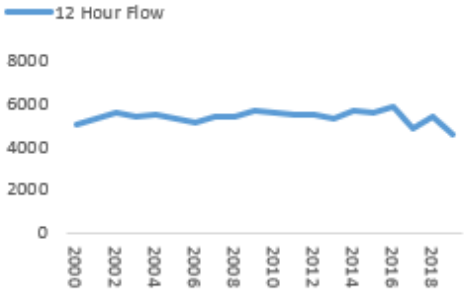
AM (0700-1000) flows changed by 149% from 2000 to 2019
PM (1600-1900) flows changed by 142% from 2000 to 2019



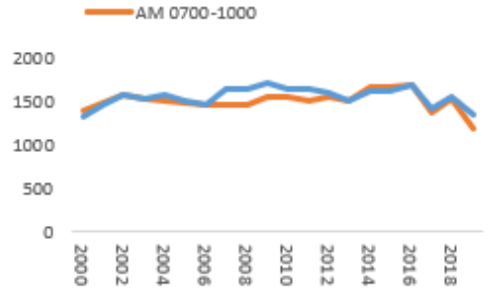


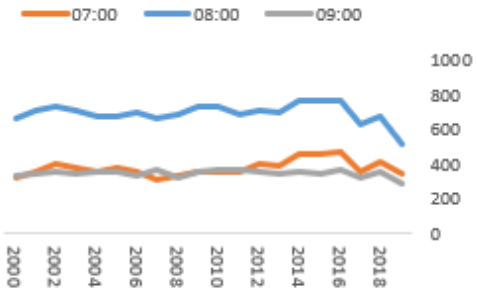
12.12 Site 3 Bishopthorpe Road

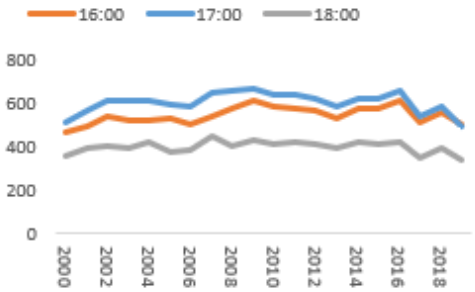
12 hour flows changed by -9% from 2000 to 2019



AM (0700-1000) flows changed by -16% from 2000 to 2019
PM (1600-1900) flows changed by 1% from 2000 to 2019

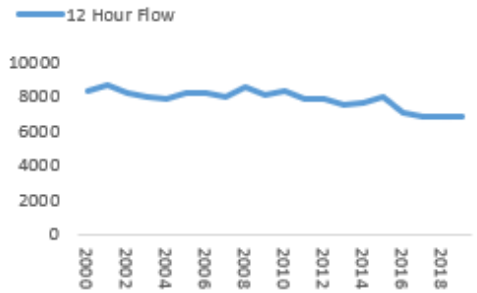




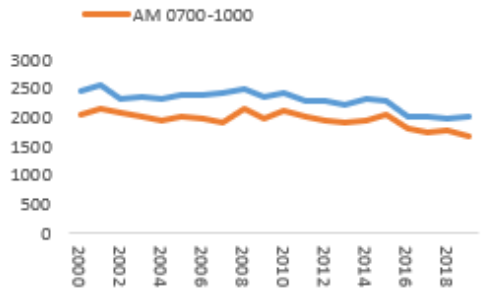


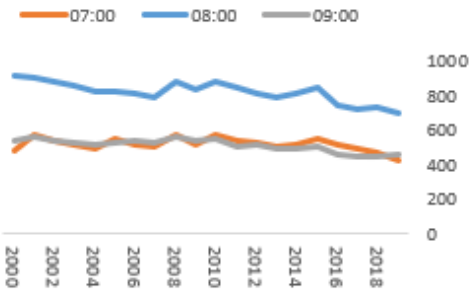
12.13 Site 17 Heslington Lane

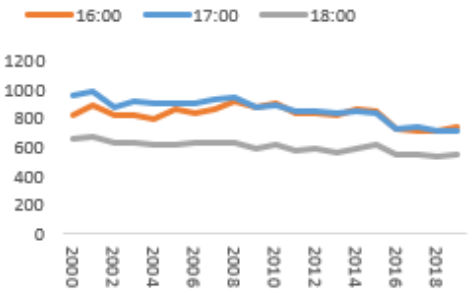
12 hour flows changed by -19% from 2000 to 2019



AM (0700-1000) flows changed by -19% from 2000 to 2019
PM (1600-1900) flows changed by -18% from 2000 to 2019

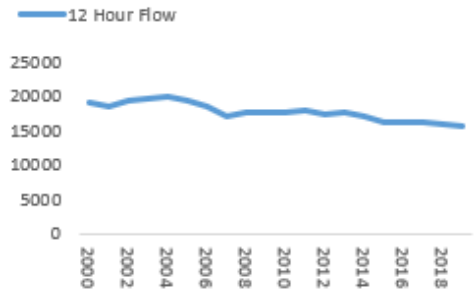




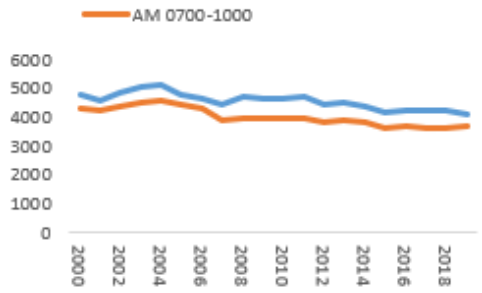


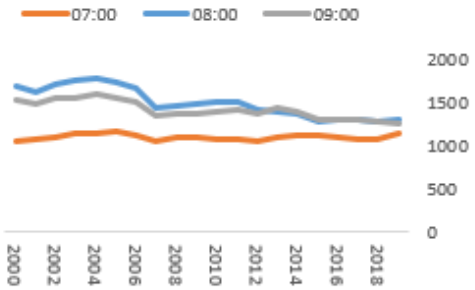
12.14 Site 10 Foss Islands Road

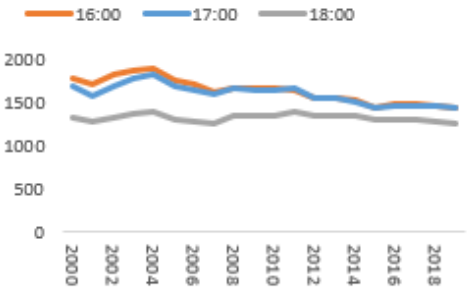
12 hour flows changed by -17% from 2000 to 2019



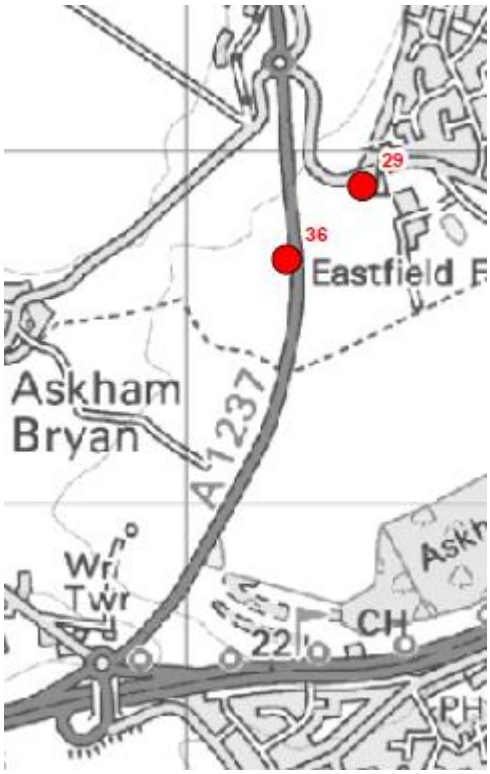
AM (0700-1000) flows changed by -14% from 2000 to 2019
PM (1600-1900) flows changed by -14% from 2000 to 2019



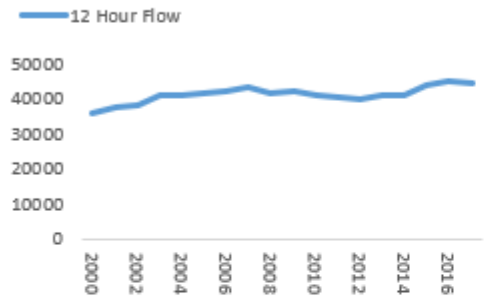




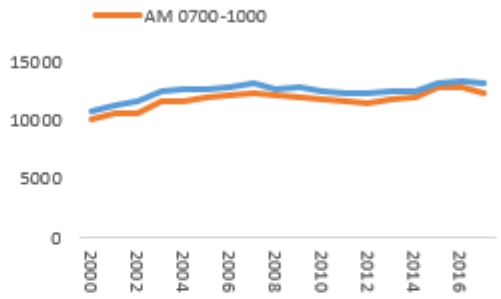
12.15 Site 36 between A64 and Askham Bryan Roundabout

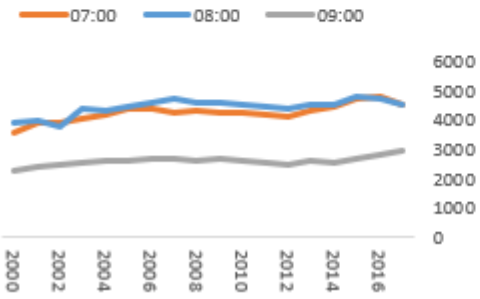


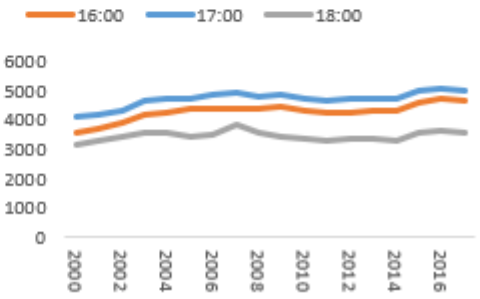
12 hour flows changed by 25% from 2000 to 2017



AM (0700-1000) flows changed by 22% from 2000 to 2017
PM (1600-1900) flows changed by 22% from 2000 to 2017

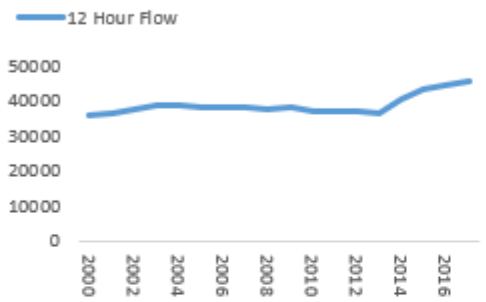




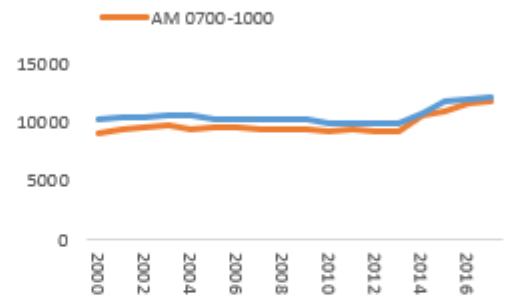


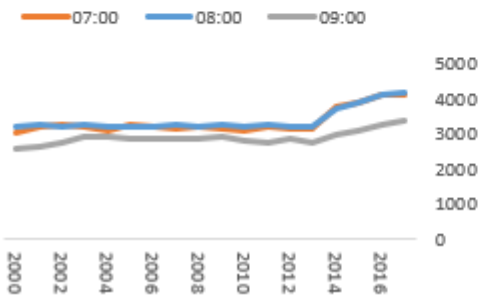
13 Site 34 A1237 between B1224 and A59

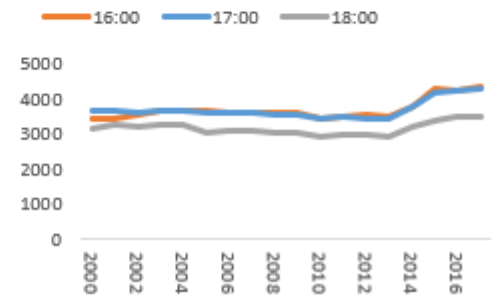
12 hour flows changed by 26% from 2000 to 2017



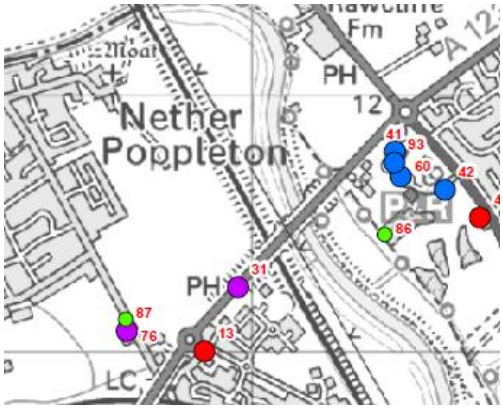
AM (0700-1000) flows changed by 30% from 2000 to 2017
PM (1600-1900) flows changed by 18% from 2000 to 2017



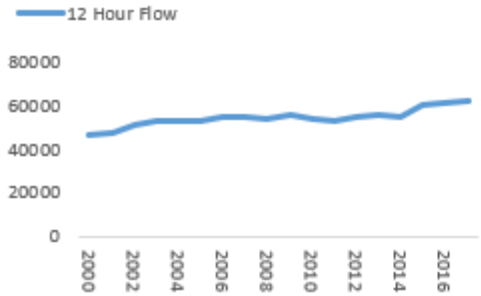




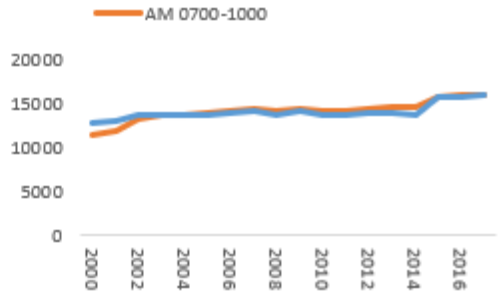
14 Site 31 between A59 and A19

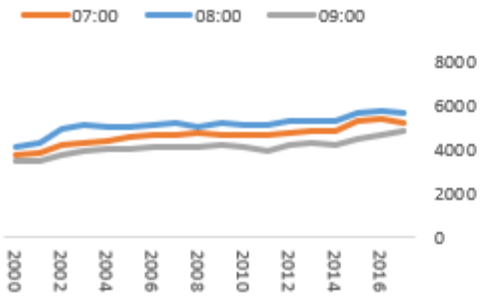


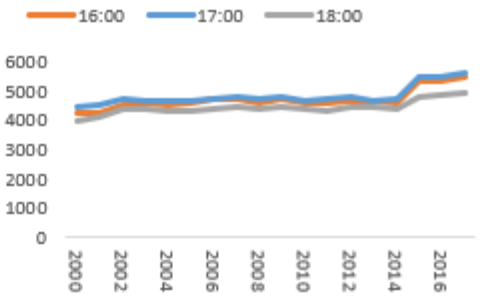
12 hour flows changed by 15% from 2010 to 2017



AM (0700-1000) flows changed by 12% from 2010 to 2017
PM (1600-1900) flows changed by 17% from 2010 to 2017

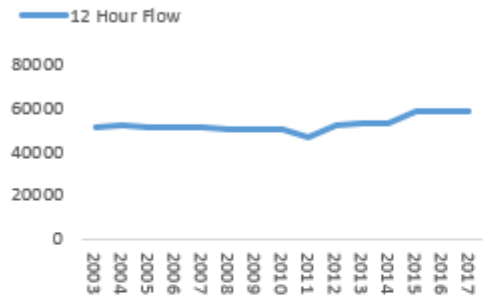




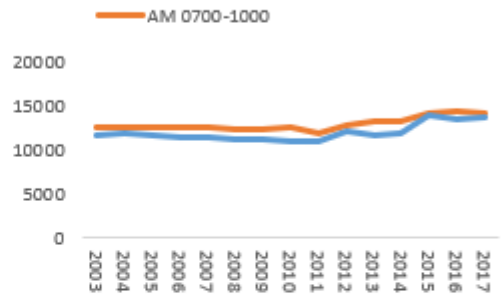


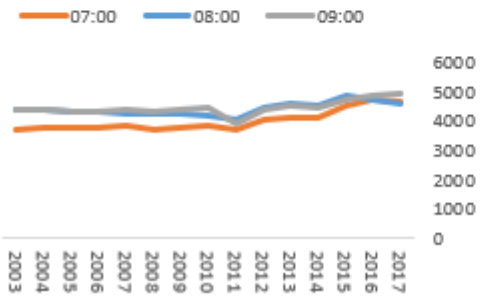
15 Site 40 between A59 and B1363

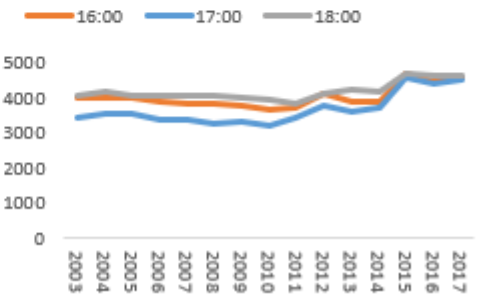
12 hour flows changed by 14% from 2003 to 2017



AM (0700-1000) flows changed by 13% from 2003 to 2017
PM (1600-1900) flows changed by 19% from 2003 to 2017

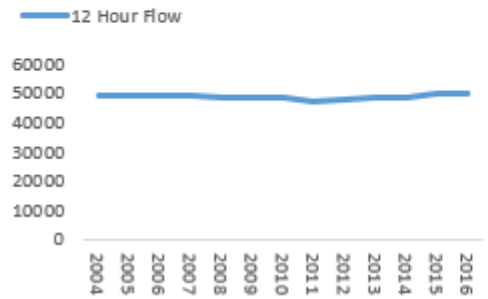




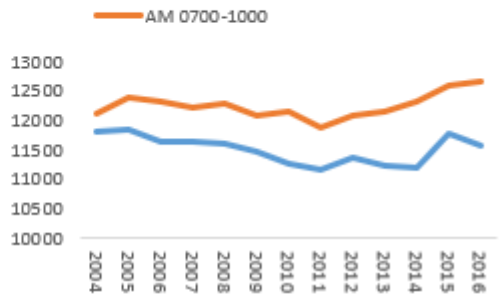


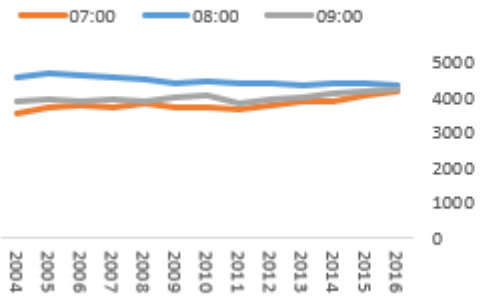
16 Site 38 between B1363 and Haxby Road

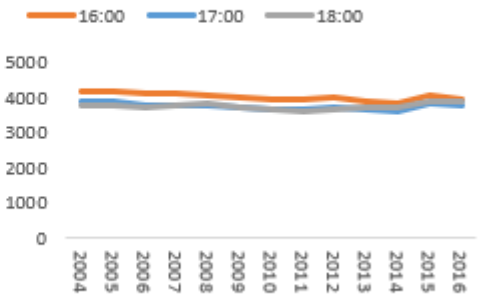
12 hour flows changed by 3% from 2010 to 2016



AM (0700-1000) flows changed by 4% from 2010 to 2016
PM (1600-1900) flows changed by 3% from 2010 to 2016

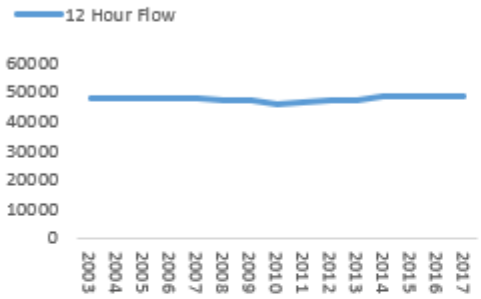




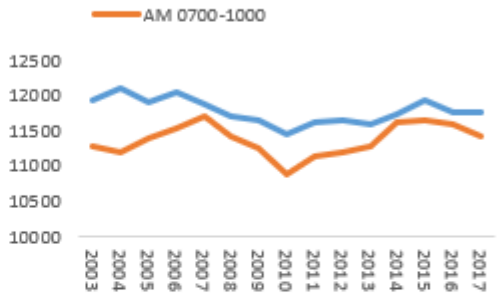


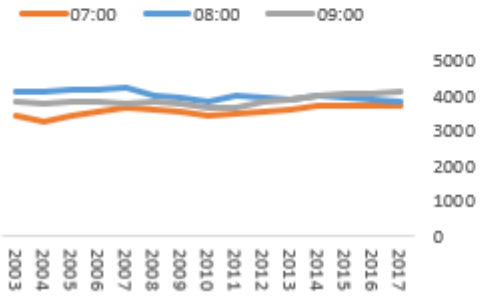
17 Site 39 between Haxby Road and Strensall Road

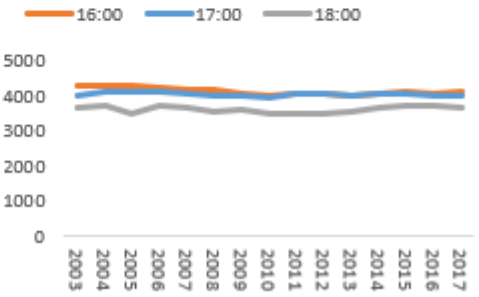
12 hour flows changed by 1% from 2003 to 2017



AM (0700-1000) flows changed by 1% from 2003 to 2017
PM (1600-1900) flows changed by -1% from 2003 to 2017

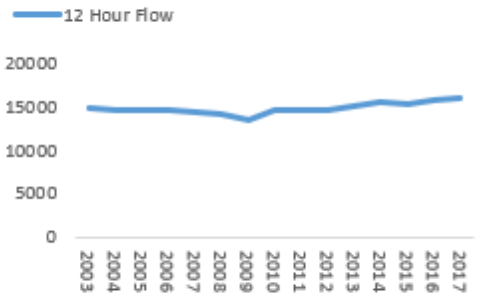




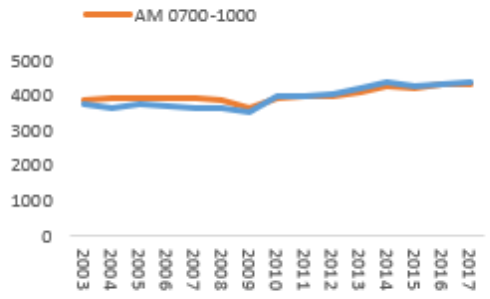


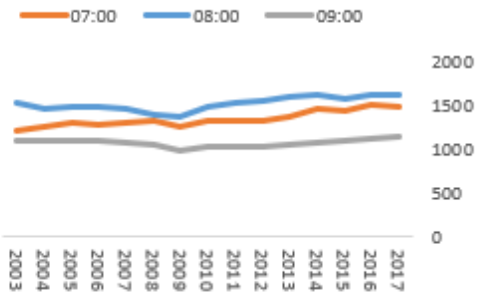
17.1 Site 37 between North Lane and Little Hopgrove

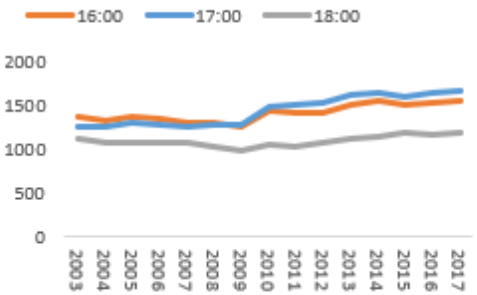
12 hour flows changed by 9% from 2010 to 2017



AM (0700-1000) flows changed by 11% from 2010 to 2017
PM (1600-1900) flows changed by 11% from 2010 to 2017



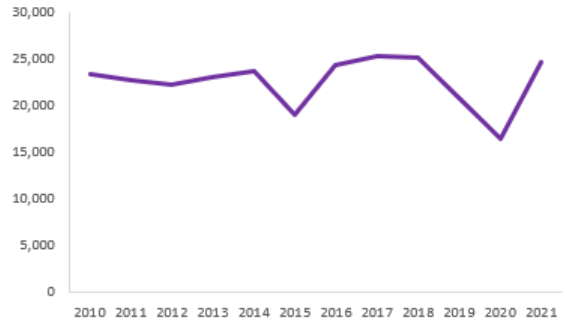


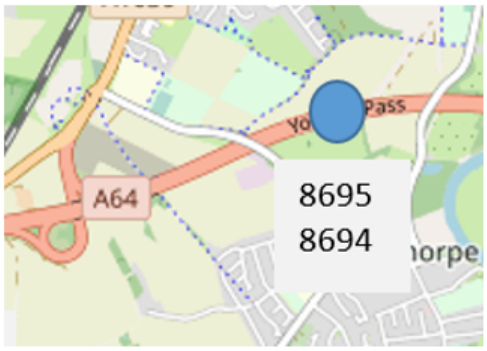


18 Appendix C

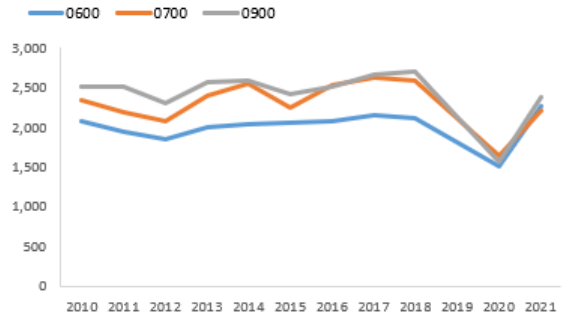
A64 EB at Askham Bog

12 Hour Flows changed by 8% from 2010 to 2018

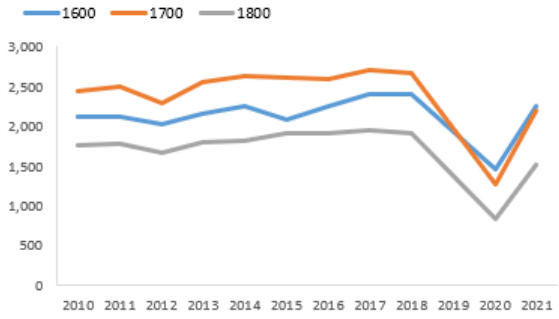




Combined AM Flows change by 7% from 2010 to 2018

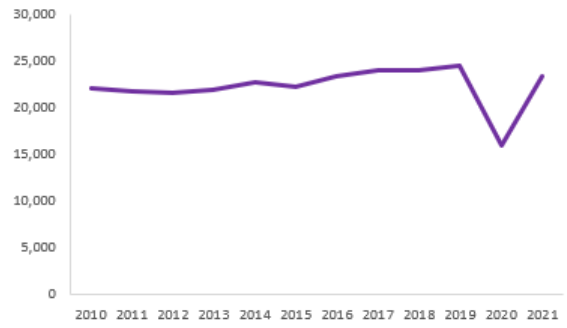


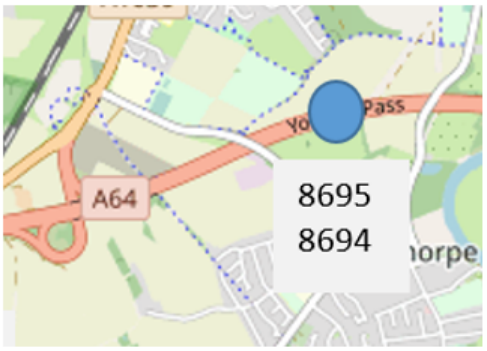
Combined PM Flows change by 11% from 2010 to 2018



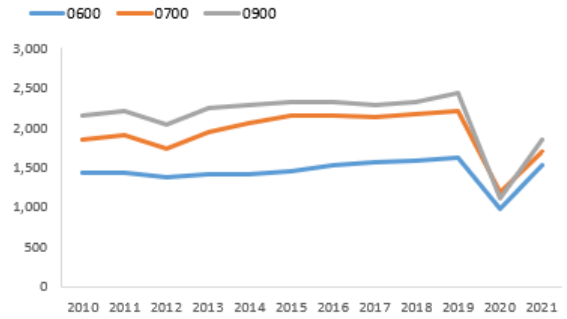
WB between A1036 and A19

12 Hour Flows changed by 11% from 2010 to 2019

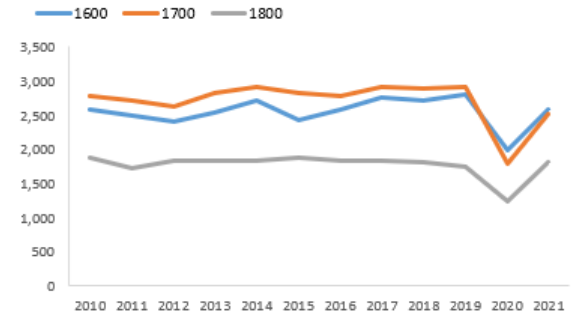




Combined AM Flows change by 15% from 2010 to 2019

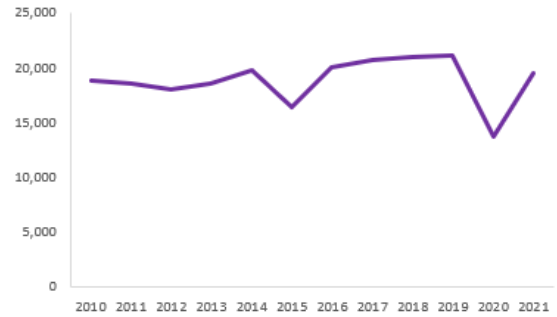


Combined PM Flows change by 3% from 2010 to 2019

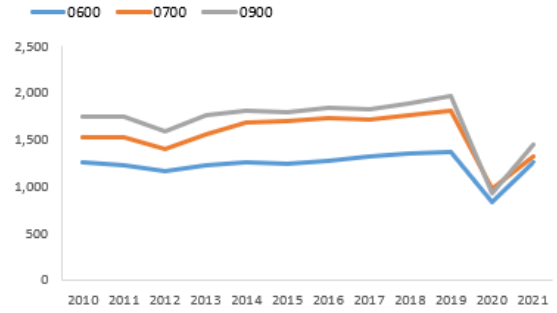


WB beetween A19 and Grimston Bar

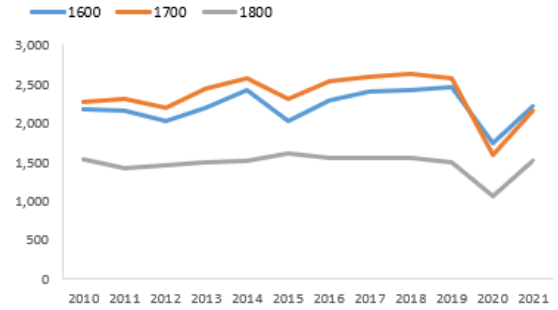
12 Hour Flows changed by 13% from 2010 to 2019



Combined AM Flows change by 13% from 2010 to 2019

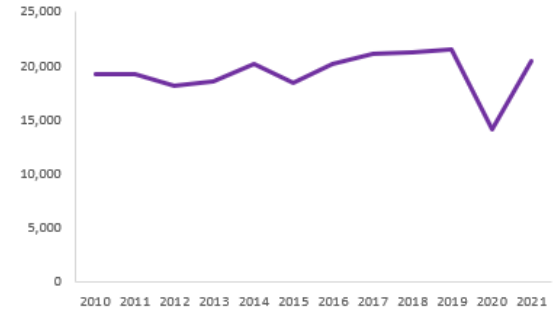


Combined PM Flows change by 9% from 2010 to 2019

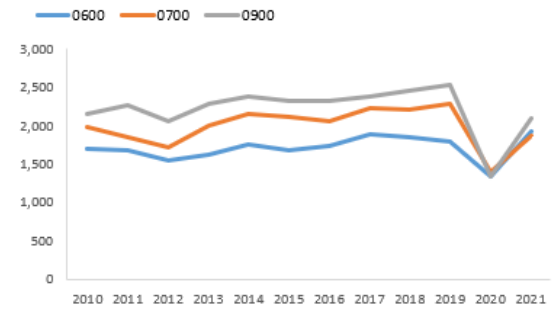


EB beetween A19 and Grimston Bar

12 Hour Flows changed by 12% from 2010 to 2019



Combined AM Flows change by 14% from 2010 to 2019



Combined PM Flows change by 15% from 2010 to 2019