

# Colindale Area Action Plan

**Supporting Documents** 

Saturn Modelling June 2009

> Local Development Framework



# **Colindale Area Action Plan (AAP)**

# Saturn Modelling

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# Summary

#### Introduction

A calibrated and validated SATURN highway model of the Colindale area, base year 2007 was developed on behalf of TfL by consultants. The model analysed 2 peak periods, a weekday AM and PM peak hour. Colin Buchanan (CB) was commissioned by LB Barnet in association with TfL to develop Do Minimum and Do Something future year models relating to development proposed for an Area Action Plan (AAP) in the Colindale area. The key assumptions used for the model were agreed with LB Barnet and TfL in a series of technical notes. The main aim of the SATURN work was to understand the more strategic implications of additional development at Colindale, and to test new road proposals which might improve access.

A number of tests were undertaken in 2008, and initial findings were reported - in early 2009 additional tests were undertaken on options, and the results of these have been included in this revised report.

## **Background**

Significant development is proposed in the Colindale Area Action Plan (AAP) – approximately 10,000 new residential units in the period 2001 to 2021. Some 5,000 of these already have planning permission and were regarded as the 'do-minimum' scenario. The 'do-something' scenarios assumed the remaining proposed development was implemented, and tested various different network changes.

#### **Current network**

Colindale has relatively few access points to the wider road network – these are summarised below:

- Aerodrome Road/A41 provides direct access to the east to the A41 and central London and the wider strategic network
- Grahame Park Way provides access to Mill Hill and the north, although capacity is constrained by the nature of the Mill Hill area
- Colindale Avenue /Edgware Road is the main connection to the west and the A5, which runs north/south on the western edge of the study area
- Montrose Avenue also provides a connection to the A5, although access to this link from within the study area is less direct
- There are some other links to the north, although these are relatively constrained and ultimately lead to the Mill Hill area or the A5 via other roads.

The base tests indicated that the Colindale are itself only generates some 5% of the total trips in the wider modelled area, and that the strategic network suffers from congestion and capacity constraints in a number of locations. There were indications from the base model that congestion on the wider strategic network will lead to future peak spreading and/or changes in travel. The solutions to these strategic constraints were regarded as outside the scope of the Colindale AAP work.

#### **Network Tests**

The 'do-minimum' (committed development) flows increase local congestion and at the key junctions. When the 'do-something' flows (i.e. Colindale AAP growth) are applied to the network, this obviously increases flows within the Colindale area, and at the main exits. /entry points to this. There are flow increases on other external roads, in particular theA41 and A1, and to a lesser extent the A5 but flow changes on the M1 are negligible. Some of the changes to flows on external roads are likely to be due to new Colindale trips, while others are likely to be due to 'through' traffic in Colindale being diverted to other parts of the network. Within Colindale the Aerodrome Rd/A41 and Colindale Avenue/A5 junctions are significantly over capacity.



Relatively minor improvements to the local network will assist in managing future flows, but will not be adequate to bring network conditions back to a 'do-minimum' level in the future. The smaller changes tested included minor changes at the Aerodrome Road/A41 junction, improvements to the junction of Grahame Park Way and Bunns Lane, a new crossroads at Aerodrome Road/Colindale Avenue, and signals at the junction of Montrose Avenue and Edgware Road.

The introduction of a North Montrose access link (a new road between Montrose Avenue and Colindale Avenue) did not significantly improve network conditions, and carried relatively low levels of traffic (circa 500-800 vehicles per hour 2-way). The North Montrose access link did not appear to add exit/entry capacity to the Colindale area, and performed more as a limited local distributor, providing an alternative to a short section of the A5 and Booth Road.

When a full Montrose access link was tested (the North Montrose link as above, plus a link from Colindale Avenue to Colindeep Lane via Sheaveshill Avenue) this carried more significant volumes, particularly on the southern part (some 1,500 vehicles per hour). It is likely that this option could be delivered as it uses land primarily within Council control, and offered a new access route between the heart of the study area and Colindeep Lane, from which traffic could access either the A5 or A41. Tests indicated that it provided the most relief to future network conditions in the pm peak of the options tested (the Peel link described below performed slightly better in the am peak) and could also be used by bus services if required. However it also introduced a very significant increase in flows on Sheaveshill Avenue (which is currently a short residential cul-de-sac) and introduced significant new traffic volumes and a new junction in the Colindale Station area, which is the key local interchange.

The Peel link option tested introducing a new link between Aerodrome Road and Colindeep Lane, as with the full Montrose link, providing access to either the A5 or A41. It provided some relief to the constrained Aerodrome Road/A41 junction and direct access to Colindeep Lane for the proposed major development at the Peel Centre. Tests indicate that this option is the best performing of those tested in the am peak, while in the pm peak it provided almost as much relief as the full Montrose link. Provided this is introduced in conjunction with the redevelopment of the Peel Centre, this solution appears deliverable. The final design should aim to reinforce the routes main role of the route as a local distribution and access for Peel Centre development.

The Colindale Avenue improvement tested provides increased capacity at this key junction on Edgware Road, but does require some land-take from highway land in the ownership of LB Brent, and the removal of a section of bus lane on Edgware Road. It would however relieve congestion on this key link to the A5. It may be possible to introduce a lower level of scheme, perhaps with widening on only one side of Edgware Road, but further work will be required to confirm this.

#### **Conclusions**

The conclusions from the SATURN modelling work are that in order to provide capacity for predicted Colindale AAP flows, some improvements are necessary, and improvements to the Aerodrome Road/A41, the Montrose Avenue/A5 and Aerodrome Road/Colindale Avenue junctions are recommended. However these will not provide sufficient relief for future network conditions, and further improvements will be required.

The Colindale Avenue/A5 improvements will help in the medium term to relieve this important connection to Edgware Road and the shopping area here. It would require joint working with LB Brent and TfL to implement, but together with the junction improvements noted above, should be adequate to deliver development during the earlier part of the AAP period, at least until major housing sites are developed at the Peel Centre.

The introduction of a full Montrose access link between Colindeep Lane and Montrose Avenue is likely to provide the most overall network relief, although these benefits are not significantly different form those provided by the Peel Link. However this option also introduces significant new volumes on



Sheaveshill Avenue and at the Colindale Station interchange, and consultation for the AAP revealed significant opposition to this proposal.

The Peel Link offers some of the advantages of the Montrose link (access to Colindeep Lane and the A5/A41) but does not directly affect existing dwellings or parkland, and can be delivered in conjunction with major development, but this is only likely towards the end of the AAP period. The tests indicate that the benefits of this option are very close to that achievable with the full Montrose link.

The tests indicated that the combined effect of the Peel Link and Colindale Avenue schemes was not significantly better than the individual schemes in the pm peak, but both schemes together will provide more capacity to the A5 and Colindeep Lane and a much higher level of network resilience. It is recommended that this package be pursued rather than the Montrose link, as it appears to offer most of the benefits of the latter. Should either of these schemes not be deliverable, the introduction of the Montrose Link offers an alternative, and it is recommended that nothing in the AAP be done to prevent such a link being introduced in future should this be required.

The recommendation is therefore for the AAP to implement a phased set of improvements in the area:

- The first phase of improvement should include the Aerodrome Road/A41 improvement, the Colindale Avenue/Aerodrome Road scheme, and the Montrose Avenue/A5 junction scheme. Final proposals for the Colindale Avenue/A5 junction improvement scheme should be developed in conjunction with LB Brent and TfL.
- The second phase, in conjunction with the redevelopment of the Peel Centre, would be to introduce the Peel Access Link.

This phasing will need to allow for changes in future developments coming on line, and be flexible enough to adapt to these. It should be noted that given the constraints in the wider network and the extent of development proposed in the area, additional congestion is expected on the wider network, probably resulting in some peak spreading. These improvements will only assist in reducing impact in the local Colindale area, and more strategic studies/solutions will be required for the wider network. In addition, measures to encourage mode shift in Colindale may reduce the traffic impact of the proposed developments.



## 1 Introduction

## 1.1 Background

- 1.1.1 A calibrated and validated SATURN highway model, base year 2007 has been developed on behalf of TfL by Hyder. The model analyses 2 peak periods, a weekday AM and PM peak hour. Colin Buchanan (CB) was commissioned by TfL and LB Barnet to develop Do Minimum and Do Something future year models relating to development in the Colindale area. The key assumptions used for the model were agreed with LB Barnet and TfL in a series of technical notes see Appendix A.
- 1.1.2 The main aim of the SATURN work was to understand the more strategic implications of additional development at Colindale, and to test new road proposals which might improve access.
- 1.1.3 A number of tests were undertaken in 2008, and were included in the original version of this report. In early 2009 additional tests were undertaken on options, and the results of these have been included in this revised report, from chapter 8 onwards.

## 1.2 Colindale highway network

- 1.2.1 Colindale has relatively few access points to the wider road network these are described below:
- 1.2.2 Aerodrome Road/A41 on the west of the study area offers the shortest and most direct access to London's strategic road network. A recent improvement scheme part-funded by development in Colindale has increased capacity on the Colindale approach to this signalised junction (from 1 lane to 2). However due to the signal settings, and the dominance of the A41 flows, the available green time for the Colindale approach means that this only limited capacity for additional traffic from Colindale. Grade-separation is unlikely to be feasible here given the adjacent railway and M1 and surrounding development. There is existing congestion further south on the A41 in the morning peak at The Boroughs junction, which appears to be the capacity constraint on this stretch of the A41. While there does not appear to be any potential for a major improvement at this junction, allocating more green time to the Colindale approach could reduce delays on this approach.
- 1.2.3 Colindale Aveneue/A5/Annesley Avenue this signalised junction with the A5 on the east of the study area is already at capacity. The right-turn is banned at the A5, and vehicles must use an adjacent largely residential street (Annesley Avenue) to make this movement. The model also indicates that a significant number of vehicles use Annesley Avenue to turn left onto the A5, bypassing the queue on the Colindale Avenue approach. This route is also the most direct route for cars, cyclists and pedestrians from Colindale to the major retail facilities on the Edgware Road.
- 1.2.4 **Montrose Avenue/A5** this priority junction on the east of the study area is not at capacity, but is difficult to access from within Colindale other than by the residential streets of Booth Road and Lanacre Avenue. In addition the right turn, southbound, from Booth Road into Colindale Avenue is currently banned.
- 1.2.5 **Grahame Park Way/Bunns Lane** this mini-roundabout junction to the north of the study area is being considered for improvement following recent development in Colindale and some improvement in capacity appear possible. Further north the road passes through Mill Hill Broadway, a constrained part off the highway network, and this



and Mill Hill Circus junction on the A1 acts as the effective capacity constraint to the north.

1.2.6 To the south lies **Colindeep Lane** which connects the A41, via a grade-separated junction, to the A5. However access from the study area to this road currently has to be via Colindale Avenue and the A5, which is a current capacity constraint, so the route is effectively not available as an access point to Colindale.

## 1.3 Documents and files used

- 1.3.1 The following SATURN files were provided:
  - COLINDALE 2007 AM ME2 R130.UFM
  - COLINDALE\_2007\_AM\_R130.dat
  - COLINDALE\_2007\_AM\_R130.UFC
  - COLINDALE\_2007\_AM\_R130.UFS
  - COLINDALE\_2007\_PM\_ME2\_R130.UFM
  - COLINDALE\_2007\_PM\_R130.dat
  - COLINDALE\_2007\_PM\_R130.UFC
  - COLINDALE 2007 PM R130.UFS
- 1.3.2 The following spreadsheets used in the Calibration and Validation analysis (see chapter 4) were also provided by Hyder.
  - AM Link Flow 130
  - PM Link Flow 130
  - AM Turning Flow 130
  - PM Turning Flow 130
  - JT Summary
- 1.3.3 The following documents regarding the model were provided by TfL:
  - Colindale Base Year Highway Assignment Model, Traffic Survey Report, April 2008
  - Colindale Base Year Highway Assignment Model, Local Model Validation Report (LMVR), April 2008
  - Colindale Model Audit Reports
- 1.3.4 The following drawing of a network improvement was used:
  - Proposed Highway Improvements to Junction of A41 with Aerodrome Road Option 1 (Drawing Number: 0141/GA/01)

#### 1.4 CB Review of the Model

- 1.4.1 CB did not undertake a full review of the model as this had already been the subject of an independent audit by consultants on behalf of TfL. However a few issues relating to the model were noted during CB's work:
  - Booth Road / Colindale Avenue junction the banned right turn here was not included in the base model (this has now been rectified, see chapter 4)
  - Colindale Avenue / Annesley Avenue / Edgware Road junction this 'bypass' road allowing the right turn into Edgware Road was not included in the base model (this has now been rectified see chapter 4)
  - A zone (10011, the Peel Centre) subject to future development is connected to both Aerodrome Road and Colindeep Lane, although there is a railway line running between these roads, and no road connection. This may complicate



testing of future land use changes, and has been adjusted as described in section 5.

- 1.4.2 By conducting a Demand/Actual flow test on the AM and PM base year 2007 models, the results indicated that a proportion of trips were not fully assigned to the network. I.e. they could not complete their journey in the peak hour. In the base model the 'demand' vs. 'actual' flows differed in the model by some 5% of the 100,000 trips in each peak hour, although this did not appear to affect the validation. This meant that some trips in the matrix could not complete their journeys in the peak hour, due to congestion on the network, although as the original trip matrix was from a much larger model, this issue could have arisen due to factoring and matrix building processes.
- 1.4.3 Investigation of the differences indicated that the vast majority of these were trips using the strategic network (e.g. the A1, M1 and North Circular Road) and were trips that were completely external to the Colindale study area. For trips originating and destinating within Colindale itself, the differences were generally smaller some 60 trips (out of 2,432 (2%) in the AM peak and 178 trips out of 3,779 (5%) in the PM peak. Clearly as development trips and background growth are added, this condition is expected to persist and increase.
- 1.4.4 Given the nature of the surrounding networks, which are congested in the peak hours, the model appears to be replicating to some extent likely travel behaviour, in that some element of 'peak spreading' (and perhaps even of trip suppression and modal shift) is likely to occur in congested networks.
- 1.4.5 For the purposes of the present work, it was therefore assumed that these differences would be the result of actual travel behaviour change in congested peak conditions, and the 'actual' SATURN flows were used, and were also the flows used in the VISSIM analysis. There would be some implications for network changes which improved capacity, thus encouraging some of this 'time shifted' traffic to the peak hour, but in the case of Colindale, which is a relatively confined study area with few access points to the external network, it was assumed that this would not be a major issue.

## 1.5 This report

- 1.5.1 The remainder of this report is structured as follows:
  - Chapter 2 details the construction of the Do Minimum matrices;
  - Chapter 3 covers the development of the Do Something matrices;
  - Chapter 4 details the base model network changes;
  - Chapter 5 considers the Do Minimum network changes;
  - Chapter 6 considers the Do Something network changes; and
  - Chapter 7 summarises the results of the tests
  - Chapter 8 describes additional tests undertaken and final conclusions.



# 2 Development of the Do-Minimum Matrices

#### 2.1 General

- 2.1.1 There were two basic steps in the development of the Do-Minimum Matrices. The first was to apply background growth to all non-Colindale zones.
- 2.1.2 Based on the MTS, LB Barnet proposed a figure of 6% growth in traffic in outer London, for the period 2001 to 2011 (MTS 2004 North sub-region pg. 26, Table 4.1.a) and therefore recommended application of a growth figure of 0.6% pa as 'background growth' to all tests. The background growth was applied to the car, LGV and HGV matrices for all non-Colindale zones. The development trips have been applied to the car matrix only, given the residential nature of the majority of new development.
- 2.1.3 The Colindale zones were assumed to be: 10003, 10011, 10013, 10014, 10015, 10019, 10036, 10037, 10038, 10055, 10056, 10058, 10059, 10060, 10061 and 10062.
- 2.1.4 The distribution of new trips within Colindale was assumed to be the same as the distribution of existing trips from the relevant zones. However in some cases there were very few existing trips from a zone, and the distribution of adjacent zones was used as well. In the AM peak, in the construction of the 2011 do-minimum matrix, for zone 10013 (Beaufort Park) trips from adjacent zones 10011, 10056 and 10060 were used. For zone 10015 (Kidstop) trips from zones 10003 and 10062 were used. Similarly, in the PM peak, for zone 10013 (Beaufort Road) trips from zones 10011, 10056 and 10060 were also used.
- 2.1.5 Each **Do-Minimum matrix** (for car) for each design year was developed by firstly zeroing all the zones (in the relevant base year matrix) in the Colindale study area and applying the background growth factor. A second matrix was then constructed from the original base year matrix by zeroing all zones outside of the Colindale study area and Furnessing this matrix using the trip generation totals from the do-minimum sites. Finally, both matrices were added together to obtain a new matrix.
- 2.1.6 The do-minimum matrices for LGV and HGV for 2011 and 2016 were developed by applying the background growth factor of 0.6% pa to all trips in the matrix apart from those to/from zones within the Colindale study area.

## 2.2 Total Do-Minimum trips

2.2.1 Table 2.1 shows the total number of trips for Car, LGV and HGV in the am peak for the base year 2007, do-minimum 2011, do-minimum 2016 and do-minimum 2021 within and outside the Colindale study area.



 Table 2.1: Base Year, Do-Minimum 2011, 2016 and 2021 Trips (AM)

		Car			LGV			HGV		
	Colindale	Other	Total	Colindale	Other	Total	Colindale	Other	Total	Total
Base Year	2,786	77,664	80,450	435	10,529 10,964	10,964	130	130 9,037 9,168	9,168	100,582
DM 2011	3,802	79,546	83,348	435	10,784	11,219	130	130 9,256	9,387	103,953
DM 2016	3,968	81,960	85,928	435	11,111 11,546	11,546	130	130 9,537 9,668	9,668	107,142
DM 2021	4,133	84,449	88,582	435	11,449	11,884	130	9,827	130 9,827 9,957	110,422

Table 2.2 shows the total number of trips for Car, LGV and HGV in the AM peak for the base year 2007, do-minimum 2011, do-minimum 2016 and dominimum 2021.

2.2.2

 Table 2.2: Base Year, Do-Minimum 2011, 2016 and 2021 Trips (AM)

	Car	ΛĐΊ	ΛĐΗ	Total	Difference from base	% Difference from base
Base Year	80,450	10,964	9,168	100,582		
DM 2011	83,348	11,219	9,387	103,953	3,372	3.4
DM 2016	85,928	11,546	9,668	107,142	6,560	6.5
DM 2021	88,582	11,884	9,957	110,422	9,841	8.6

Table 2.3 shows the total number of trips for Car, LGV and HGV within and outside the Colindale study area in the PM peak for the base year 2007, dominimum 2011, do-minimum 2016 and do-minimum 2021.

2.2.3



		Car			LGV		+	HGV			
	Colindale	Other	Total	Colindale	Other	Total	Colindale Other Total Colindale Other Total Colindale Other Total	Other	Total	Total	
Base Year		83,952	88,875	4,923 83,952 88,875 633 10,882 11,515	10,882	11,515	45	5,259	5,304	45 5,259 5,304 105,694	
DM 2011	5,834	5,834 85,982 91,817	91,817	633 11,139 11,772	11,139	11,772	45	5,380	5,425	45 5,380 5,425 109,014	
DM 2016		6,568 88,593 95,161	95,161	633 11,477 12,110	11,477	12,110	45	5,543	5,588	45 5,543 5,588 112,860	
DM 2021	6.712	91.283	97.995	6.712 91.283 97.995 633 11.826 12.459	11.826	12.459	45	5.711	5.757	45 5.711 5.757 116.211	



Table 2.4 shows the total number of trips for Car, LGV and HGV in the PM peak for the base year 2007, do-minimum 2011, do-minimum 2016 and do-minimum 2021.

Table 2.4: Base Year, Do-Minimum 2011, 2016 and 2021 Trips (PM)

	Car	LGV	HGV	Total	Difference from base	% Difference from base
Base Year	88,875	11,515	5,304	105,694		
DM 2011	91,817	11,772	5,425	109,014	3,320	3.1
DM 2016	95,161	12,110	5,588	112,860	7,166	6.8
DM 2021	97,995	12,459	5,757	116,211	10,517	10.0



# 3 Development of the Do-Something Matrices

## 3.1 General

- 3.1.1 There were two basic steps in the development of the Do-Something Matrices. The first was to apply background growth to all non-Colindale zones. The second was to add the do-minimum and do-something development trips.
- 3.1.2 The background growth was applied to the car, LGV and HGV matrices for all non-Colindale zones. The development trips was applied to the car matrix only given the residential nature of the developments proposed.
- 3.1.3 The Colindale zones were assumed to be: 10003, 10011, 10013, 10014, 10015, 10019, 10036, 10037, 10038, 10055, 10056, 10058, 10059, 10060, 10061 and 10062.

## 3.2 Development trips

3.2.1 Table 3.1 shows the number of development trips (do-minimum and do-something) added to the Colindale zones in the AM peak for 2011, 2016 and 2021.

Table 3.1: Development Trips (AM) Assumed (incl. do-min)

Colindale	Develo	pment Tı	rips Assumed (AM)
Zone Number	2011	2016	2021
10003	25	56	114
10011	0	56	712
10013	820	991	991
10014	0	453	515
10015	25	25	25
10019	0	29	29
10036	0	152	252
10037	0	0	188
10038	0	147	147
10055	0	0	0
10056	0	0	0
10058	0	0	0
10059	0	62	62
10060	182	364	547
10061	0	-259	-259
10062	63	63	63
Total	1,116	2,140	3,385

3.2.2 Table 3.2 shows the number of development trips (do-minimum and do-something) added to the Colindale zones in the PM peak for 2011, 2016 and 2021.



Table 3.2: Development Trips (PM) Assumed (incl. do-min)

Colindale	Develo	pment Tr	ips Assumed (PM)
Zone Number	2011	2016	2021
10003	22	51	103
10011	0	52	662
10013	720	937	937
10014	0	351	405
10015	24	24	24
10019	0	26	26
10036	0	134	221
10037	0	0	164
10038	0	758	758
10055	0	0	0
10056	0	0	0
10058	0	0	0
10059	0	117	117
10060	169	339	509
10061	0	-12	-12
10062	55	55	55
Total	990	2,831	3,968

- 3.2.3 The distribution of new trips within Colindale was assumed to be the same as the distribution of existing trips from the relevant zone. However in some cases there were very few existing trips from a zone, and the distribution of adjacent zones was used as well. In the AM peak, in the construction of the 2011 do-something matrix, for zone 10013 (Beaufort Park) trips from adjacent zones 10011, 10056 and 10060 were used. For zone 10015 (Kidstop) trips from zones 10003 and 10062 were used. Similarly, in the PM peak in the construction of the 2011 do-something matrix, for zone 10013 trips from zones 10011, 10056 and 10060 were also used.
- 3.2.4 Each Do-Something matrix (for car) for each design year was developed by firstly zeroing all the zones (in the relevant base year matrix) in the Colindale study area and applying the background growth factor. A second matrix was then constructed from the original base year matrix by zeroing all zones outside the Colindale study area and Furnessing this matrix using the trip generation totals from the do-minimum and do-something sites. Finally, both matrices were added together to obtain a new matrix.
- 3.2.5 The do-something matrices for LGV and HGV for 2011 and 2016 were developed by applying the background growth factors (Table 2.1) to all trips in the matrix apart from those to/from zones within the Colindale study area.
- Table 3.3 shows the total number of trips for Car, LGV and HGV in the AM peak for the base year 2007, do-something 2011, do-something 2016 and do-something 2021 within and outside the Colindale study area.



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Total Trips Base Year, Do-Something 2011, 2016, 2021 (AM) **Table 3.3:** 

		Car			LGV		+	HGV		
	Colindale Other	Other	Total	Total Colindale Other	Other	Total	Total Colindale Other Total	Other	Total	Total
Base Year	2,786	2,786 77,664 80,450	80,450	435	435 10,529 10,964	10,964	130	9,037	9,168	130 9,037 9,168 100,582
DS 2011	3,802	3,802 79,545 83,347	83,347	435	10,784 11,219	11,219	130	9,256	9,387	130 9,256 9,387 103,953
DS 2016	4,595	81,960 86,555	86,555	435	11,111 11,546	11,546	130	9,537	9,668	130 9,537 9,668 107,769
DS 2021	5,641	5,641 84,449 90,090	90,090	435   11,449   11,884	11,449	11,884	130	9,827	9,957	130 9,827 9,957 111,931

Table 3.4 shows the total number of trips for Car, LGV and HGV in the AM peak for the base year 2007, do-something 2011, do-something 2016 and do-something 2021.

Total Trips Base Year, Do-Something 2011, 2016, 2021 (AM) Table 3.4:

3.2.7

	Car	LGV	HGV	Total	Difference from base	Difference from base % Difference from base
Base Year	80,450	10,964	9,168	100,582		
DS 2011	83,347	11,219	9,387	103,953	3,371	3.4
DS 2016	86,555	11,546	9,668	107,769	7,187	7.1
DS 2021	90,090	11,884	9,957	111,931	11,349	11.3

Table 3.5 shows the total number of trips for Car, LGV and HGV within and outside the Colindale study area in the pm peak for the base year 2007, dosomething 2011, do-something 2016 and do-something 2021.

3.2.8



Table 3.5: Total Trips Base Year, Do-Something 2011, 2016, 2021 (PM)

		Car			LGV		•	HGV			
	Colindale Other	Other	Total	Colindale Other Total Colindale Other Total	Other	Total	Colindale	Other	Total	Total	
Base Year	4,923	83,952	4,923 83,952 88,875	633	10,882 11,515	11,515	45	5,259	5,304	45 5,259 5,304 105,694	
DS 2011	5,763	85,982 91,745	91,745	633	11,139 11,772	11,772	45		5,425	5,380 5,425 108,942	
DS 2016	7,382	88,593	95,975	633	11,477 12,110	12,110	45		5,588	5,543 5,588 113,674	
DS 2021	8,336	8,336 91,283 99,619	99,619	633   11,826   12,459	11,826	12,459	45	5,711	5,757	45 5,711 5,757 117,835	



Table 3.6 shows the total number of trips for Car, LGV and HGV in the PM peak for the base year 2007, do-something 2011, do-something 2016 and do-something 2021.

Table 3.6: Total Trips Base Year, Do-Something 2011, 2016, 2021 (PM)

	Car	LGV	HGV	Total	Difference from base	% Difference from base
Base Year	88,875	11,515	5,304	105,694		
DS 2011	91,745	11,772	5,425	108,942	3,248	3.1
DS 2016	95,975	12,110	5,588	113,674	7,980	7.6
DS 2021	99,619	12,459	5,757	117,835	12,141	11.5



# 4 Base Model Network Changes

#### 4.1 General

4.1.1 This chapter summarises the results of the initial changes that were made to the original base model which was provided by TfL. It should be noted that the SATURN version which is used in the analysis is 10.8.15 and that the version which was used in the LMVR was 10.8.9. Following the changes, checks were made that the model still remained within the validation criteria used.

## 4.2 Network Changes

- 4.2.1 The following network changes were made to the original base (2007) model to rectify base network omissions:
  - Booth Road / Colindale Avenue junction add the banned right turn.
  - Colindale Avenue / Annesley Avenue / Edgware Road junction add the Annesley Road link to the original base model.

## 4.3 Calibration Results

4.3.1 Table 4.1 compares the link calibration results for the original model and the model with the above network changes.

Table 4.1: Summary of Link Calibration Results

	Overall Area			
	Target counts	passing test		
Time Period	Calibrated Original Base Model (Hyder)	Calibrated Base after Changes (CB)		
	GEH	GEH		
Morning Peak (0800 – 0900)	90%	88%		
Evening Peak(1800 - 1900)	97%	96%		

- 4.3.2 Table 4.1 shows that in the original base model and the base model with the above network changes, more than 85% of links satisfy the GEH criteria.
- 4.3.3 The detailed comparisons of the modelled, observed and the modified model (with the network changes) for the morning and evening peak hours are shown in Tables A.1 and A.2 in Appendix B.
- 4.3.4 Table 4.2 below compares the turning movement calibration results for the original model and the model with the above network changes.

Table 4.2: Summary of Turning Movement Calibration Results

		Overall Area
		Target counts passing test
Time Period	Calibrated Original Base Model (Hyder)	Calibrated Base after minor Changes (CB)
	GEH	GEH
Morning Peak (0800 – 0900)	89%	97%
Evening Peak(1800 - 1900)	90%	96%



- 4.3.5 Table 4.2 shows that in the original base model, for the two modelled time periods more than 85% of junctions satisfy the GEH criteria. For the base model with the network changes, again more than 85% of junctions satisfy the GEH criteria
- 4.3.6 The detailed comparisons of the modelled, observed and the modified model (with the network changes) for the morning and evening peak hours are shown in Tables D.1 and D.2 in Appendix B.

#### 4.4 Validation Results

0900)

1900)

Evening Peak(1800 -

4.4.1 Table 4.3 compares the validation results for the original model and the model with the above network changes.

80%

Table 4.3: Summary of Link Validation Results

90%

- The table shows that in the original base model, for the two modelled time periods more than 85% of links satisfy the GEH criteria <5. For the model with the network changes, 90% of the links satisfy the GEH criteria in the morning peak. In the evening peak, only 80% of the links satisfy the GEH criteria. This is due to two links having a GEH value of more than 5, which is due to the implementation of the banned right turn at Booth Road/Colindale Avenue which consequently causes more vehicles to travel via Grahame Park Way. The only additional 'failed link' from the original validation is Grahame Park Way (West of Great Strand) Southbound pm peak, observed 416, original validation 529 and new validation 582.
- 4.4.3 The detailed comparisons of the modelled, observed and the modified model (with the network changes) for the morning and evening peak hours are shown in Tables B.1 and B.2 in Appendix B.

## 4.5 Link Analysis of the Colindale Study Area

- 4.5.1 Tables C.1 and C.2 in Appendix B compares the flows of the original base model against the modified model with the network changes
- 4.5.2 Table C.1 shows that in the morning peak hour, there is a significant increase in flow at Annesley Avenue. This is due to the addition of the Annesley Avenue link in the base model. There is also a significant reduction in flow on Booth Road southbound due to the added banned right turn at the Booth Road/Colindale Avenue junction.
- 4.5.3 Table C.2 shows that in the evening peak hour, the largest differences occur at Annesley Avenue and this is due to the addition of the Annesley Avenue link in the base model.



## 4.6 Junction Analysis of the Colindale Study Area

- 4.6.1 Tables E.1 and E.2 in Appendix B compares the flows of the original base model against the modified model with the network changes
- 4.6.2 Table E.1 shows that in the morning peak hour, there is a significant increase in flow at the Booth Road/Montrose Avenue junction and this is due to the implementation of the banned right turn at the Booth Road/Colindale Avenue junction.
- 4.6.3 Table E.2 shows that in the evening peak hour, again, the largest differences occurred at the Annesley Avenue/Edgware Road junction. This is due to the implementation of the Annesley Avenue Link.

## 4.7 **Journey Time Validation**

- 4.7.1 Journey time validation was carried out in both directions on the eight selected routes described in chapter 2 of the Colindale Local Model Validation Report. The DMRB journey time validation guidelines state that 85% or more of the modelled journey times should be within 15% (or one minute) of the surveyed journey time.
- 4.7.2 Table F.1 in Appendix B compares the observed, modelled and modified model (with the network changes) for all routes during the AM and PM peaks. During the AM and PM peaks, more than 85% of the journey times satisfy the DMRB guidelines.

## 4.8 Conclusion

4.8.1 The base changes do not significantly affect the model validation apart from the link validation results in the evening peak which are worse on one link. Our conclusion is that overall, the validation is adequate for the future forecasts for the AAP, and the proposed modifications are appropriate.



# 5 Do-Minimum Network Changes

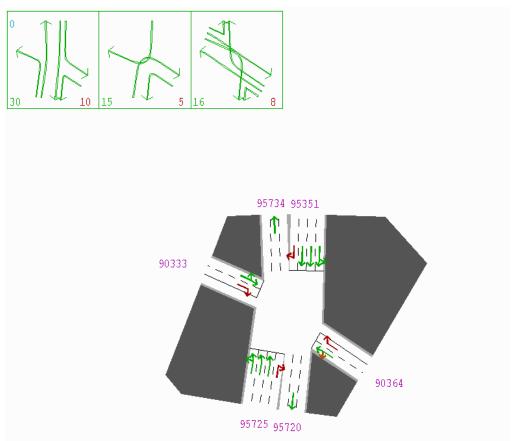
## 5.1 General

5.1.1 Various Do-Minimum network changes were made to reflect committed schemes, as agreed with LB Barnet and TfL (see technical note in Appendix A).

## 5.2 A41/Aerodrome road junction:

5.2.1 Figure 5.1 shows a SATURN node graphic of the way that the A41/Aerodrome Road junction was modelled in the Base year (2007).

Figure 5.1: Node Graphic of A41/Aerodrome Road Junction (BASE 2007)



5.2.2 As the node graphic in Figure 5.1 shows, the base model already has a 2-lane approach from node 903333(Aerodrome Road), which was the improvement proposed in the drawings provided by WSP entitled *Proposed Highway Improvements to Junction of A41 with Aerodrome Road Option 1 (Drawing Number: 0141/GA/01)*. However, the signal timings and phases assigned to this junction were changed based on the latest timings on the *TfL Street Management timing sheet (Address: A41 WATFORD WAY-GREYHOUND HILL-AERODROME ROAD, Site Number 30/000092/T)*. Figure 5.2 is a SATURN node graphic with the updated signal timings and phases for this junction.



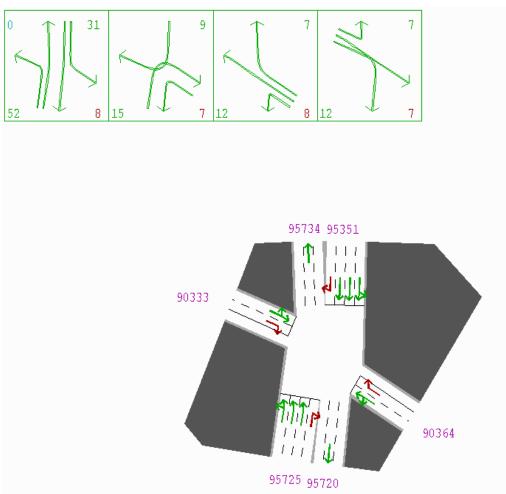


Figure 5.2: Node Graphic A41/Aerodrome Road Junction (New timings)

## 5.3 Aerodrome road link (Railway Bridge):

5.3.1 Figure 5.3 shows a SATURN node graphic of the Aerodrome Road Link as modelled in the Base year (2007).



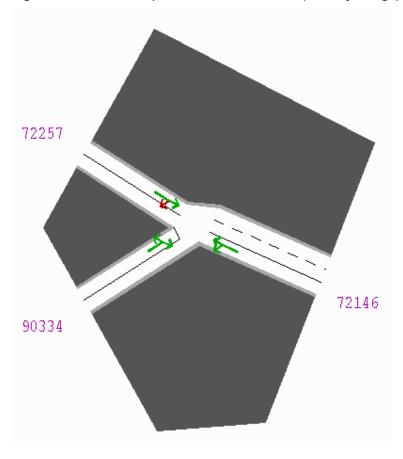


Figure 5.3: Node Graphic of Aerodrome Road (Railway Bridge)

5.3.2 The node graphic in Figure 5.3 already represents the Aerodrome Road Link (Railway Bridge) as a 2-lane widened approach to the A41, as shown on the drawings provided by WSP entitled *Proposed Highway Improvements to Junction of A41 with Aerodrome Road Option 1 (Drawing Number: 0141/GA/01)*, no network change was proposed by CB.

## 5.4 Grahame Park Way/Bunns Lane Junction:

5.4.1 Figure 5.4 shows a SATURN node graphic of how Grahame Park Way/Bunns Lane Junction as modelled in the Base year (2007).



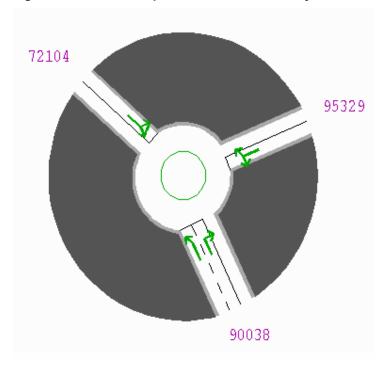


Figure 5.4: Node Graphic of Grahame Park Way/Bunns Lane Junction

- 5.4.2 Additional lanes were added from nodes 72104 and 95329 to the junction in order to increase its capacity, as proposed by LB Barnet as part of a S106 scheme. No fully designed scheme drawing is available, but this adjustment appears to be the most likely scenario.
- 5.4.3 Figure 5.5 is a SATURN node graphic showing the modified Grahame Park Way/Bunns Lane Junction.



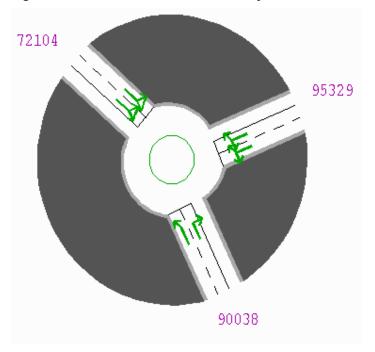


Figure 5.5: Modified Grahame Park Way/Bunns Lane Junction

## 5.5 Lanacre Avenue/Aerodrome Road crossroads:

A link was added in the do-minimum network which joins the top of Grahame Park Way (i.e., node 90040) to Lanacre Avenue (i.e., node 90034). Note that the Grahame Park Way zone was also connected to this link. In addition, signalised cross roads between Aerodrome Road and Lanacre Avenue were added to reflect LB Barnet proposals for this junction as part of the Grahame Park redevelopment proposals. No detailed scheme signal details were available and timings were assumed. Figure 5.6 shows the SATURN network of the network in the base 2007 model and Figure 5.7 shows the network with the Lanacre Avenue link. Note that node 90033 represents the signalised crossroads and that nodes 90040, 90034, 80012 and 90320 represent simple priority junctions. Figure 5.8 is a SATURN node graphic showing the signalised crossroads in the do-minimum network.



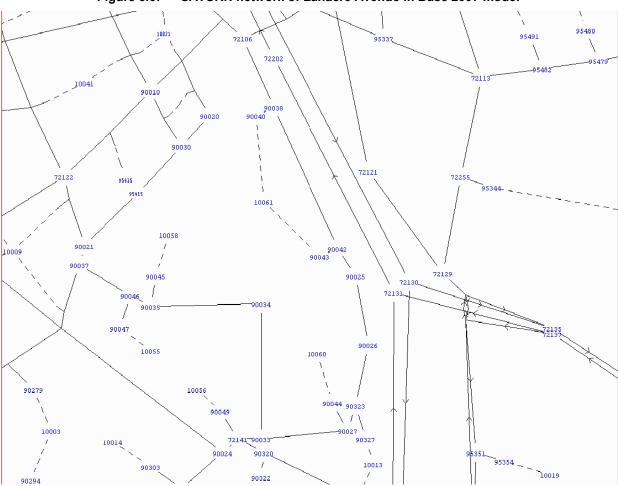


Figure 5.6: SATURN network of Lanacre Avenue in Base 2007 model



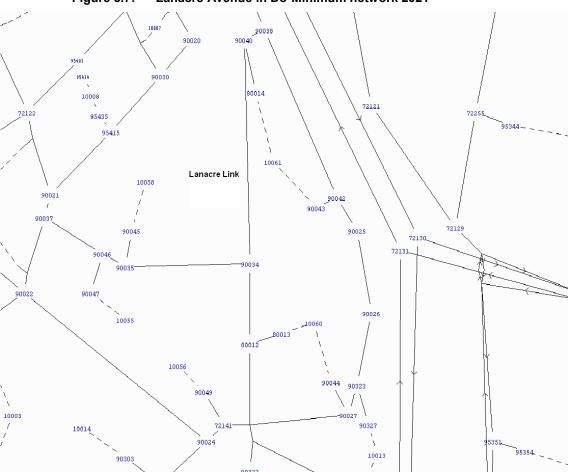
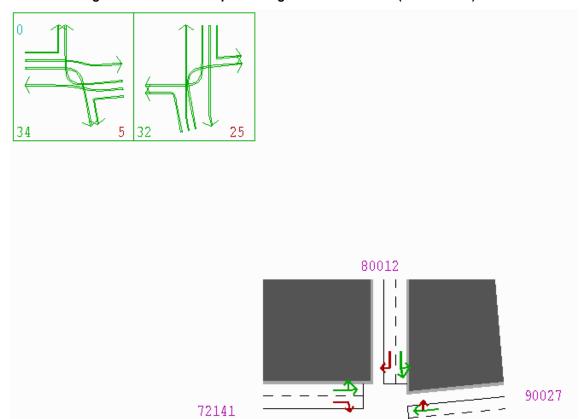


Figure 5.7: Lanacre Avenue in Do-Minimum network 2021





90320

Figure 5.8: Node Graphic of Signalised Crossroad (Node 90033)



# 6 Do-Something Network Changes

#### 6.1 General

6.1.1 The following do-something SATURN network changes were developed

## 6.2 Peel centre traffic

A zone (10011, the Peel Centre) subject to future development is connected to both Aerodrome Road and Colindeep Lane, although there is a railway line running between these roads, and no road connection. When new development was applied to the zone, traffic takes the shortest route to the strategic network in a way that is not possible in practice. Accordingly, in the do-something tests, the length of the zone connectors were adjusted to maintain the existing (base) level of traffic from this zone using Colindeep Lane. This meant that the new development traffic exited the zone onto Aerodrome Road, which will be the case in practice.

## 6.3 Montrose access link

A link was created in the Do-something network which joined Montrose Avenue to Colindeep Lane. Figure 6.1 shows the SATURN network in the base 2007 model and Figure 6.2 the network with the Montrose access link. Two tests were undertaken for this access link. The first test was if the 'northern part' of the link, that is, the link from Montrose Avenue to Colindale Avenue. The second test was of the do-something network with the entire Montrose Avenue access link (i.e. the link joining Montrose Avenue to Colindeep Lane).



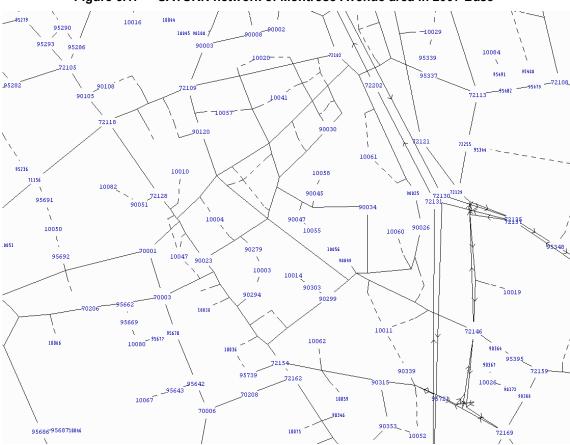


Figure 6.1: SATURN network of Montrose Avenue area in 2007 Base



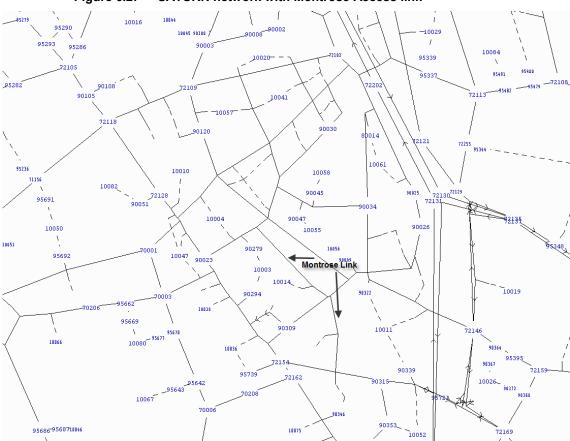


Figure 6.2: SATURN network with Montrose Access link

## 6.4 Peel link

6.4.1 This link joins Aerodrome Road to Colindeep Lane. Figure 6.3 shows the network with the Peel link.



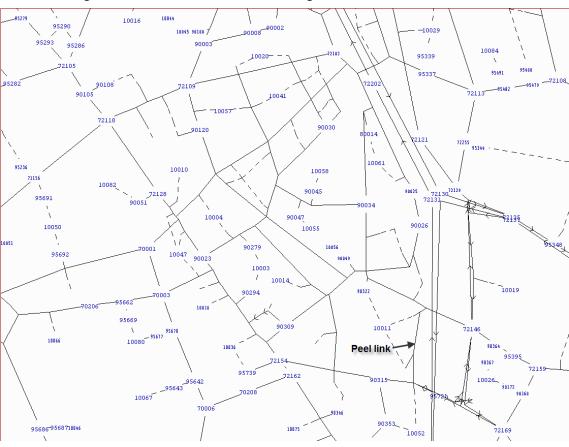


Figure 6.3: SATURN network showing the Peel link



## 7 Results of the initial tests

#### 7.1 General

7.1.1 As indicated in Table 7.1, the Colindale AAP development is only expected to generate in 2021 an additional approximate 2% of total trips in the SATURN matrix above the dominimum (committed development) test (approximately 2,000 trips in the peak hour). At a network wide level, it is therefore likely that the impact on the modelled area will be relatively small. However at the local level, flows are expected to increase at access junctions, which will have very limited spare capacity when the effect of committed planning permissions is taken into account.

Table 7.1: Summary of matrix totals

		0044	0040	0004
	Base	2011	2016	2021
AM				
2007 Base	100,852			
Do - minimum		103,953	107,142	110,422
Do-something		103,953	107,769	111,931
Difference do-		0	627	1,508
something-do-				
min				
PM				
2007 Base	105,694			
Do - minimum		109,014	112,860	116,211
Do-something		108,942	113,674	117,835
Difference do-		-72	814	1,624
something-do-				
min				

- 7.1.2 A number of tests have been run to indicate the impact of the proposed development, and all analysis has been for the full development period, i.e. 2021. The tests analysed were:
  - 1. Base 2007 base
  - 2. Do-minimum base + committed development + committed network changes
  - 3. Do-something do-minimum + AAP development
  - 4. Do-something with North Montrose Access Link
  - 5. Do-something with North and South Montrose Access Link
  - 6. Do-something with North and South Montrose Access Link and Peel Link
  - 7. Do-something with North Montrose Access Link and Peel Link
- 7.1.3 Outputs from these tests have been included in Appendix C, and the results are summarised below.

#### 7.2 Test results

7.2.1 Figures A1 and A2 show the differences in flows between the do-something and do-minimum options, with no network changes. A variety of flow changes are likely to be underpinning the flow changes shown, with some 'through' traffic in Colindale being replaced by new Colindale traffic. Increases in flows are evident on Colindale Avenue.



Booth Road/Montrose Road, and there are some reductions in flows around the northern part of the study area.

- 7.2.2 Figures A3-A8 and A9-A14 show the junctions in the area with a volume/capacity ratio of more than 90% in the AM and PM peaks respectively, while Figures A15 to A24 show 'select link' analyses of the various road proposals.
- 7.2.3 In the AM base (2007) capacity problems exist at the Aerodrome Road/Watford Way junction (A41); the Colindeep Lane /A41 junction, the Colindale Avenue /Edgware Road junction (A5), the Montrose Avenue/Edgware Rd (A5) junction, the junction of Grahame Park Way and Woodcroft Avenue and at Page Street/Pursley Street in the Mill Hill area. This pattern is generally replicated in the PM peak, although as would be expected with tidal flows, in this period Edgware Road northbound is overcapacity at various junctions, and the A1/A41 junction is also at capacity.
- 7.2.4 In relation to the above locations, those at Montrose Avenue /Edgware Rd, and Page Street/Pursley Street in Mill Hill appear to in general be relatively unaffected by changes in flows in the Colindale Do-minimum and Do-something tests.
- 7.2.5 In the 2021 do-minimum tests (with committed development), the already over capacity V/C ratios are expected to increase at the key access points to/from Colindale, in particular Aerodrome Road/A41, Colindale Avenue/Edgware Road, and the junction of Grahame Park Way and Woodcroft Avenue.
- 7.2.6 In the Do-something 2021 scenario (without network changes), the same locations are subject to increased capacity problems, with V/C ratios rising at the key points described above.
- 7.2.7 The introduction of the northern part of the Montrose Access Link (between Colindale Avenue and Montrose Avenue) results in the access link carrying some 500 2-way vehicles in the AM peak (800 in the PM), while flows on the parallel Booth Road reduce by some 250 vehicles (AM peak). (Note that the model has not assumed any measures to reduce traffic on Booth Road, which if implemented could increase flows on the access link). Flows and congestion do not change significantly at the key Colindale access junctions i.e. the north access link on its own seems to function to redistribute traffic quite locally. The select link plot (Figure A16) indicates that the northern part of the Montrose access link does not appear to function as a 'rat-run' for Edgware Road.
- The effect of the full Montrose access link (i.e. also including the link to Colindeep Lane) significantly reduces flows on Booth Road and on Colindale Avenue, and increases flows on Colindeep Lane, in effect spreading the load away from the Aerodrome Road /A41 and Colindale Avenue /Edgware road junctions to the Colindeep Lane junctions with the A41 and Edgware Road. The northern part of the Montrose access link carries some 900 2-way vehicles, while the southern part carries some 1,500 vehicles (AM peak). The effect of this link is to bring key junction capacity back broadly to the do-minimum level at Aerodrome Road/A41 and Colindale Avenue/Edgware Road; although some other capacity issues are predicted on Edgware Road south of Colindeep Lane and the junction of the latter with the A41. The Sheaveshill Avenue and Colindeep Lane junction is predicted to be at capacity (although only a simple mini-roundabout was tested here). The select link plot in Figure A17 shows the pattern of movements expected to use the road, and the relationship with Colindeep Lane.
- 7.2.9 When the Peel access link is included in the network, this has the effect of reducing flows on the southern part of the Montrose Access Link, but increasing flows at the Colindeep Lane/A41 junction. Less congestion is predicted on Edgware Road south of Colindeep Lane. The Peel Link (see select links in Figures A18 and A19) provides a route to



Colindeep Lane for development on the Peel Centre site, and offers a north/south route from Colindeep Lane to Lanacre Avenue.

### 7.3 Conclusions

- 7.3.1 The Colindale area is relatively self-contained, with limited access junctions and internal routes, and the surrounding strategic road network is congested. The Colindale area generates only a small proportion of the traffic on the modelled surrounding area.
- 7.3.2 The tests indicate that not all of the predicted growth in the Colindale and the surrounding area will be able to access the network fully in the modelled peak hour. Some of this effect is caused by the matrix used in the base model, but it also indicates that travel behaviour is likely to change to some extent as more development takes place, with people shifting their time of travel and possibly their mode. The levels of 'peak spreading' anticipated in the model of some 5% seem plausible in this context.
- 7.3.3 The key access routes to/from Colindale are the A41 (part of the TRLN) and the A5 (part of the SRN). The A41 has a number of at-grade junctions, all of which constrain traffic movement, and any significant improvement of capacity on this road is likely to require a 'corridor approach' with multiple junction improvements, which is regarded as outside the scope of this AAP transport study. Developments in the AAP could contribute to some extent to such wider schemes, although the issues on the A41 are strategic.
- 7.3.4 The A5 is a heavily used bus route, and has intensive retail activity, but there is some potential for improvements to capacity at various junctions. Any improvements at the Colindale Avenue junction may be 'counter-balanced' by the possible reduction in flows on Annesley Avenue, which currently accommodates the banned right-turn here.
- 7.3.5 The potential new road links do offer new alternative routes through the area, and to some extent these 'spread the load' between the various junction on the A5 and A41. The addition of these links does bring the V/C ratios at the key access junctions to Colindale back to the do-minimum test level scenario, apart from the junction of Colindeep Lane and the A41.
- 7.3.6 The Montrose access link performs best when in its full form (i.e. between Montrose Avenue and Colindeep Lane), although the latter also implies significant volumes on Sheaveshill Avenue. The Peel link provides an alternative access point to Colindeep Lane for the significant development proposed at the Peel Centre towards the end of the study period.
- 7.3.7 Further work is required on junction improvements to reduce congestion with the 'dosomething' scenarios at the key access junctions, and development contributions will be required for suitable improvements.



## 8 Additional tests

#### 8.1 Test details

- 8.1.1 Following the SATURN work carried out in 2008, CB were requested to test additional options in 2009, and to investigate these further using VISSIM micro simulation software (reported separately). The options used the same matrices as previous tests, but following some early VISSIM work, included a few common network changes. These were:
  - Introduction of signals at the junction of Montrose Avenue and the A5
  - Changes to the lane designation at the Aerodrome Road approach to Watford Road (A41) to permit more rights turns
  - changes to the junction of Aerodrome road and Colindale Avenue
- 8.1.2 The new 'do-something' tests included:
  - Option 1 do-something matrix, Aerodrome Rd/A41 minor change to lane markings, timings and introduction of signals at Montrose Avenue/A5 junction i.e. relatively small-scale improvements
  - Option 2 As Option 1 + Peel Access Link (new road running between Aerodrome Road and Colindeep Lane)
  - Option 3 As Option 1 + junction improvement at Colindale Avenue/A5
  - Option 4 As Option 1 + North Montrose new road link between Montrose Avenue and Colindale Avenue)
  - Option 5 Peel Link + Colindale Avenue/A5 improvement North Montrose Access link – a new road between Montrose Avenue and Colindale Avenue.

#### 8.2 Test results

8.2.1 The tables in Appendix D summarise the key network statistics from the main tests, while Table 8.1 summarises network speeds under the various options.



Table 8.1: Summary of Network Speeds

	AM Peak		PM Peak	
	Whole network	Colindale	Whole	Colindale
	speed (km/h)	area	network	area
		speed	speed	speed
		(km/h)	(km/h)	(km/h)
DM - do -minimum - i.e. committed development	27.1	19.6	26.1	19.6
and committed network changes				
South Montrose - road link via Sheaveshill Avenue between Colindeep Lane and Colindale Avenue	26.8	19.0	n/a	n/a
Full Montrose - road link between Montrose Avenue and Colindeep Lane	26.8	19.4	25.7	19.8
Option 1 - do-something matrix, Aerodrome Rd/A41 minor change to lane markings, timings and introduction of signals at Montrose Avenue/A5 junction.	26.7	17.1	25.3	15.7
Option 2 - As Option 1 + Peel Access Link ( new road running between Aerodrome Road and Colindeep Lane)	26.9	20.4	25.4	15.7
Option 3 - As Option 1 + junction improvement Colindale Avenue/A5	26.7	17.5	25.3	15.8
Option 4 - As Option 1 North Montrose - new road link between Montrose Avenue and Colindale Avenue)	26.7	17.1	25.3	16.2
Option 5 - Peel Link and Colindale Avenue/A5 improvement	n/a	n/a	25.4	16.4

8.2.2 In the AM peak, the network statistics indicate that speeds are likely to drop as more development is added in Colindale (27.1kph to 26.8 kph) – however all options seem to have a relatively low level of impact on total network average speed, and the Peel link option brings network speeds to within 1% of the do-minimum average, with the full Montrose being the next best performing option. The Peel Link option is the only option which appears to bring network speeds within the smaller Colindale area to a level higher than the do-minimum, with the full Montrose option being the next best performing.



8.2.3 In the PM peak average speeds across the network generally decrease from some 25.8 km/h to between 25.3 and 25.7 km/h, with the Peel and Montrose links again the best performing. At the more local Colindale level, the full Montrose link brings average speeds above do-minimum, with the North Montrose and the Peel link tests being the next highest.

#### 8.3 Overall results

- 8.3.1 The 'do-minimum' (committed development) flows increase local congestion and at the key junctions. When the 'do-something' flows (i.e. Colindale AAP growth) are applied to the network, this obviously increases flows within the Colindale area, and at the main exits/entry points to this. There are flow increases on other external roads, in particular theA41 and A1, and to a lesser extent the A5, but flow changes on the M1 are negligible. Some of the changes to flows on external roads are likely to be due to new Colindale trips, while others are likely to be due to 'through' traffic in Colindale being diverted to other parts of the network. Within Colindale the Aerodrome Rd/A41 and Colindale Avenue/A5 junctions are significantly over capacity.
- 8.3.2 Relatively minor improvements to the local network will assist in managing future flows, but will not be adequate to bring network conditions back to a 'do-minimum' level in the future. The smaller changes tested included minor changes at the Aerodrome Road/A41 junction, improvement to the junction of Grahame Park Way and Bunns Lane, a new crossroads at Aerodrome Road/Colindale Avenue, and signals at the junction of Montrose Avenue and Edgware Road.
- 8.3.3 The introduction of a North Montrose access link (a new road between Montrose Avenue and Colindale Avenue) did not significantly improve network conditions, and carried relatively low levels of traffic (circa 500-800 vehicles per hour 2-way). The North Montrose access link did not appear to add exit/entry capacity to the Colindale area, and performed more as a limited local distributor, providing an alternative to a short section of the A5 and Booth Road.
- When a full Montrose access link was tested (the North Montrose link as above, plus a link from Colindale Avenue to Colindeep Lane via Sheaveshill Avenue) this carried more significant volumes, particularly on the southern part (some 1,500 vehicles per hour). It is likely that this option could be delivered as it uses land primarily within Council control, and offered a new access route between the heart of the study area and Colindeep Lane, from which traffic could access either the A5 or A41. Tests indicated that it provided the most relief to future network conditions in the pm peak of the options tested (the Peel link described below performed slightly better in the am peak) and could also be used by bus services if required. However it also introduced a very significant increase in flows on Sheaveshill Avenue (which is currently a short residential cul-de-sac) and introduced significant new traffic volumes and a new junction in the Colindale Station area, which is the key local interchange.
- 8.3.5 The Peel link option tested introduced a new link between Aerodrome Road and Colindeep Lane, as with the full Montrose link, providing access to either the A5 or A41. It provided some relief to the constrained Aerodrome Road/A41 junction and direct access to Colindeep Lane for the proposed major development at the Peel Centre. Tests indicate that this option is the best performing of those tested in the am peak. Provided this is introduced in conjunction with the redevelopment of the Peel Centre, this solution appears deliverable. The final design should aim to reinforce the route's main role as a local distribution and access for Peel Centre development.
- 8.3.6 The Colindale Avenue improvement tested provides increased capacity at this key junction on Edgware Road, but does require some land-take from highway land in the



ownership of LB Brent, and the removal of a section of bus lane on Edgware Road. It would however relieve congestion on this key link to the A5. It may be possible to introduce a lower level of scheme, perhaps with widening on only one side of Edgware Road, but further work will be required to confirm this.

### 8.4 Conclusions

- 8.4.1 The conclusions from the SATURN modelling work are that in order to provide capacity for predicted Colindale AAP flows, some improvements are necessary and improvements to the Aerodrome Road/A41, the Montrose Avenue/A5 and Aerodrome Road/Colindale Avenue junctions are recommended. However these will not provide sufficient relief for future network conditions, and further improvements will be required.
- 8.4.2 The Colindale Avenue/A5 improvements would help in the medium term to relieve this important connection to Edgware Road and the shopping area here. It would require joint working with LB Brent and TfL to implement, but together with the junction improvements noted above, should be adequate to deliver development during the earlier part of the AAP period, at least until major housing sites are developed at the Peel Centre.
- 8.4.3 The introduction of a full Montrose access link between Colindeep Lane and Montrose Avenue is likely to provide the most overall network relief, although these benefits are not significantly different form those provided by the Peel Link, particularly in the morning peak. However this option also introduces significant new volumes on Sheaveshill Avenue and at the Colindale Station interchange, and consultation for the AAP revealed significant opposition to this proposal.
- 8.4.4 The Peel Link offers some of the advantages of the Montrose link (access to Colindeep Lane and the A5/A41) but does not directly affect existing dwellings or parkland, and can be delivered in conjunction with major development, but this is only likely towards the end of the AAP period. The tests indicate that the benefits of this option are very close to that achievable with the full Montrose link.
- 8.4.5 The tests indicated that the combined effect of the Peel Link and Colindale Avenue schemes was not significantly better than the individual schemes in the pm peak, but both schemes together will provide more capacity to the A5 and Colindeep Lane and a much higher level of network resilience. It is recommended that this package be pursued rather than the Montrose link, as they appear to offer most of the benefits of the latter. Should either of these schemes not be deliverable, the introduction of the Montrose Link offers an alternative, and it is recommended that nothing in the AAP be done to prevent such a link being introduced in future should this be required.
- 8.4.6 The recommendation is therefore for the AAP to implement a phased set of improvements in the area:
  - The first phase of improvement should include the Aerodrome Road/A41 improvement, the Colindale Avenue/Aerodrome Road scheme, and the Montrose Avenue/A5 junction scheme. Final proposals for the Colindale Avenue/A5 junction improvement scheme should be developed in conjunction with LB Brent and TfL.
  - The second phase, in conjunction with the redevelopment of the Peel Centre, would be to introduce the Peel Access Link.
- 8.4.7 This phasing will need to allow for changes in future developments coming on line, and be flexible enough to adapt to these. It should be noted that given the constraints in the wider network and the extent of development proposed in the area, additional congestion is expected on the wider network, probably resulting in some peak spreading. These improvements will only assist in reducing impact in the local Colindale area, and more strategic studies/solutions will be required for the wider network. In addition, measures to



encourage mode shift in Colindale may reduce the traffic impact of the proposed developments.



# **Appendix A- Technical Note SATURN assumptions**

Table A.1 Overall Area Comparison of Observed flows, Modelled Flows and Modified Model Flows (with network changes) for Morning Peak Hour

A-Node	B-Node	Site Description	Direction	Observed Flow	Modelled Flow (HYDER)	Difference	GEH	DMRB G	uidelines	Modelled Flow (CB WITH CHANGES)	Difference	GEH	DMRB G	uidelines
		•		Flows (PCUs)	Flows (PCUs)	(PCUs)	Value	GEH	Flows	Flows (PCUs)	(PCUs)	Value	GEH	Flows
75060	75069	A5183 High Street(n)	SB	448	479	31	1.45	Pass	Pass	479	31	1.46	Pass	Pass
72041	75069	A411 Barnet Lane	WB	791	831	40	1.39	Pass	Pass	832	41	1.43	Pass	Pass
95780	75069	A5183 High Street(s)	NB	478	343	-135	6.67			317	-161	8.08		
75068	75069	A411 Watford Road	EB	810	822	12	0.43	Pass	Pass	843	33	1.15	Pass	Pass
75069	75060	A5183 High Street(n)	NB	578	572	-6	0.26	Pass	Pass	575	-3	0.12	Pass	Pass
75069	72041	A411 Barnet Lane	EB	649	600	-49	1.94	Pass	Pass	598	-51	2.04	Pass	Pass
75069	95780	A5183 High Street(s)	SB	739	683	-56	2.12	Pass	Pass	681	-58	2.18	Pass	Pass
75069	75068	A411 Watford Road	WB	561	545	-16	0.69	Pass	Pass	546	-15	0.65	Pass	Pass
72049	72043	A41 Edgware Way	WB	777	540	-237	9.25			533	-244	9.53		
95446	72043	A5 Brockley Hill	NB	910	823	-87	2.94	Pass	Pass	824	-86	2.90	Pass	Pass
71001	72043	A41 Watford Bypass	EB	825	829	5	0.17	Pass	Pass	834	9	0.33	Pass	Pass
72043	72050	A41 Edgware Way	EB	714	742	28	1.05	Pass	Pass	746	33	1.20	Pass	Pass
72043	95446	A5 Brockley Hill	SB	581	516	-65	2.77	Pass	Pass	516	-65	2.77	Pass	Pass
72043	71001	A41 Watford Bypass	WB	1169	1171	2	0.06	Pass	Pass	1189	20	0.59	Pass	Pass
72229		A41 Edgware Way(n)	SB	1563	1598	35	0.88	Pass	Pass	1599	36	0.90	Pass	Pass
72265		A41 Edgware Way(s)	WB	1372	1252	-120	3.32	Pass	Pass	1241	-131	3.62	Pass	Pass
95285		Green Lane	NB	221	183	-38	2.69	Pass	Pass	183	-38	2.67	Pass	Pass
72075		A410 Spur Road	EB	1273	1156	-117	3.37	Pass	Pass	1161	-112	3.21	Pass	Pass
72069		A41 Edgware Way(n)	NB	1305	1262	-43	1.21	Pass	Pass	1259	-46	1.28	Pass	Pass
72069		A41 Edgware Way(s)	EB	1583	1650	67	1.68	Pass	Pass	1643	60	1.50	Pass	Pass
72069		Green Lane	SB	183	180	-3	0.21	Pass	Pass	180	-3	0.21	Pass	Pass
72069		A410 Spur Road	WB	1177	1097	-81	2.39	Pass	Pass	1101	-76	2.26	Pass	Pass
95264		A410 London Road	EB	1019	983	-36	1.15	Pass	Pass	981	-38	1.20	Pass	Pass
95446		A5 Brockley Hill	SB	548	598	50	2.11	Pass	Pass	598	50	2.10	Pass	Pass
95273		A5 Stonegrove	NB	952	857	-95	3.17	Pass	Pass	861	-91	3.04	Pass	Pass
72075		A410 London Road	WB	960	1009	49	1.56	Pass	Pass	1003	43	1.38	Pass	Pass
72075		A5 Brockley Hill	NB	503	564	61	2.65	Pass	Pass	564	62	2.66	Pass	Pass
72075		A5 Stonegrove	SB	780	793	14	0.48	Pass	Pass	799	20	0.69	Pass	Pass
71011		A410 The Broadway	EB	933	806	-126	4.28	Pass	Pass	799	-134	4.55	Pass	Pass
95738		Dennis Lane	SB	198	172	-26	1.91	Pass	Pass	165	-33	2.45	Pass	Pass
95264		A410 London Road	WB	939	925	-13	0.44	Pass	Pass	920	-19	0.61	Pass	Pass
71022		A4140 Marsh Lane	NB	788	611	-177	6.69	1 455	1 400	622	-166	6.24	1 455	1 455
71010		A410 The Broadway	WB	926	671	-256	9.04			663	-263	9.33		
71010		Dennis Lane	NB	331	333	2	0.09	Pass	Pass	341	10	0.55	Pass	Pass
71010		A410 London Road	EB	887	847	-40	1.35	Pass	Pass	847	-40	1.37	Pass	Pass
71010		A4140 Marsh Lane	SB	713	662	-51	1.94	Pass	Pass	655	-58	2.21	Pass	Pass
71070		A4006 Kenton Road (w)	EB	896	783	-113	3.91	Pass	Pass	791	-105	3.61	Pass	Pass
95686		A4140 Honeypot Lane	SB	962	926	-36	1.18	Pass	Pass	908	-54	1.77	Pass	Pass
95688		A4006 Kingsbury Road (e)	WB	633	580	-52	2.12	Pass	Pass	583	-50	2.02	Pass	Pass
70016		A4140 Fryent Way	NB	819	803	-15	0.54	Pass	Pass	815	-30	0.12	Pass	Pass
70010	70010	The Mall	NB	736	674	-62	2.32	Pass	Pass	677	-59	2.22	Pass	Pass
70210		A4006 Kenton Road (w)	WB	686	647	-39	1.50	Pass	Pass	649	-37	1.42	Pass	Pass
70010		A4140 Honeypot Lane	NB	725	699	-26	0.98	Pass	Pass	694	-31	1.16	Pass	Pass
70010		A4006 Kingsbury Road (e)	EB	762	726	-36	1.32	Pass	Pass	734	-28	1.03	Pass	Pass
70010		A4140 Fryent Way	SB	1319	1311	-30 -7	0.20	Pass	Pass	1305	-20	0.38	Pass	Pass
70010	70016	The Mall	SB	554	359	-7 -195	9.11	F455	F d 5 5	374	-14	8.35	F455	F455
70010		A4006 Kingsbury Road (E)	WB	722	668	-195	2.07	Pass	Pass	647	-75	2.87	Pass	Pass
95594	70012	B454 Church Lane	NB	541	498	-54 -43	1.88	Pass	Pass	498	-75	1.88	Pass	Pass
95594	70012	A4006 Kingsbury Road (W)	EB	1076	1058	- <del>4</del> 3	0.54	Pass	Pass	1061	-43 -15	0.46	Pass	Pass
70012		A4006 Kingsbury Road (W)	EB	949	884	-16 -65	2.14	Pass	Pass	893	-15	1.84	Pass	Pass
70012			SB	633	612	-05 -21	0.85			603	-30	1.04	Pass	
70012	95594	B454 Church Lane	28	<b>633</b>	612	-21	0.85	Pass	Pass	603	-30	1.20	Pass	Pass

Table A.1 Overall Area Comparison of Observed flows, Modelled Flows and Modified Model Flows (with network changes) for Morning Peak Hour

70012 95764	A4006 Kingsbury Road (W)	WB	757	728	-29	1.07	Pass	Pass	709	-48	1.78	Pass	Pass
	A5 The Hyde(n)	SB	970	900	-70	2.28	Pass	Pass	883	-87	2.86	Pass	Pass
	A5 The Hyde(s)	NB	918	821	-97	3.28	Pass	Pass	819	-99	3.35	Pass	Pass
	A4006 Kingsbury Road	EB	605	543	-62	2.61	Pass		548	-57	2.37	Pass	Pass
				711				Pass					
	A5 The Hyde(n)	NB	769		-58	2.12	Pass	Pass	703	-66	2.43	Pass	Pass
	A5 The Hyde(s)	SB	1099	1017	-82	2.52	Pass	Pass	1033	-66	2.01	Pass	Pass
	A4006 Kingsbury Road	WB	592	536	-56	2.37	Pass	Pass	513	-79	3.37	Pass	Pass
	A41 Watford Way(s)	NB	1928	1802	-126	2.91	Pass	Pass	1809	-119	2.74	Pass	Pass
	A504 Station Road	EB	499	485	-14	0.65	Pass	Pass	490	-9	0.40	Pass	Pass
	A41 Watford Way(n)	SB	2474	2254	-220	4.53	Pass	Pass	2254	-220	4.53	Pass	Pass
90368 72169	A504 The Burroughs	WB	733	679	-54	2.03	Pass	Pass	676	-57	2.13	Pass	Pass
72169 72176	A41 Watford Way(s)	SB	2131	1926	-205	4.56	Pass	Pass	1932	-199	4.42	Pass	Pass
72169 72259	A504 Station Road	WB	524	397	-126	5.88			396	-128	5.95		
72169 72164	A41 Watford Way(n)	NB	2257	2186	-71	1.52	Pass	Pass	2193	-64	1.36	Pass	Pass
72169 90368	A504 The Burroughs	EB	721	651	-70	2.68	Pass	Pass	650	-71	2.72	Pass	Pass
	A5 Edgware Road(n)	SB	1313	1276	-37	1.04	Pass	Pass	1270	-43	1.20	Pass	Pass
	A5150 Colindeep Lane	WB	531	542	11	0.46	Pass	Pass	533	2	0.07	Pass	Pass
	A5 Edgware Road(s)	SB	1074	983	-91	2.82	Pass	Pass	984	-90	2.80	Pass	Pass
	Windover Lane	EB	18	12	-6	1.46	Pass	Pass	12	-6	1.55	Pass	Pass
	A5 Edgware Road(n)	NB	1182	1137	-44	1.30	Pass	Pass	1129	-53	1.55	Pass	Pass
	A5150 Colindeep Lane	EB	619	631	12	0.47	Pass	Pass	631	12	0.48	Pass	Pass
	A5 Edgware Road(s)	NB	972	931	-40	1.31	Pass	Pass	960	-12	0.40	Pass	Pass
	Windover Lane	WB	112	114	2	0.17			81	-12	3.16	Pass	Pass
		SB	1055	956	-99		Pass	Pass	980	-31 -75			
	A5 Edgware Road (N)					3.12	Pass	Pass			2.36	Pass	Pass
	Colindale Avenue	WB	446	444	-2	0.11	Pass	Pass	428	-18	0.88	Pass	Pass
	A5 Edgware Road (S)	NB	796	747	-49	1.75	Pass	Pass	736	-60	2.17	Pass	Pass
	Colindale Avenue	EB	523	511	-12	0.53	Pass	Pass	530	7	0.31	Pass	Pass
	Eagle Drive	SB	106	116	10	0.99	Pass	Pass	116	10	0.95	Pass	Pass
	Grahame Park Way	WB	783	731	-52	1.90	Pass	Pass	776	-7	0.25	Pass	Pass
90320 72141	Aerodrome Road	NB	499	611	112	4.75	Pass		599	100	4.28	Pass	
	Colindale Avenue	EB	645	614	-31	1.22	Pass	Pass	654	9	0.36	Pass	Pass
72141 90049	Eagle Drive	NB	41	75	34	4.42	Pass	Pass	75	34	4.46	Pass	Pass
72141 90033	Grahame Park Way	EB	610	605	-5	0.22	Pass	Pass	598	-12	0.50	Pass	Pass
72141 90320	Aerodrome Road	SB	561	582	21	88.0	Pass	Pass	577	16	0.66	Pass	Pass
72141 90024	Colindale Avenue	WB	820	810	-10	0.34	Pass	Pass	896	76	2.60	Pass	Pass
72102 72104	Bunns Lane(n)	SB	932	858	-75	2.49	Pass	Pass	860	-72	2.42	Pass	Pass
	Woodcroft Avenue	NB	303	299	-3	0.19	Pass	Pass	295	-8	0.43	Pass	Pass
	Bunns Lane(s)	EB	810	677	-132	4.85	Pass		665	-145	5.33		
	Bunns Lane(n)	NB	668	574	-94	3.78	Pass	Pass	565	-103	4.14	Pass	
	Woodcroft Avenue	SB	335	317	-18	1.01	Pass	Pass	298	-37	2.08	Pass	Pass
	Bunns Lane(s)	WB	1042	944	-98	3.11	Pass	Pass	957	-85	2.68	Pass	Pass
	Watling Avenue(s)	EB	185	96	-88	7.45	1 400	Pass	95	-90	7.59	1 400	Pass
	Cressingham Road	SB	107	96	-11	1.07	Pass	Pass	90	-17	1.66	Pass	Pass
	Watling Avenue(n)	WB	496	456	-39	1.81	Pass	Pass	456	-17	1.81	Pass	Pass
	Montrose Avenue	NB	294	283	-39	0.63	Pass	Pass	267	-40 -27	1.61	Pass	Pass
		WB	294 257	203	-11	1.75			212		2.91	Pass	
	Watling Avenue(s)						Pass	Pass		-45			Pass
	Cressingham Road	NB	117	113	-4	0.37	Pass	Pass	112	-5	0.42	Pass	Pass
	Watling Avenue(n)	EB	286	247	-39	2.42	Pass	Pass	247	-39	2.41	Pass	Pass
	Montrose Avenue	SB	422	343	-79	4.02	Pass	Pass	336	-86	4.39	Pass	Pass
	A5 Burnt Oak Broadway(n)	SB	788	697	-91	3.34	Pass	Pass	701	-87	3.18	Pass	Pass
	Watling Avenue	WB	381	341	-40	2.13	Pass	Pass	332	-49	2.60	Pass	Pass
	A5 Burnt Oak Broadway(s)	NB	605	532	-73	3.07	Pass	Pass	527	-78	3.29	Pass	Pass
	Stag Lane	EB	335	364	29	1.52	Pass	Pass	371	36	1.90	Pass	Pass
	A5 Burnt Oak Broadway(n)	NB	710	607	-103	4.00	Pass	Pass	605	-105	4.08	Pass	Pass
95728 90055	Watling Avenue	EB	345	290	-55	3.11	Pass	Pass	291	-54	3.04	Pass	Pass

Table A.1 Overall Area Comparison of Observed flows, Modelled Flows and Modified Model Flows (with network changes) for Morning Peak Hour

72136 95232 A5 Burnt Oak Broadway(s)	SB	773	716	-57	2.10	Pass	Pass	722	-51	1.87	Pass	Pass
72136   70001   Stag Lane	WB	281	260	-21	1.30	Pass	Pass	252	-29	1.79	Pass	Pass
90105 72118 A5 High Street	SB	875	810	-65	2.24	Pass	Pass	810	-65	2.25	Pass	Pass
90124 72118 A5109 Deansbrook Road	WB	610	589	-21	0.84	Pass	Pass	587	-23	0.92	Pass	Pass
72128 72118 A5 Burnt Oak Broadway	NB	830	695	-135	4.90	Pass		692	-138	5.02		
71156 72118 Camrose Avenue	EB	580	559	-21	0.88	Pass	Pass	556	-24	1.01	Pass	Pass
72118 90105 A5 High Street	NB	893	803	-90	3.11	Pass	Pass	800	-93	3.20	Pass	Pass
72118 90124 A5109 Deansbrook Road	EB	711	674	-36	1.39	Pass	Pass	670	-41	1.55	Pass	Pass
72118 72128 A5 Burnt Oak Broadway	SB	763	670	-93	3.46	Pass	Pass	673	-90	3.36	Pass	Pass
72118 71156 Camrose Avenue	WB	529	494	-34	1.52	Pass	Pass	490	-39	1.71	Pass	Pass
95293 72105 A5 High Street (N)	SB	846	834	-12	0.42	Pass	Pass	836	-10	0.33	Pass	Pass
95293 72105 A5 High Street (N) 95286 72105 A5100 Station Road	WB	531	447	-12	3.82			445	-86	3.91		_
90105 72105 A5 High Street (S)	NB	948	843	-04	3.49	Pass Pass	Pass Pass	841	-00	3.57	Pass Pass	Pass Pass
				-104								
95282 72105 B461 Whitchurch Lane	EB	626	562		2.64	Pass	Pass	560	-66	2.72	Pass	Pass
72105 95293 A5 High Street (N)	NB	750	715	-35	1.29	Pass	Pass	715	-35	1.30	Pass	Pass
72105 95286 A5100 Station Road	EB	510	394	-116	5.45			391	-119	5.60		<u> </u>
72105 90105 A5 High Street (S)	SB	1142	1058	-84	2.54	Pass	Pass	1057	-85	2.55	Pass	Pass
72105 95282 B461 Whitchurch Lane	WB	550	519	-31	1.32	Pass	Pass	518	-32	1.36	Pass	Pass
99973 72085 A5109 Deans Lane	NB	566	603	37	1.54	Pass	Pass	600	34	1.42	Pass	Pass
95308 72085 A5100 Hale Lane(w)	EB	689	642	-47	1.82	Pass	Pass	641	-48	1.84	Pass	Pass
95316 72085 A5109 Selvage Lane	SB	628	623	-5	0.20	Pass	Pass	625	-3	0.11	Pass	Pass
99972 72085 A5100 Hale Lane(e)	WB	410	388	-22	1.12	Pass	Pass	382	-28	1.41	Pass	Pass
72085 99973 A5109 Deans Lane	SB	764	699	-65	2.41	Pass	Pass	699	-65	2.39	Pass	Pass
72085 95308 A5100 Hale Lane(w)	WB	535	511	-24	1.05	Pass	Pass	508	-27	1.19	Pass	Pass
72085 95316 A5109 Selvage Lane	NB	420	572	152	6.81			566	146	6.56		
72085 99972 A5100 Hale Lane(e)	EB	573	473	-100	4.35	Pass	Pass	474	-99	4.32	Pass	Pass
95458 95755 A41 Edgware Way	EB	2053	1985	-68	1.51	Pass	Pass	1982	-71	1.57	Pass	Pass
72280 95758 A1 Barnet Way	SB	1897	1938	42	0.95	Pass	Pass	1938	41	0.94	Pass	Pass
72281 95761 A1 Barnet Bypass	WB	2173	1997	-176	3.86	Pass	Pass	2004	-169	3.70	Pass	Pass
72239 72073 A5019 Selvage Lane	NB	599	682	84	3.31	Pass	Pass	677	78	3.10	Pass	Pass
95755 95458 A41 Edgware Way	WB	1342	1191	-151	4.25	Pass	Pass	1188	-154	4.32	Pass	Pass
95758 72280 A1 Barnet Way	NB	3556	3526	-131	0.49	Pass	Pass	3528	-134	0.46	Pass	Pass
	WB	789	729	-60				727	-62	2.26		
95761 72281 A1 Barnet Bypass					2.18	Pass	Pass				Pass	Pass
72280 95763 A1 Barnet Bypass Filter	SB	1608	1572	-36	0.91	Pass	Pass	1573	-35	0.87	Pass	Pass
72073 72239 A5019 Selvage Lane	SB	1034	1001	-34	1.06	Pass	Pass	1004	-30	0.95	Pass	Pass
75065 75067 A411 Barnet Lane	EB	796	762	-33	1.19	Pass	Pass	759	-37	1.31	Pass	Pass
95740 72037 Stirling Way	SB	219	225	7	0.44	Pass	Pass	225	7	0.44	Pass	Pass
72230 95747 A1 Barnet Bypass	SB	2368	2544	177	3.56	Pass	Pass	2545	178	3.58	Pass	Pass
73156 95751 A411 Barnet Road	WB	632	694	62	2.40	Pass	Pass	695	63	2.43	Pass	Pass
95464 95753 A1 Barnet Way	NB	2617	2583	-34	0.68	Pass	Pass	2585	-32	0.64	Pass	Pass
75067 75065 A411 Barnet Lane	WB	821	837	17	0.58	Pass	Pass	841	20	0.70	Pass	Pass
72037 95740 Stirling Way	NB	149	139	-10	0.83	Pass	Pass	138	-11	0.90	Pass	Pass
95747 72010 A1 Barnet Bypass	NB	2292	2262	-30	0.62	Pass	Pass	2260	-32	0.66	Pass	Pass
95751 73156 A411 Barnet Road	EB	662	620	-42	1.64	Pass	Pass	619	-43	1.70	Pass	Pass
95753 95464 A1 Barnet Way	SB	2708	2633	-74	1.44	Pass	Pass	2635	-73	1.41	Pass	Pass
95232 90023 A5 Burnt Oak Broadway	SB	775	720	-55	2.02	Pass	Pass	722	-53	1.93	Pass	Pass
90065 90023 Montrose Avenue	WB	446	404	-42	2.05	Pass	Pass	402	-44	2.14	Pass	Pass
70002 90023 A5 Edgware Road	NB	783	715	-68	2.50	Pass	Pass	711	-72	2.63	Pass	Pass
90023 95232 A5 Burnt Oak Broadway	NB	601	488	-113	4.83	Pass		483	-118	5.06		7 400
90023 90065 Montrose Avenue	EB	326	315	-11	0.60	Pass	Pass	323	-3	0.14	Pass	Pass
90023 70002 A5 Edgware Road	SB	1077	988	-89	2.78	Pass	Pass	982	-5 -95	2.97	Pass	Pass
72129 72132 A1 North	SB	3100	2917	-183	3.33	Pass	Pass	2919	-181	3.29	Pass	Pass
72132 72132 AT NORTH	WB	2350	2129	-103	4.69	Pass	Pass	2177	-173	3.64	Pass	
72132 72129 A41 Watioid Way 72137 95734 A1 South	VVD			-222		rass	rass					Pass
	ND	760	024	GE.	2 20	Door	Door	0.60	0.4	2.06	Door	
72132 72135 A1 North	NB NB	769 1254	834 1218	65 -36	2.30 1.04	Pass Pass	Pass Pass	853 1207	-47	2.96 1.34	Pass Pass	Pass Pass

Table A.1 Overall Area Comparison of Observed flows, Modelled Flows and Modified Model Flows (with network changes) for Morning Peak Hour

95734	95351	A41 Watford Way	EB	1964	1837	-127	2.92	Pass	Pass	1840	-124	2.85	Pass	Pass
72146	95734	A1 South	SB	1700	1433	-268	6.76			1453	-247	6.23		Pass
99698	70029	A5 Edgware Road (S)	SB	909	848	-61	2.07	Pass	Pass	845	-64	2.17	Pass	Pass
99725	99699	A406 North Circular Road (W)	NB	750	742	-9	0.32	Pass	Pass	745	-5	0.20	Pass	Pass
99720	70027	A5 Edgware Road (N)	WB	1878	1706	-172	4.07	Pass	Pass	1615	-263	6.29		Pass
99726	99721	A406 North Circular Road (E)	EB	1356	1246	-110	3.06	Pass	Pass	1128	-228	6.48		
99722	99724	A5 Edgware Road (S)	NB	657	621	-36	1.41	Pass	Pass	617	-40	1.57	Pass	Pass
72206	99696	A406 North Circular Road (W)	SB	907	870	-37	1.23	Pass	Pass	876	-31	1.03	Pass	Pass
99723	99849	A5 Edgware Road (N)	EB	1852	1772	-79	1.86	Pass	Pass	1765	-87	2.04	Pass	Pass
99690	99697	A406 North Circular Road (E)	WB	2282	2089	-193	4.13	Pass	Pass	2094	-188	4.02	Pass	Pass
95723	95725	Colindeep Lane	NB	243	248	5	0.34	Pass	Pass	247	4	0.26	Pass	Pass
95723	95724	Colindeep Lane	EB	559	554	-5	0.20	Pass	Pass	556	-3	0.12	Pass	Pass
72164	95721	A41 N/B Off Slip	WB	759	768	9	0.33	Pass	Pass	759	0	0.01	Pass	Pass
95722	95723	Colindeep Lane	EB	802	802	1	0.02	Pass	Pass	803	1	0.04	Pass	Pass
95729	73171	Lawrence Street	NB	281	265	-16	0.99	Pass	Pass	259	-22	1.34	Pass	Pass
73171	95729	A1 Barnet Bypass (S)	SB	580	615	35	1.42	Pass	Pass	613	33	1.35	Pass	Pass
95730	95732	The Broadway	EB	2538	2353	-185	3.74	Pass	Pass	2348	-190	3.84	Pass	Pass
95732	95731	A1 Barnet Bypass (N)	WB	1944	1576	-368	8.78			1576	-368	8.78		
95311	72088	Lawrence Street	SB	702	481	-221	9.10			487	-215	8.81		
72088	95311	A1 Barnet Bypass (S)	NB	545	527	-18	0.78	Pass	Pass	537	-8	0.34	Pass	Pass
95733	95320	The Broadway	WB	1745	1636	-110	2.67	Pass	Pass	1647	-98	2.39	Pass	Pass
72281	72084	A1 Barnet Bypass (N)	EB	2197	2301	104	2.19	Pass	Pass	2300	103	2.18	Pass	Pass
99669	72198	A406 North Circular Road (S)	SB	1533	1413	-120	3.12	Pass	Pass	1445	-88	2.28	Pass	Pass
72198	99667	A41 Hendon Way (N)	NB	1978	2239	261	5.68		Pass	2238	260	5.67		Pass
99667	99674	A406 North Circular Road (N)	WB	956	849	-107	3.57	Pass	Pass	859	-97	3.23	Pass	Pass
99675	99666	A41 Hendon Way (S)	EB	904	663	-241	8.59			671	-233	8.30		
99666	99673	A406 North Circular Road (S)	NB	283	300	17	0.99	Pass	Pass	301	18	1.03	Pass	Pass
99672	99668	A41 Hendon Way (N)	SB	366	198	-168	10.00			204	-162	9.60		
99668	72192	A406 North Circular Road (N)	EB	1384	1357	-27	0.73	Pass	Pass	1347	-37	1.00	Pass	Pass
99671	99669	A41 Hendon Way (S)	WB	909	862	-47	1.60	Pass	Pass	882	-27	0.91	Pass	Pass
95743	95744	Russell Road	SB	82	147	65	6.10		Pass	106	24	2.48	Pass	Pass
95744	95743	Russell Road	NB	35	1	-34	8.15		Pass	5	-30	6.71		Pass
95742	72185	Willberforce Road	SB	437	343	-94	4.76	Pass	Pass	299	-138	7.19		
72178	72185	Station Road	WB	408	607	199	8.84			580	172	7.74		
72185	72178	Station Road	EB	568	695	127	5.05			515	-53	2.28	Pass	Pass
95557	72196	Park Road	WB	179	92	-87	7.43		Pass	154	-25	1.94	Pass	Pass
72196	95557	Park Road	EB	20	79	59	8.43		Pass	61	41	6.44		Pass
72197	72196	A5 West Hendon (S)	NB	679	761	82	3.05	Pass	Pass	629	-50	1.96	Pass	Pass
72196	72197	A5 West Hendon (S)	SB	1052	1185	133	3.98	Pass	Pass	1154	102	3.07	Pass	Pass

A-Node	B-Node	Site Description	Direction	Observed Flow	Modelled Flow (HYDER)	Difference	GEH	DMRB G	uidelines	Modelled Flow (CB WITH CHANGES)	Difference	GEH	DMRE	3 Guidelines
				Flows (PCUs)	Flows (PCUs)	(PCUs)	Value	GEH	Flows	Flows (PCUs)	(PCUs)	Value	GEH	Flows
75060	75069	A5183 High Street(n)	SB	461	466	5	0.25	Pass	Pass	465	4	0.19	Pass	Pass
72041	75069	A411 Barnet Lane	WB	719	708	-11	0.40	Pass	Pass	707	-12	0.43	Pass	Pass
95780	75069	A5183 High Street(s)	NB	405	295	-110	5.86			244	-161	8.94		
75068	75069	A411 Watford Road	EB	857	887	30	1.02	Pass	Pass	921	65	2.16	Pass	Pass
75069	75060	A5183 High Street(n)	NB	489	541	52	2.30	Pass	Pass	543	54	2.38	Pass	Pass
75069	72041	A411 Barnet Lane	EB	787	660	-127	4.73	Pass		649	-138	5.15		Pass
75069	95780	A5183 High Street(s)	SB	622	538	-84	3.47	Pass	Pass	537	-85	3.53	Pass	Pass
75069	75068	A411 Watford Road	WB	543	532	-11	0.45	Pass	Pass	532	-11	0.47	Pass	Pass
72049	72043	A41 Edgware Way	WB	558	435	-123	5.53			434	-124	5.58		
95446	72043	A5 Brockley Hill	NB	748	640	-108	4.09	Pass	Pass	639	-109	4.12	Pass	Pass
71001	72043	A41 Watford Bypass	EB	591	605	14	0.58	Pass	Pass	612	21	0.86	Pass	Pass
72043	72050	A41 Edgware Way	EB	562	506	-56	2.44	Pass	Pass	510	-52	2.25	Pass	Pass
72043	95446	A5 Brockley Hill	SB	803	700	-103	3.75	Pass	Pass	706	-97	3.52	Pass	Pass
72043	71001	A41 Watford Bypass	WB	880	901	21	0.70	Pass	Pass	945	65	2.14	Pass	Pass
72229	72069	A41 Edgware Way(n)	SB	1290	1286	-3	0.10	Pass	Pass	1288	-2	0.05	Pass	Pass
72265	72069	A41 Edgware Way(s)	WB	1434	1496	62	1.62	Pass	Pass	1505	71	1.85	Pass	Pass
95285	72069	Green Lane	NB	110	73	-37	3.87	Pass	Pass	73	-37	3.87	Pass	Pass
72075	72069	A410 Spur Road	EB	1279	1149	-130	3.73	Pass	Pass	1144	-135	3.88	Pass	Pass
72069		A41 Edgware Way(n)	NB	1226	1161	-65	1.88	Pass	Pass	1161	-65	1.88	Pass	Pass
72069	72076	A41 Edgware Way(s)	EB	1469	1596	127	3.24	Pass	Pass	1602	133	3.39	Pass	Pass
72069		Green Lane	SB	173	172	-1	0.04	Pass	Pass	172	-1	0.04	Pass	Pass
72069	72075	A410 Spur Road	WB	1125	1076	-49	1.48	Pass	Pass	1075	-50	1.50	Pass	Pass
95264	72075	A410 London Road	EB	1082	974	-109	3.39	Pass	Pass	973	-109	3.41	Pass	Pass
95446	72075	A5 Brockley Hill	SB	499	488	-11	0.52	Pass	Pass	485	-14	0.63	Pass	Pass
95273	72075	A5 Stonegrove	NB	924	899	-24	0.80	Pass	Pass	897	-27	0.88	Pass	Pass
72075	95264	A410 London Road	WB	980	941	-38	1.24	Pass	Pass	942	-38	1.22	Pass	Pass
72075	95446	A5 Brockley Hill	NB	516	615	99	4.15	Pass	Pass	614	98	4.12	Pass	Pass
72075	95273	A5 Stonegrove	SB	734	682	-52	1.97	Pass	Pass	680	-54	2.04	Pass	Pass
71011	71010	A410 The Broadway	EB	956	858	-97	3.23	Pass	Pass	855	-101	3.35	Pass	Pass
95738	71010	Dennis Lane	SB	250	219	-31	2.02	Pass	Pass	219	-31	2.02	Pass	Pass
95264	71010	A410 London Road	WB	1017	991	-26	0.81	Pass	Pass	988	-29	0.90	Pass	Pass
71022	71010	A4140 Marsh Lane	NB	707	659	-48	1.83	Pass	Pass	663	-44	1.67	Pass	Pass
71010	71011	A410 The Broadway	WB	965	870	-95	3.15	Pass	Pass	885	-80	2.63	Pass	Pass
71010	95738	Dennis Lane	NB	236	199	-37	2.51	Pass	Pass	195	-41	2.79	Pass	Pass
71010	95264	A410 London Road	EB	1003	919	-84	2.70	Pass	Pass	915	-88	2.84	Pass	Pass
71010	71022	A4140 Marsh Lane	SB	725	740	15	0.54	Pass	Pass	729	4	0.14	Pass	Pass
71070		A4006 Kenton Road (w)	EB	614	517	-96	4.04	Pass	Pass	521	-93	3.88	Pass	Pass
95686	70010	A4140 Honeypot Lane	SB	977	896	-80	2.62	Pass	Pass	893	-84	2.73	Pass	Pass
95688	70010	A4006 Kingsbury Road (e)	WB	785	804	19	0.66	Pass	Pass	794	9	0.32	Pass	Pass
70016	70010	A4140 Fryent Way	NB	1104	1100	-4	0.13	Pass	Pass	1099	-5	0.15	Pass	Pass
70210	70010	The Mall	NB	413	363	-49	2.50	Pass	Pass	361	-52	2.62	Pass	Pass
70010	71070	A4006 Kenton Road (w)	WB	1010	801	-209	6.94			801	-209	6.95		Pass
70010	95686	A4140 Honeypot Lane	NB	871	892	22	0.73	Pass	Pass	893	23	0.76	Pass	Pass
70010		A4006 Kingsbury Road (e)	EB	569	560	-8	0.35	Pass	Pass	582	14	0.56	Pass	Pass
70010	70016	A4140 Fryent Way	SB	909	907	-2	0.07	Pass	Pass	878	-31	1.04	Pass	Pass
70010		The Mall	SB	534	487	-47	2.07	Pass	Pass	483	-51	2.24	Pass	Pass

Table A.2 Overall Area Comparison of Observed, Modelled Flows and Modified Model Flows (with network changes) for Evening Peak Hour

		•	7								_
70014 70012 A4006 Kingsbury F		719	676	-43	1.63	Pass	Pass	687	-32	1.21 Pass	Pass
95594 70012 B454 Church Lane	NB	643	610	-33	1.31	Pass	Pass	615	-28	1.10 Pass	Pass
95764 70012 A4006 Kingsbury F	oad (W) EB	806	802	-4	0.14	Pass	Pass	816	10	0.35 Pass	Pass
70012 70014 A4006 Kingsbury F	oad (E) EB	761	735	-26	0.94	Pass	Pass	759	-2	0.05 Pass	Pass
70012 95594 B454 Church Lane	SB	507	446	-61	2.81	Pass	Pass	457	-50	2.28 Pass	
70012 95764 A4006 Kingsbury F		900	907	7	0.23	Pass	Pass	903	3	0.10 Pass	Pass
90358 72173 A5 The Hyde(n)	SB	865	739	-126	4.43	Pass	Pass	752	-113	3.97 Pass	
95169 72173 A5 The Hyde(II)	NB	1214	1140	-74	2.15	Pass	Pass	1136	-78	2.26 Pass	Pass
95163 72173 A4006 Kingsbury F		556	508	-48	2.09	Pass	Pass	519	-37	1.60 Pass	Pass
72173 90358 A5 The Hyde(n)	NB	983	898	-85	2.77	Pass	Pass	899	-84	2.72 Pass	
72173 95169 A5 The Hyde(s)	SB	1004	928	-76	2.44	Pass	Pass	945	-59	1.89 Pass	Pass
72173 95163 A4006 Kingsbury F		620	561	-58	2.41	Pass	Pass	563	-57	2.32 Pass	Pass
72176 72169 A41 Watford Way(	) NB	2525	2443	-82	1.64	Pass	Pass	2444	-81	1.62 Pass	Pass
72259 72169 A504 Station Road	EB	567	658	91	3.69	Pass	Pass	683	117	4.66 Pass	
95720 72169 A41 Watford Way(	) SB	2141	2080	-61	1.33	Pass	Pass	2103	-38	0.83 Pass	Pass
90368 72169 A504 The Burroug	s WB	704	616	-87	3.40	Pass	Pass	592	-112	4.38 Pass	Pass
72169 72176 A41 Watford Way(		1854	1768	-86	2.01	Pass	Pass	1738	-116	2.73 Pass	Pass
72169 72259 A504 Station Road	WB	383	334	-49	2.56	Pass	Pass	352	-31	1.59 Pass	Pass
72169 72164 A41 Watford Way(		3054	3077	24	0.43	Pass	Pass	3091	37	0.67 Pass	
72169 90368 A504 The Burroug		646	605	-41	1.65	Pass	Pass	631	-15	0.59 Pass	Pass
72149 72154 A5 Edgware Road		1212	1127	-85	2.48	Pass	Pass	1114	-15	2.88 Pass	Pass
		641									
			605	-36	1.43	Pass	Pass	603	-38	1.50 Pass	
72162 72154 A5 Edgware Road		1020	1002	-17	0.54	Pass	Pass	1010	-10	0.30 Pass	Pass
95739 72154 Windover Lane	EB	130	81	-49	4.77	Pass	Pass	81	-49	4.73 Pass	
72154 72149 A5 Edgware Road		1359	1260	-99	2.73	Pass	Pass	1256	-103	2.83 Pass	
72154 90337 A5150 Colindeep L		537	517	-20	0.85	Pass	Pass	533	-4	0.17 Pass	Pass
72154 72162 A5 Edgware Road	s) NB	1055	980	-75	2.35	Pass	Pass	984	-71	2.24 Pass	Pass
72154 95739 Windover Lane	WB	56	58	2	0.30	Pass	Pass	35	-21	3.05 Pass	Pass
95063 72149 A5 Edgware Road	N) SB	927	854	-72	2.43	Pass	Pass	1019	92	2.95 Pass	Pass
90309 72149 Colindale Avenue	WB	426	401	-25	1.24	Pass	Pass	355	-71	3.60 Pass	Pass
72149 95063 A5 Edgware Road	S) NB	1083	988	-94	2.93	Pass	Pass	939	-144	4.51 Pass	Pass
72149 90309 Colindale Avenue	EB	422	399	-22	1.09	Pass	Pass	578	157	7.00	
90049 72141 Eagle Drive	SB	60	60	1	0.10	Pass	Pass	60	1	0.06 Pass	Pass
90033 72141 Grahame Park Wa	WB	565	553	-12	0.53	Pass	Pass	628	63	2.57 Pass	
90320 72141 Aerodrome Road	NB	719	798	79	2.87	Pass	Pass	807	88	3.19 Pass	Pass
90024 72141 Colindale Avenue	EB	639	604	-35	1.39	Pass	Pass	599	-40	1.61 Pass	
72141 90049 Eagle Drive	NB	65	65	0	0.01	Pass	Pass	65	0	0.00 Pass	Pass
72141 90033 Grahame Park Wa		800	762	-39	1.39	Pass	Pass	761	-39	1.41 Pass	Pass
72141 90320 Aerodrome Road	SB	383	396	13	0.66	Pass	Pass	396	13	0.66 Pass	
72141 90024 Colindale Avenue	WB	735	793	59	2.12	Pass	Pass	873	139	4.89 Pass	Pass
72102 72104 Bunns Lane(n)	SB	898	845	-52	1.77	Pass	Pass	838	-60	2.03 Pass	Pass
90018 72104 Woodcroft Avenue	NB	299	303	4	0.22	Pass	Pass	315	16	0.91 Pass	
72106 72104 Bunns Lane(s)	EB	974	1005	31	0.98	Pass	Pass	980	6	0.20 Pass	Pass
72104 72102 Bunns Lane(n)	NB	876	752	-124	4.36	Pass	Pass	750	-126	4.41 Pass	
72104 90018 Woodcroft Avenue	SB	358	415	57	2.90	Pass	Pass	374	17	0.86 Pass	
72104 72106 Bunns Lane(s)	WB	937	987	50	1.60	Pass	Pass	1010	73	2.33 Pass	Pass
72267 72122 Watling Avenue(s)	EB	206	120	-85	6.69		Pass	120	-86	6.70	Pass
90011 72122 Cressingham Road	SB	62	61	0	0.03	Pass	Pass	65	4	0.44 Pass	Pass
95403 72122 Watling Avenue(n)	WB	374	350	-24	1.24	Pass	Pass	336	-38	2.02 Pass	Pass
90085 72122 Montrose Avenue	NB	366	360	-6	0.29	Pass	Pass	349	-17	0.90 Pass	Pass
72122 72267 Watling Avenue(s)	WB	211	167	-44	3.17	Pass	Pass	154	-57	4.22 Pass	Pass
72122 90011 Cressingham Road	NB	99	124	26	2.42	Pass	Pass	124	26	2.42 Pass	Pass
72122 95403 Watling Avenue(n)	EB	383	353	-30	1.55	Pass	Pass	355	-28	1.43 Pass	
72122 90085 Montrose Avenue	SB	315	248	-67	3.99	Pass	Pass	238	-77	4.63 Pass	Pass
95219 95728 A5 Burnt Oak Broa		789	733	-56	2.02	Pass	Pass	746	-43	1.56 Pass	Pass
90055 95728 Watling Avenue	WB	345	293	-52	2.90	Pass	Pass	290	-55	3.06 Pass	
JULIU WALLING AVEILUE	WD	070	233	-52	2.00	1 000	1 000	200	-55	0.00 i ass	1 033

Table A.2 Overall Area Comparison of Observed, Modelled Flows and Modified Model Flows (with network changes) for Evening Peak Hour

05000   70400   A5 D   O-1-D	ND	750	005	00	0.54	D	D	200	70	0.04		Deres
95232 72136 A5 Burnt Oak Broadway(s)	NB	753	685	-68	2.54	Pass	Pass	683	-70		Pass	Pass
70001 72136 Stag Lane	EB	296	271	-25	1.50	Pass	Pass	275	-21		Pass	Pass
95728 95219 A5 Burnt Oak Broadway(n)	NB	829	727	-102	3.64	Pass	Pass	726	-103	3.69 F	Pass	Pass
95728 90055 Watling Avenue	EB	345	298	-47	2.60	Pass	Pass	281	-64	3.59 F	Pass	Pass
72136 95232 A5 Burnt Oak Broadway(s)	SB	702	616	-86	3.34	Pass	Pass	643	-59	2.28	Pass	Pass
72136 70001 Stag Lane	WB	307	280	-27	1.57	Pass	Pass	284	-23	1.34 F	Pass	Pass
90105 72118 A5 High Street	SB	876	743	-133	4.67	Pass		744	-132		Pass	Pass
90124 72118 A5109 Deansbrook Road	WB	764	816	53	1.87	Pass	Pass	822	59		Pass	Pass
72128 72118 A5 Burnt Oak Broadway	NB	870	739	-130	4.60	Pass	Pass	739	-131		Pass	Pass
	EB			-130								
		574	576		0.09	Pass	Pass	572	-2		Pass	Pass
72118 90105 A5 High Street	NB	967	917	-50	1.64	Pass	Pass	916	-51		Pass	Pass
72118 90124 A5109 Deansbrook Road	EB	693	634	-58	2.27	Pass	Pass	619	-74		Pass	Pass
72118 72128 A5 Burnt Oak Broadway	SB	756	633	-123	4.66	Pass		647	-109	4.13	Pass	Pass
72118 71156 Camrose Avenue	WB	667	634	-33	1.29	Pass	Pass	639	-28	1.08 F	Pass	Pass
95293 72105 A5 High Street (N)	SB	674	618	-56	2.22	Pass	Pass	615	-59	2.33 F	Pass	Pass
95286 72105 A5100 Station Road	WB	713	612	-101	3.92	Pass	Pass	612	-101	3.92	Pass	Pass
90105 72105 A5 High Street (S)	NB	1234	1168	-66	1.91	Pass	Pass	1169	-65		Pass	Pass
95282 72105 B461 Whitchurch Lane	EB	510	480	-30	1.37	Pass	Pass	481	-29		Pass	Pass
72105 95293 A5 High Street (N)	NB	818	806	-11	0.39	Pass	Pass	804	-14		Pass	Pass
5												
72105 95286 A5100 Station Road	EB	506	453	-52	2.39	Pass	Pass	458	-48		Pass	Pass
72105 90105 A5 High Street (S)	SB	1067	938	-129	4.07	Pass	Pass	939	-128		Pass	Pass
72105 95282 B461 Whitchurch Lane	WB	741	680	-61	2.30	Pass	Pass	677	-64		Pass	Pass
99973 72085 A5109 Deans Lane	NB	596	565	-31	1.28	Pass	Pass	565	-31	1.29 F	Pass	Pass
95308 72085 A5100 Hale Lane(w)	EB	567	536	-31	1.32	Pass	Pass	538	-29	1.23 F	Pass	Pass
95316 72085 A5109 Selvage Lane	SB	684	703	20	0.74	Pass	Pass	705	22	0.82 F	Pass	Pass
99972 72085 A5100 Hale Lane(e)	WB	624	524	-100	4.19	Pass		528	-96	4.01	Pass	Pass
72085 99973 A5109 Deans Lane	SB	772	714	-58	2.12	Pass	Pass	719	-53		Pass	Pass
72085 95308 A5100 Hale Lane(w)	WB	765	778	13	0.48	Pass	Pass	779	15		Pass	Pass
72085 95316 A5109 Selvage Lane	NB	394	387	-6	0.33	Pass	Pass	389	-5		Pass	Pass
72085 99972 A5100 Hale Lane(e)	EB	541	449	-92	4.12	Pass	Pass	448	-93		Pass	Pass
95458 95755 A41 Edgware Way	EB	1485	1484	-1	0.03	Pass	Pass	1487	2		Pass	Pass
72280 95758 A1 Barnet Way	SB	1726	1728	2	0.05	Pass	Pass	1729	3		Pass	Pass
72281 95761 A1 Barnet Bypass	WB	2814	2598	-216	4.15	Pass	Pass	2599	-215		Pass	Pass
72239 72073 A5019 Selvage Lane	NB	533	532	0	0.01	Pass	Pass	532	-1	0.02	Pass	Pass
95755 95458 A41 Edgware Way	WB	1610	1450	-160	4.09	Pass	Pass	1450	-160	4.09 F	Pass	Pass
95758 72280 A1 Barnet Way	NB	3648	3600	-48	0.80	Pass	Pass	3600	-48	0.80 F	Pass	Pass
95761 72281 A1 Barnet Bypass	WB	417	396	-20	1.00	Pass	Pass	396	-21		Pass	Pass
72280 95763 A1 Barnet Bypass Filter	SB	1126	1168	42	1.24	Pass	Pass	1169	43		Pass	Pass
72073 72239 A5019 Selvage Lane	SB	883	817	-67	2.28	Pass	Pass	819	-64		Pass	Pass
	EB		995					994				Pass
75065 75067 A411 Barnet Lane		1015		-21	0.65	Pass	Pass		-21		Pass	
95740 72037 Stirling Way	SB	139	141	3	0.24	Pass	Pass	141	3		Pass	Pass
72230 95747 A1 Barnet Bypass	SB	2229	2168	-62	1.31	Pass	Pass	2167	-62		Pass	Pass
73156 95751 A411 Barnet Road	WB	787	795	8	0.29	Pass	Pass	793	7		Pass	Pass
95464 95753 A1 Barnet Way	NB	2906	2874	-32	0.59	Pass	Pass	2876	-30	0.55 F	Pass	Pass
75067 75065 A411 Barnet Lane	WB	1108	1092	-15	0.46	Pass	Pass	1092	-16	0.47	Pass	Pass
72037 95740 Stirling Way	NB	69	74	5	0.65	Pass	Pass	75	7	0.77 F	Pass	Pass
95747 72010 A1 Barnet Bypass	NB	2671	2656	-15	0.28	Pass	Pass	2655	-16		Pass	Pass
95751 73156 A411 Barnet Road	EB	676	621	-55	2.15	Pass	Pass	618	-58		Pass	Pass
95753 95464 A1 Barnet Way	SB	2553	2529	-24	0.47	Pass	Pass	2531	-22		Pass	Pass
95753 95464 AT Barnet Way 95232 90023 A5 Burnt Oak Broadway	SB	2553 711	635	-24	2.93			659	-52		Pass	Pass
						Pass	Pass					
90065 90023 Montrose Avenue	WB	461	506	45	2.04	Pass	Pass	521	60		Pass	Pass
70002 90023 A5 Edgware Road	NB	1041	953	-88	2.79	Pass	Pass	973	-68		Pass	Pass
90023 95232 A5 Burnt Oak Broadway	NB	769	675	-94	3.48	Pass	Pass	676	-93		Pass	Pass
90023 90065 Montrose Avenue	EB	418	398	-20	0.98	Pass	Pass	419	1		Pass	Pass
90023 70002 A5 Edgware Road	SB	1026	973	-52	1.66	Pass	Pass	1012	-14	0.43 F	Pass	Pass
72129 72132 A1 North	SB	2387	2316	-70	1.45	Pass	Pass	2314	-73	1.50 F	Pass	Pass

Table A.2 Overall Area Comparison of Observed, Modelled Flows and Modified Model Flows (with network changes) for Evening Peak Hour

72132	72129	A41 Watford Way	WB	3097	2821	-275	5.06		Pass	2821	-276	5.07		Pass
72137	95734	A1 South	NB	1003	965	-38	1.21	Pass	Pass	964	-39	1.25	Pass	Pass
72132	72135	A1 North	NB	859	807	-52	1.79	Pass	Pass	804	-55	1.89	Pass	Pass
95734	95351	A41 Watford Way	EB	1568	1586	18	0.46	Pass	Pass	1587	19	0.48	Pass	Pass
72146	95734	A1 South	SB	2133	2106	-28	0.60	Pass	Pass	2109	-24	0.53	Pass	Pass
99698	70029	A5 Edgware Road (S)	SB	764	746	-17	0.63	Pass	Pass	743	-21	0.75	Pass	Pass
99725	99699	A406 North Circular Road (W)	NB	1114	1086	-27	0.83	Pass	Pass	1098	-16	0.47	Pass	Pass
99720	70027	A5 Edgware Road (N)	WB	1377	1304	-73	2.00	Pass	Pass	1309	-68	1.86	Pass	Pass
99726	99721	A406 North Circular Road (E)	EB	1482	1417	-65	1.70	Pass	Pass	1404	-78	2.05	Pass	Pass
99722	99724	A5 Edgware Road (S)	NB	654	611	-43	1.70	Pass	Pass	613	-41	1.63	Pass	Pass
72206	99696	A406 North Circular Road (W)	SB	826	817	-9	0.32	Pass	Pass	819	-7	0.24	Pass	Pass
99723	99849	A5 Edgware Road (N)	EB	2525	2430	-95	1.92	Pass	Pass	2418	-107	2.15	Pass	Pass
99690	99697	A406 North Circular Road (E)	WB	1899	1771	-128	2.99	Pass	Pass	1761	-138	3.22	Pass	Pass
95723	95725	Colindeep Lane	NB	177	167	-10	0.76	Pass	Pass	157	-20	1.51	Pass	Pass
95723	95724	Colindeep Lane	EB	534	522	-11	0.49	Pass	Pass	548	15	0.62	Pass	Pass
72164	95721	A41 N/B Off Slip	WB	878	875	-3	0.10	Pass	Pass	877	-1	0.03	Pass	Pass
95722	95723	Colindeep Lane	EB	710	689	-21	0.80	Pass	Pass	705	-5	0.19	Pass	Pass
95729	73171	Lawrence Street	NB	478	307	-170	8.60			306	-172	8.66		
73171	95729	A1 Barnet Bypass (S)	SB	537	513	-23	1.01	Pass	Pass	512	-25	1.07	Pass	Pass
95730	95732	The Broadway	EB	2004	1930	-74	1.68	Pass	Pass	1928	-76	1.72	Pass	Pass
95732	95731	A1 Barnet Bypass (N)	WB	2614	2476	-139	2.75	Pass	Pass	2474	-140	2.78	Pass	Pass
95311	72088	Lawrence Street	SB	629	441	-188	8.14			444	-185	8.00		
72088	95311	A1 Barnet Bypass (S)	NB	727	726	-1	0.02	Pass	Pass	730	3	0.12	Pass	Pass
95733	95320	The Broadway	WB	2368	2453	85	1.73	Pass	Pass	2454	86	1.75	Pass	Pass
72281	72084	A1 Barnet Bypass (N)	EB	1602	1564	-38	0.95	Pass	Pass	1566	-36	0.90	Pass	Pass
99669	72198	A406 North Circular Road (S)	SB	1938	1949	11	0.25	Pass	Pass	1896	-42	0.96	Pass	Pass
72198	99667	A41 Hendon Way (N)	NB	1647	1702	55	1.35	Pass	Pass	1675	28	0.68	Pass	Pass
99667	99674	A406 North Circular Road (N)	WB	972	961	-11	0.37	Pass	Pass	950	-22	0.72	Pass	Pass
99675	99666	A41 Hendon Way (S)	EB	993	1006	13	0.41	Pass	Pass	976	-17	0.55	Pass	Pass
99666		A406 North Circular Road (S)	NB	411	321	-90	4.69	Pass	Pass	376	-35	1.75	Pass	Pass
99672	99668	A41 Hendon Way (N)	SB	378	358	-20	1.04	Pass	Pass	373	-5	0.26	Pass	Pass
99668	72192	A406 North Circular Road (N)	EB	1000	1005	4	0.14	Pass	Pass	976	-24	0.78	Pass	Pass
99671	99669	A41 Hendon Way (S)	WB	1303	1256	-47	1.32	Pass	Pass	1275	-28	0.78	Pass	Pass
95743	95744	Russell Road	SB	16	21	5	1.23	Pass	Pass	28	12	2.56	Pass	Pass
95744	95743	Russell Road	NB	26	16	-10	2.27	Pass	Pass	16	-10	2.18	Pass	Pass
95742		Willberforce Road	SB	398	389	-9	0.45	Pass	Pass	388	-10	0.50	Pass	Pass
72178		Station Road	WB	394	313	-81	4.31	Pass	Pass	323	-71	3.75	Pass	Pass
72185	72178	Station Road	EB	611	538	-73	3.04	Pass	Pass	556	-55	2.28	Pass	Pass
95557		Park Road	WB	174	183	9	0.65	Pass	Pass	184	10	0.75	Pass	Pass
72196	95557	Park Road	EB	26	24	-2	0.34	Pass	Pass	39	13	2.28	Pass	Pass
72197	72196	A5 West Hendon (S)	NB	771	668	-103	3.84	Pass	Pass	689	-82	3.03	Pass	Pass
72196		A5 West Hendon (S)	SB	913	960	47	1.53	Pass	Pass	962	49	1.60	Pass	Pass

Table B.1 Core Area Comparison of Modelled Flows and Target Validation Counts for Morning Peak Hour

Location	Description	A_Node	B_Node	Observed Flow	Modelled Flow (HYDER)	GEH (Validation)	GEH	Modelled Flow (with changes CB)	GEH (Validation)	GEH
Site 3 EB	A5100 Hale Lane, Edgware (west of Maxwelton Ave)	99972	90001	552	700.84	5.95		702	5.99	
Site 3 WB	A5100 Hale Lane, Edgware (west of Maxwelton Ave)	90001	99972	411	462.59	2.47	Pass	458	2.25	Pass
Site 4 EB	Watling Avenue, Woodcroft Park (SW of Goldbeaters Gr)	72122	95403	318	246.84	4.23	Pass	247	4.22	Pass
Site 4 WB	Watling Avenue, Woodcroft Park (SW of Goldbeaters Gr)	95403	72122	366	456.12	4.44	Pass	456	4.44	Pass
Site 5 NB	A5 Burnt Oak Broadway (N of North Rd)	72128	72118	808	695.13	4.12	Pass	692	4.24	Pass
Site 5 SB	A5 Burnt Oak Broadway (N of North Rd)	72118	72128	753	670.38	3.10	Pass	673	3.00	Pass
Site 6 NB	Grahame Park Way (W of Great Strand)	90033	90027	516	577.22	2.62	Pass	570	2.32	Pass
Site 6 SB	Grahame Park Way (W of Great Strand)	90027	90033	602	598.47	0.14	Pass	621	0.77	Pass
Site 11 EB	A5150 Colindeep Lane (W of railway bridge)	90335	95722	836	802.49	1.17	Pass	803	1.15	Pass

### Table B.2 Core Area Comparison of Modelled Flows and Target Validation Counts for Evening Peak Hour

Location	Description	A_Node	B_Node	Observed Flow	Modelled Flow (HYDER)	GEH (Validation)	GEH	Modelled Flow (with changes CB)	GEH (Validation)	GEH
Site 3 EB	A5100 Hale Lane, Edgware (west of Maxwelton Ave)	99972	90001	529	638.16	4.52	Pass	635	4.39	Pass
Site 3 WB	A5100 Hale Lane, Edgware (west of Maxwelton Ave)	90001	99972	560	710.73	5.98		714	6.10	
Site 4 EB	Watling Avenue, Woodcroft Park (SW of Goldbeaters Gr)	72122	95403	367	352.83	0.75	Pass	355	0.63	Pass
Site 4 WB	Watling Avenue, Woodcroft Park (SW of Goldbeaters Gr)	95403	72122	350	350.46	0.02	Pass	336	0.76	Pass
Site 5 NB	A5 Burnt Oak Broadway (N of North Rd)	72128	72118	798	739.17	2.12	Pass	739	2.13	Pass
Site 5 SB	A5 Burnt Oak Broadway (N of North Rd)	72118	72128	729	633.41	3.66	Pass	647	3.13	Pass
Site 6 NB	Grahame Park Way (W of Great Strand)	90033	90027	624	714.89	3.51	Pass	715	3.52	Pass
Site 6 SB	Grahame Park Way (W of Great Strand)	90027	90033	419	527.45	4.99	Pass	582	7.29	
Site 11 EB	A5150 Colindeep Lane (W of railway bridge)	90335	95722	734	688.81	1.69	Pass	705	1.08	Pass
Site 11 WB	A5150 Colindeep Lane (W of railway bridge)	95722	90335	864	874.96	0.37	Pass	801	2.18	Pass

Table C.1 Comparison of Original Base Model Flows and the Modified Model (with network changes) for the Morning Peak Hour

Site	Location	Direction	ANODE	BNODE	ORIGINAL BASE	WITH CHANGES	Difference	% Difference
1	Colindale Avenue	Between Annesley Avenue and Pasteur Close (EB)	90309	90299	511	521	10	2%
2	Colindale Avenue	Between Annesley Avenue and Pasteur Close (WB)	90299	90309	447	478	31	7%
3	Colindale Avenue	Between Pasteur Close and Booth Road (EB)	90299	90024	463	459	-4	-1%
4	Colindale Avenue	Between Pasteur Close and Booth Road (WB)	90024	90299	470	487	17	4%
5	Booth Road	Booth Road (NB)	90024	90022	440	411	-29	-7%
6	Booth Road	Booth Road (SB)	90022	90024	250	197	-53	-21%
7	Graham Park Way	Between Lanacre Avenue and Great Strand (EB)	90033	90027	577	570	-7	-1%
8	Graham Park Way	Between Lanacre Avenue and Great Strand (WB)	90027	90033	598	621	23	4%
9	Graham Park Way	Between Great Strand and RAF Hendon (NB)	90027	90323	435	429	-6	-1%
10	Graham Park Way	Between Great Strand and RAF Hendon (SB)	90323	90027	323	345	22	7%
11	Graham Park Way	Between RAF Hendon and Avion Crescent (NB)	90323	90026	437	430	-7	-2%
12	Graham Park Way	Between RAF Hendon and Avion Crescent (SB)	90026	90323	330	352	22	7%
13	Graham Park Way	Between Avion Crescent and Avion Crescent (NB)	90026	90025	437	430	-7	-2%
14	Graham Park Way	Between Avion Crescent and Avion Crescent (SB)	90025	90026	330	352	22	7%
15	Graham Park Way	Between Graham Park Way and Longmead (NB)	90025	90042	437	430	-7	-2%
16	Graham Park Way	Between Graham Park Way and Longmead (SB)	90042	90025	330	352	22	7%
17	Graham Park Way	Between Longmead and Clayton Field (NB)	90042	90038	261	255	-6	-2%
18	Graham Park Way	Between Longmead and Clayton Field (NB)	90038	90042	80	102	22	28%
19	Graham Park Way	Between Clayton Field and Roundabout (NB)	90038	72106	342	335	-7	-2%
20	Graham Park Way	Between Clayton Field and Roundabout (NB)	72106	90038	252	274	22	9%
21	Lanacre Avenue	Between Graham Park Way and Near Acre (NB)	90033	90034	30	30	0	0%
22	Lanacre Avenue	Between Graham Park Way and Near Acre (NB)	90034	90033	134	157	23	17%
23	Lanacre Avenue	Between Hemswell and Near Acre (EB)	90035	90033	134	157	23	17%
24	Lanacre Avenue	Between Hemswell and Near Acre (VB)	90034	90035	30	30	0	0%
25	Lanacre Avenue	Between Kenley Avenue and Henswell (EB)	90034	90035	80	51	-29	-36%
26	Lanacre Avenue	Between Kenley Avenue and Henswell (WB)	90035	90046	147	95	-52	-35%
27	Lanacre Avenue	Between Blundell Road and Kenley Avenue (EB)	90033	90046	55	56	-52	2%
28	Lanacre Avenue	Between Blundell Road and Kenley Avenue (WB)	90046	90037	227	205	-22	-10%
29	Montrose Avenue	Between Playfield Road and The Greenway (EB)	90046	90037	313	321	8	3%
30	Montrose Avenue	Between Playfield Road and The Greenway (WB)	90003	90065	380	378	-2	-1%
31	Montrose Avenue	Between The Greenway and Gervase Road (EB)	90227	90003	279	281	2	1%
32		Between The Greenway and Gervase Road (EB)	90022	90227	381	379	-2	-1%
33	Montrose Avenue		90022	90315	653	653	0	0%
	Colindeep Lane	Colindeep Lane (EB)			651	640		
34	Colindeep Lane	Colindeep Lane (WB)	90315	90337			-11	-2% 0%
35	Colindeep Lane	Colindeep Lane (EB)	90315	90335	653	653	0	
36	Colindeep Lane	Colindeep Lane (WB)	90335	90315	651	640	-11	-2%
37	Colindeep Lane	Colindeep Lane (EB)	90335	95722	802	803	1	0%
38	Colindeep Lane	Colindeep Lane (WB)	95721	90335	768	759	-9 57	-1%
39	Annesley Avenue	Annesley Avenue (NB)	90309	90310	3	60	57	1900%
40	Annesley Avenue	Annesley Avenue (SB)	90310	90309	0	0	0	#DIV/0!
41	Annesley Avenue	Annesley Avenue (EB)	90312	90313	11	#N/A	#N/A	#N/A
42	Annesley Avenue	Annesley Avenue (WB)	90313	90312	15	51	36	240%
43	Edgware Road	Between Carlisle Road and Holmstall Avenue (NB)	95175	70002	753	754	1	0%
44	Edgware Road	Between Carlisle Road and Holmstall Avenue (SB)	70002	95175	961	966	5	1%
45	Edgware Road	Between Capitol Way and Carlisle Road (NB)	95172	95175	747	750	3	0%
46	Edgware Road	Between Capitol Way and Carlisle Road (SB)	95175	95172	932	940	8	1%
47	Edgware Road	Between The Greenway and Capitol Way (NB)	90290	95172	761	768	7	1%
48	Edgware Road	Between The Greenway and Capitol Way (SB)	95172	90290	929	930	1	0%
49	Edgware Road	Between Annesley Avenue and The Greenway (NB)	90312	90290	778	785	7	1%
50	Edgware Road	Between Annesley Avenue and The Greenway (SB)	90290	90312	899	916	17	2%
51	Edgware Road	Between Grove Park and Annesley Avenue (NB)	95063	90312	773	761	-12	-2%
52	Edgware Road	Between Grove Park and Annesley Avenue (SB)	90312	95063	897	954	57	6%

Table C.1 Comparison of Original Base Model Flows and the Modified Model (with network changes) for the Morning Peak Hour

Site	Location	Direction	ANODE	BNODE	ORIGINAL BASE	WITH CHANGES	Difference	% Difference
1	Colindale Avenue	Between Annesley Avenue and Pasteur Close (EB)	90309	90299	511	521	10	2%
2	Colindale Avenue	Between Annesley Avenue and Pasteur Close (WB)	90299	90309	447	478	31	7%
3	Colindale Avenue	Between Pasteur Close and Booth Road (EB)	90299	90024	463	459	-4	-1%
4	Colindale Avenue	Between Pasteur Close and Booth Road (WB)	90024	90299	470	487	17	4%
5	Booth Road	Booth Road (NB)	90024	90022	440	411	-29	-7%
6	Booth Road	Booth Road (SB)	90022	90024	250	197	-53	-21%
7	Graham Park Way	Between Lanacre Avenue and Great Strand (EB)	90033	90027	577	570	-7	-1%
8	Graham Park Way	Between Lanacre Avenue and Great Strand (WB)	90027	90033	598	621	23	4%
9	Graham Park Way	Between Great Strand and RAF Hendon (NB)	90027	90323	435	429	-6	-1%
10	Graham Park Way	Between Great Strand and RAF Hendon (SB)	90323	90027	323	345	22	7%
11	Graham Park Way	Between RAF Hendon and Avion Crescent (NB)	90323	90026	437	430	-7	-2%
12	Graham Park Way	Between RAF Hendon and Avion Crescent (SB)	90026	90323	330	352	22	7%
13	Graham Park Way	Between Avion Crescent and Avion Crescent (NB)	90026	90025	437	430	-7	-2%
14	Graham Park Way	Between Avion Crescent and Avion Crescent (SB)	90025	90026	330	352	22	7%
15	Graham Park Way	Between Graham Park Way and Longmead (NB)	90025	90042	437	430	-7	-2%
16	Graham Park Way	Between Graham Park Way and Longmead (SB)	90042	90025	330	352	22	7%
17	Graham Park Way	Between Longmead and Clayton Field (NB)	90042	90038	261	255	-6	-2%
18	Graham Park Way	Between Longmead and Clayton Field (NB)	90038	90042	80	102	22	28%
19	Graham Park Way	Between Clayton Field and Roundabout (NB)	90038	72106	342	335	-7	-2%
20	Graham Park Way	Between Clayton Field and Roundabout (NB)	72106	90038	252	274	22	9%
21	Lanacre Avenue	Between Graham Park Way and Near Acre (NB)	90033	90034	30	30	0	0%
22	Lanacre Avenue	Between Graham Park Way and Near Acre (NB)	90034	90033	134	157	23	17%
23	Lanacre Avenue	Between Hemswell and Near Acre (EB)	90035	90033	134	157	23	17%
24	Lanacre Avenue	Between Hemswell and Near Acre (VB)	90034	90035	30	30	0	0%
25	Lanacre Avenue	Between Kenley Avenue and Henswell (EB)	90034	90035	80	51	-29	-36%
26	Lanacre Avenue	Between Kenley Avenue and Henswell (WB)	90035	90046	147	95	-52	-35%
27	Lanacre Avenue	Between Blundell Road and Kenley Avenue (EB)	90033	90046	55	56	-52	2%
28	Lanacre Avenue	Between Blundell Road and Kenley Avenue (WB)	90046	90037	227	205	-22	-10%
29	Montrose Avenue	Between Playfield Road and The Greenway (EB)	90046	90037	313	321	8	3%
30	Montrose Avenue	Between Playfield Road and The Greenway (WB)	90003	90065	380	378	-2	-1%
31	Montrose Avenue	Between The Greenway and Gervase Road (EB)	90227	90003	279	281	2	1%
32		Between The Greenway and Gervase Road (EB)	90022	90022	381	379	-2	-1%
33	Montrose Avenue		90022	90315	653	653	0	0%
	Colindeep Lane	Colindeep Lane (EB)			651	640		
34	Colindeep Lane	Colindeep Lane (WB)	90315	90337			-11	-2% 0%
35	Colindeep Lane	Colindeep Lane (EB)	90315	90335	653	653	0	
36	Colindeep Lane	Colindeep Lane (WB)	90335	90315	651	640	-11	-2%
37	Colindeep Lane	Colindeep Lane (EB)	90335	95722	802	803	1	0%
38	Colindeep Lane	Colindeep Lane (WB)	95721	90335	768	759	-9 57	-1%
39	Annesley Avenue	Annesley Avenue (NB)	90309	90310	3	60	57	1900%
40	Annesley Avenue	Annesley Avenue (SB)	90310	90309	0	0	0	#DIV/0!
41	Annesley Avenue	Annesley Avenue (EB)	90312	90313	11	#N/A	#N/A	#N/A
42	Annesley Avenue	Annesley Avenue (WB)	90313	90312	15	51	36	240%
43	Edgware Road	Between Carlisle Road and Holmstall Avenue (NB)	95175	70002	753	754	1	0%
44	Edgware Road	Between Carlisle Road and Holmstall Avenue (SB)	70002	95175	961	966	5	1%
45	Edgware Road	Between Capitol Way and Carlisle Road (NB)	95172	95175	747	750	3	0%
46	Edgware Road	Between Capitol Way and Carlisle Road (SB)	95175	95172	932	940	8	1%
47	Edgware Road	Between The Greenway and Capitol Way (NB)	90290	95172	761	768	7	1%
48	Edgware Road	Between The Greenway and Capitol Way (SB)	95172	90290	929	930	1	0%
49	Edgware Road	Between Annesley Avenue and The Greenway (NB)	90312	90290	778	785	7	1%
50	Edgware Road	Between Annesley Avenue and The Greenway (SB)	90290	90312	899	916	17	2%
51	Edgware Road	Between Grove Park and Annesley Avenue (NB)	95063	90312	773	761	-12	-2%
52	Edgware Road	Between Grove Park and Annesley Avenue (SB)	90312	95063	897	954	57	6%

Table C.2 Comparison of Original Base Model Flows and the Modified Model (with network changes) for the Evening Peak Hour

Site	Location	Direction	ANODE	BNODE	ORIGINAL BASE	WITH CHANGES	Difference	% Difference
1	Colindale Avenue	Between Annesley Avenue and Pasteur Close (EB)	90309	90299	480	478	-2	0%
2	Colindale Avenue	Between Annesley Avenue and Pasteur Close (WB)	90299	90309	445	436	-9	-2%
3	Colindale Avenue	Between Pasteur Close and Booth Road (EB)	90299	90024	601	554	-47	-8%
4	Colindale Avenue	Between Pasteur Close and Booth Road (WB)	90024	90299	504	451	-53	-11%
5	Booth Road	Booth Road (NB)	90024	90022	635	602	-33	-5%
6	Booth Road	Booth Road (SB)	90022	90024	349	224	-125	-36%
7	Graham Park Way	Between Lanacre Avenue and Great Strand (EB)	90033	90027	715	715	0	0%
8	Graham Park Way	Between Lanacre Avenue and Great Strand (WB)	90027	90033	527	582	55	10%
9	Graham Park Way	Between Great Strand and RAF Hendon (NB)	90027	90323	592	592	0	0%
10	Graham Park Way	Between Great Strand and RAF Hendon (SB)	90323	90027	436	490	54	12%
11	Graham Park Way	Between RAF Hendon and Avion Crescent (NB)	90323	90026	632	632	0	0%
12	Graham Park Way	Between RAF Hendon and Avion Crescent (SB)	90026	90323	465	519	54	12%
13	Graham Park Way	Between Avion Crescent and Avion Crescent (NB)	90026	90025	632	632	0	0%
14	Graham Park Way	Between Avion Crescent and Avion Crescent (SB)	90025	90026	465	519	54	12%
15	Graham Park Way	Between Graham Park Way and Longmead (NB)	90025	90042	632	632	0	0%
16	Graham Park Way	Between Graham Park Way and Longmead (SB)	90042	90025	465	519	54	12%
17	Graham Park Way	Between Longmead and Clayton Field (NB)	90042	90038	152	156	4	3%
18	Graham Park Way	Between Longmead and Clayton Field (SB)	90038	90042	85	139	54	64%
19	Graham Park Way	Between Clayton Field and Roundabout (NB)	90038	72106	486	489	3	1%
20	Graham Park Way	Between Clayton Field and Roundabout (SB)	72106	90038	286	344	58	20%
21	Lanacre Avenue	Between Graham Park Way and Near Acre (NB)	90033	90034	47	47	0	0%
22	Lanacre Avenue	Between Graham Park Way and Near Acre (SB)	90034	90033	26	46	20	77%
23	Lanacre Avenue	Between Hemswell and Near Acre (EB)	90035	90034	26	46	20	77%
24	Lanacre Avenue	Between Hemswell and Near Acre (WB)	90034	90035	47	47	0	0%
25	Lanacre Avenue	Between Kenley Avenue and Henswell (EB	90046	90035	19	40	21	111%
26	Lanacre Avenue	Between Kenley Avenue and Henswell (WB)	90035	90046	42	42	0	0%
27	Lanacre Avenue	Between Blundell Road and Kenley Avenue (EB)	90037	90046	15	30	15	100%
28	Lanacre Avenue	Between Blundell Road and Kenley Avenue (WB)	90046	90037	66	60	-6	-9%
29	Montrose Avenue	Between Playfield Road and The Greenway (EB)	90065	90227	380	404	24	6%
30	Montrose Avenue	Between Playfield Road and The Greenway (WB)	90227	90065	503	522	19	4%
31	Montrose Avenue	Between The Greenway and Gervase Road (EB)	90227	90022	354	378	24	7%
32	Montrose Avenue	Between The Greenway and Gervase Road (VB)	90022	90227	508	526	18	4%
33	Colindeep Lane	Colindeep Lane (EB)	90337	90315	532	551	19	4%
34	Colindeep Lane	Colindeep Lane (WB)	90315	90337	686	688	2	0%
35	Colindeep Lane	Colindeep Lane (WB)  Colindeep Lane (EB)	90315	90335	532	551	19	4%
	-		90335		686	688	2	0%
36 37	Colindeep Lane Colindeep Lane	Colindeep Lane (WB) Colindeep Lane (EB)	90335	90315 95722	689	705	16	2%
	-		95721	90335	875	877	2	2% 0%
38 39	Colindeep Lane	Colindeep Lane (WB)	90309	90335	62	180	118	190%
	Annesley Avenue	Annesley Avenue (NB)	90309		98	0	-98	-100%
40	Annesley Avenue	Annesley Avenue (SB)		90309	98 85	#N/A	-98 #N/A	-100% #N/A
41 42	Annesley Avenue	Annesley Avenue (EB)	90312	90313	134	#N/A 252		#N/A 88%
	Annesley Avenue	Annesley Avenue (WB)	90313	90312			118	
43	Edgware Road	Between Carlisle Road and Holmstall Avenue (NB)	95175	70002	900	922	22	2%
44	Edgware Road	Between Carlisle Road and Holmstall Avenue (SB)	70002	95175	851	897	46	5%
45	Edgware Road	Between Capitol Way and Carlisle Road (NB)	95172	95175	899	924	25	3%
46	Edgware Road	Between Capitol Way and Carlisle Road (SB)	95175	95172	822	873	51	6%
47	Edgware Road	Between The Greenway and Capitol Way (NB)	90290	95172	1108	1137	29	3%
48	Edgware Road	Between The Greenway and Capitol Way (SB)	95172	90290	848	892	44	5%
49	Edgware Road	Between Annesley Avenue and The Greenway (NB)	90312	90290	1130	1159	29	3%
50	Edgware Road	Between Annesley Avenue and The Greenway (SB)	90290	90312	812	865	53	7%
51	Edgware Road	Between Grove Park and Annesley Avenue (NB)	95063	90312	1126	1076	-50	-4%
52	Edgware Road	Between Grove Park and Annesley Avenue (SB)	90312	95063	858	1043	185	22%

A-Node	B-Node	C-Node	Description	Observed Flow	Modelled Flow (HYDER)	Difference	GEH	DMRR G	uidelines	Modelled Flow (CB WITH CHANGES)	Difference	GEH	DMRR G	uidelines
71.11040	D .touc	0 11000	2 decinption	Flows (PCUs)	Flows (PCUs)	(PCUs)	Value	GEH	Flows	Flows (PCUs)	(PCUs)	Value	GEH	Flows
72041	75069	95780	A411 Barnet Lane - A5183 High Street (s)	247	268	21	1.29	Pass	Pass	267	20	1.25	Pass	Pass
72041	75069	75060	A411 Barnet Lane - A5183 High Street (n)	21	18	-3	0.63	Pass	Pass	18	-3	0.68	Pass	Pass
72041	75069	75068	A411 Barnet Lane - A411 Watford Road	523	545	22	0.96	Pass	Pass	546	23	0.99	Pass	Pass
95780	75069	72041	A5183 High Street (s) - A411 Barnet Lane	142	37	-105	11.04			34	-108	11.51		
95780	75069	75060	A5183 High Street (s) - A5183 High Street (n)	298	305	7	0.43	Pass	Pass	245	-53	3.22	Pass	Pass
95780	75069	75068	A5183 High Street (s) - A411 Watford Road	38	0	-38	8.72		Pass	0	-38	8.72		Pass
75060	75069	72041	A5183 High Street (n) - A411 Barnet Lane	28	34	6	1.06	Pass	Pass	33	5	0.91	Pass	Pass
75060	75069	95780	A5183 High Street (n) - A5183 High Street (s)	420	445	25	1.20	Pass	Pass	413	-7	0.34	Pass	Pass
75068	75069	72041	A411 Watford Road - A411 Barnet Lane	480	536	56	2.49	Pass	Pass	532	52	2.31	Pass	Pass
75068	75069	95780	A411 Watford Road - A5183 High Street (s)	72	0	-72	12.00		Pass	0	-72	12.00		Pass
75068	75069	75060	A411 Watford Road - A5183 High Street (n)	259	286	27	1.64	Pass	Pass	311	52	3.08	Pass	Pass
71001	72043	72050	A41 Watford Bypass - A41 Edgeware Way	557	553	-4	0.17	Pass	Pass	558	1	0.04	Pass	Pass
71001	72043	95780	A41 Watford Bypass - A5183 Elstree Hill South	108	108	0	0.01	Pass	Pass	108	0	0.00	Pass	Pass
71001	72043	95446	A41 Watford Bypass - A5 Brockley Hill	159	169	10	0.75	Pass	Pass	168	9	0.70	Pass	Pass
72049	72043	71001	A41 Edgeware Way - A41 Watford Bypass	365	347	-18	0.94	Pass	Pass	342	-23	1.22	Pass	Pass
72049	72043		A41 Edgware Way - A5183 Elstree Hill South	217	192	-25	1.73	Pass	Pass	191	-26	1.82	Pass	Pass
72049	72043		A41 Edgware Way - A5 Brockley Hill	194	0	-194	19.67			0	-194	19.70		
95780	72043	71001	A5183 Elstree Hill South - A41 Watford Bypass	370	396	26	1.33	Pass	Pass	419	49	2.47	Pass	Pass
95780	72043	72050	A5183 Elstree Hill South - A41 Edgware Way	70	189	119	10.44			189	119	10.46		
95780	72043	95446	A5183 Elstree Hill South - A5 Brockley Hill	228	347	119	7.03			348	120	7.07		
95446	72043	71001	A5 Brockley Hill - A41 Watford Bypass	434	428	-6	0.31	Pass	Pass	428	-6	0.29	Pass	Pass
95446	72043	72050	A5 Brockley Hill - A41 Edgware Way	86	0	-86	13.11		Pass	0	-86	13.11		Pass
95446	72043	95780	A5 Brockley Hill - A5183 Elstree Hill South	390	395	5	0.27	Pass	Pass	396	6	0.30	Pass	Pass
72075	72069	72049	A410 Spur Road - A41 Edgware Way (n)	468	446	-22	1.02	Pass	Pass	457	-11	0.51	Pass	Pass
72075	72069	72076	A410 Spur Road - A41 Edgware Way (s)	707	673	-34	1.30	Pass	Pass	669	-38	1.45	Pass	Pass
72075	72069		A410 Spur Road - Green Lane	43	36	-7	1.04	Pass	Pass	35	-8	1.28	Pass	Pass
72229	72069		A41 Edgware Way (n) - A410 Spur Road	635	605	-30	1.19	Pass	Pass	608	-27	1.08	Pass	Pass
72229	72069	72076	A41 Edgware Way (n) - A41 Edgware Way (s)	817	874	57	1.95	Pass	Pass	871	54	1.86	Pass	Pass
72229	72069	95285	A41 Edgware Way (n) - Green Lane	111	117	6	0.58	Pass	Pass	118	7	0.65	Pass	Pass
72265	72069	72049	A41 Edgware Way (s) - A41 Edgware Way (n)	755	730	-25	0.90	Pass	Pass	718	-37	1.36	Pass	Pass
72265	72069		A41 Edgware Way (s) - A410 Spur Road	588	448	-140	6.15			450	-138	6.06		
72265	72069	95285	A41 Edgware Way (s) - Green Lane	29	26	-3	0.51	Pass	Pass	26	-3	0.57	Pass	Pass
95285	72069	72049	Green Lane - A41 Edgware Way (n)	82	83	1	0.10	Pass	Pass	83	1	0.11	Pass	Pass
95285	72069	72075	Green Lane - A410 Spur Road	81	43	-38	4.81	Pass	Pass	43	-38	4.83	Pass	Pass
95285	72069	72076	Green Lane - A41 Edgware Way (s)	58	57	-1	0.18	Pass	Pass	57	-1	0.13	Pass	Pass
72069	72075	95264	A410 Spur Road - A410 London Road	663	718	55	2.09	Pass	Pass	715	52	1.98	Pass	Pass
72069	72075	95273	A410 Spur Road - A5 Stonegrove	317	295	-22	1.28	Pass	Pass	303	-14	0.80	Pass	Pass
72069	72075	95446	A410 Spur Road - A5 Brockley Hill	60	83	23	2.77	Pass	Pass	83	23	2.72	Pass	Pass
95264	72075	72069	A410 London Road - A410 Spur Road	781	741	-40	1.45	Pass	Pass	740	-41	1.49	Pass	Pass
95264	72075	95273	A410 London Road - A5 Stonegrove	116	125	9	0.80	Pass	Pass	119	3	0.28	Pass	Pass
95264	72075	95446	A410 London Road - A5 Brockley Hill	120	117	-3	0.31	Pass	Pass	117	-3	0.28	Pass	Pass
95273	72075	72069	A5 Stonegrove - A410 Spur Road	470	369	-101	4.93	Pass		369	-101	4.93	Pass	
95273	72075	95264	A5 Stonegrove - A410 London Road	159	120	-40	3.35	Pass	Pass	119	-40	3.39	Pass	Pass
95273	72075	95446	A5 Stonegrove - A5 Brockley Hill	324	369	45	2.39	Pass	Pass	364	40	2.16	Pass	Pass
95446	72075	72069	A5 Brockley Hill - A410 Spur Road	66	52	-14	1.84	Pass	Pass	51	-15	1.96	Pass	Pass
95446	72075	95264	A5 Brockley Hill - A410 London Road	135	173	38	3.03	Pass	Pass	169	34	2.76	Pass	Pass
95446	72075	95273	A5 Brockley Hill - A5 Stonegrove	347	374	27	1.41	Pass	Pass	378	31	1.63	Pass	Pass
71011	71010	71022	A410 The Broadway - A4140 Marsh Lane	274	217	-57	3.64	Pass	Pass	222	-52	3.30	Pass	Pass
71011	71010	95264	A410 The Broadway - A410 London Road	605	589	-16	0.63	Pass	Pass	577	-28	1.15	Pass	Pass
71011	71010	95738	A410 The Broadway - Dennis Lane	54	0	-54	10.39	1	Pass	0	-54	10.39		Pass
71022	71010	71011	A4140 Marsh Lane - A410 The Broadway	290	77	-213	15.72			70	-220	16.40		لـــــــا
71022	71010	95264	A4140 Marsh Lane - A410 London Road	261	239	-22	1.37	Pass	Pass	250	-11	0.69	Pass	Pass
71022	71010	95738	A4140 Marsh Lane - Dennis Lane	237	294	57	3.52	Pass	Pass	301	64	3.90	Pass	Pass
95264	71010	71011	A410 London Road - A410 The Broadway	615	593	-22	0.88	Pass	Pass	593	-22	0.90	Pass	Pass
95264	71010	71022	A410 London Road - A4140 Marsh Lane	284	292	8	0.50	Pass	Pass	288	4	0.24	Pass	Pass
95264	71010	95738	A410 London Road - Dennis Lane	41	39	-2	0.25	Pass	Pass	39	-2	0.32	Pass	Pass
95738	71010	71011	Dennis Lane - A410 The Broadway	22	0	-22	6.62		Pass	0	-22	6.63		Pass
95738	71010	71022	Dennis Lane - A4140 Marsh Lane	155	152	-3	0.21	Pass	Pass	145	-10	0.82	Pass	Pass

Table D.1 Overall Area Comparison of Observed Flows, Modelled Flows and Modified Model Flows (with network changes) for Morning Peak Hour

05700	74040	05004	ID : 1 A4401 1 D 1	00			0.54	-	_	00		0.44	-	
95738 70016	71010	95264 70210	Dennis Lane - A410 London Road	22	20	-2	0.54	Pass	Pass	20 114	-2	0.44	Pass	Pass
	70010		A4140 Fryent Way - The Mall	104	103	-1	0.09	Pass	Pass		10	0.96	Pass	Pass
70016 70016	70010 70010	71070 95686	A4140 Fryent Way - A4006 Kenton Road A4140 Fryent Way - A4140 Honeypot Lane	229 315	226 312	-3 -3	0.20	Pass Pass	Pass Pass	228 311	-1 -4	0.07	Pass Pass	Pass Pass
70016	70010	95688	A4140 Fryent Way - A4140 Honeypot Lane A4140 Fryent Way - A4006 Kingsbury Road	171	162	-3 -9	0.18	Pass	Pass	162	-4	0.23	Pass	Pass
70010	70010	70016	The Mall - A4140 Fryent Way	303	279	-24	1.39	Pass	Pass	278	-25	1.47	Pass	Pass
70210	70010	71070	The Mall - A4006 Kenton Road	16	2	-14	4.54	Pass	Pass	5	-25 -11	3.39	Pass	Pass
70210	70010	95686	The Mall - A4140 Honeypot Lane	300	278	-14	1.32	Pass	Pass	276	-24	1.41	Pass	Pass
70210	70010	95688	The Mall - A4006 Kingsbury Road	118	115	-3	0.25	Pass	Pass	118	-24	0.00	Pass	Pass
71070	70010	70016	A4006 Kenton Road - A4140 Fryent Way	299	343	-3 44	2.46	Pass	Pass	350	51	2.83	Pass	Pass
71070	70010	70210	A4006 Kenton Road - The Mall	161	0	-161	17.94	F 033	rass	0	-161	17.94	F 033	F 433
71070	70010	95686	A4006 Kenton Road - A4140 Honeypot Lane	58	65	7	0.84	Pass	Pass	58	0	0.00	Pass	Pass
71070	70010	95688	A4006 Kenton Road - A4006 Kingsbury Road	378	375	-3	0.15	Pass	Pass	382	4	0.00	Pass	Pass
95686	70010	70016	A4140 Honeypot Lane - A4140 Fryent Way	642	635	-7	0.13	Pass	Pass	607	-35	1.40	Pass	Pass
95686	70010	70210	A4140 Honeypot Lane - The Mall	155	131	-24	1.98	Pass	Pass	131	-24	2.01	Pass	Pass
95686	70010	71070	A4140 Honeypot Lane - A4006 Kenton Road	84	84	0	0.01	Pass	Pass	79	-5	0.55	Pass	Pass
95686	70010	95688	A4140 Honeypot Lane - A4006 Kingsbury Road	81	76	-5	0.61	Pass	Pass	72	-9	1.03	Pass	Pass
95688	70010	70016	A4006 Kingsbury Road - A4140 Fryent Way	75	70	-5	0.53	Pass	Pass	69	-6	0.71	Pass	Pass
95688	70010	70210	A4006 Kingsbury Road - The Mall	135	128	-7	0.61	Pass	Pass	129	-6	0.52	Pass	Pass
95688	70010	71070	A4006 Kingsbury Road - A4006 Kenton Road	357	337	-20	1.07	Pass	Pass	337	-20	1.07	Pass	Pass
95688	70010	95686	A4006 Kingsbury Road - A4140 Honeypot Lane	52	45	-7	1.03	Pass	Pass	48	-4	0.57	Pass	Pass
70014	70010	95594	A4006 Kingsbury Road (e) - B454 Church Lane	255	224	-31	1.99	Pass	Pass	223	-32	2.07	Pass	Pass
70014	70012	95764	A4006 Kingsbury Road (e) - A4006 Kingsbury Road (w)	467	443	-24	1.10	Pass	Pass	423	-44	2.07	Pass	Pass
95594	70012	70014	B454 Church Lane - A4006 Kingsbury Road (e)	250	213	-37	2.40	Pass	Pass	212	-38	2.50	Pass	Pass
95594	70012	95764	B454 Church Lane - A4006 Kingsbury Road (w)	290	284	-6	0.33	Pass	Pass	286	-4	0.24	Pass	Pass
95764	70012	70014	A4006 Kingsbury Road (w) - A4006 Kingsbury Road (e)	698	671	-27	1.05	Pass	Pass	681	-17	0.65	Pass	Pass
95764	70012	95594	A4006 Kingsbury Road (w) - P4500 Kingsbury Road (c)	378	388	10	0.49	Pass	Pass	380	2	0.10	Pass	Pass
90358	72173	95163	A5 The Hyde (n) - A4006 Kingsbury Road	268	259	-9	0.54	Pass	Pass	236	-32	2.02	Pass	Pass
90358	72173	95169	A5 The Hyde (n) - A5 The Hyde (s)	669	641	-28	1.09	Pass	Pass	647	-22	0.86	Pass	Pass
95163	72173	90358	A4006 Kingsbury Road - A5 The Hyde (n)	175	167	-8	0.61	Pass	Pass	162	-13	1.00	Pass	Pass
95163	72173	95169	A4006 Kingsbury Road - A5 The Hyde (n)	429	376	-53	2.66	Pass	Pass	386	-43	2.13	Pass	Pass
95169	72173	90358	A5 The Hyde (s) - A5 The Hyde (n)	594	544	-50	2.08	Pass	Pass	541	-53	2.22	Pass	Pass
95169	72173	95163	A5 The Hyde (s) - A4006 Kingsbury Road	324	277	-47	2.73	Pass	Pass	278	-46	2.65	Pass	Pass
72176	72169	72259	A41 Watford Way (s) - A504 Station Road	29	0	-29	7.62	1 433	Pass	0	-29	7.62	1 433	Pass
72176	72169	90368	A41 Watford Way (s) - A504 The Burroughs	180	141	-39	3.07	Pass	Pass	141	-39	3.08	Pass	Pass
72176	72169	72164	A41 Watford Way (s) - A41 Watford Way (n)	1689	1661	-28	0.69	Pass	Pass	1668	-21	0.51	Pass	Pass
72259	72169	72176	A504 Station Road - A41 Watford Way (s)	64	31	-33	4.82	Pass	Pass	36	-28	3.96	Pass	Pass
72259	72169	90368	A504 Station Road - A504 The Burroughs	275	263	-12	0.75	Pass	Pass	260	-15	0.92	Pass	Pass
72259	72169	72164	A504 Station Road - A41 Watford Way (n)	161	191	30	2.27	Pass	Pass	194	33	2.48	Pass	Pass
90368	72169	72176	A504 The Burroughs - A41 Watford Way (s)	146	95	-51	4.64	Pass	Pass	96	-50	4.55	Pass	Pass
90368	72169	72259	A504 The Burroughs - A504 Station Road	254	252	-2	0.12	Pass	Pass	251	-3	0.19	Pass	Pass
90368	72169	72164	A504 The Burroughs - A41 Watford Way (n)	333	331	-2	0.09	Pass	Pass	329	-4	0.22	Pass	Pass
95720	72169	72176	A41 Watford Way (n) - A41 Watford Way (s)	1892	1850	-42	0.97	Pass	Pass	1800	-92	2.14	Pass	Pass
95720	72169	72259	A41 Watford Way (n) - A504 Station Road	241	154	-87	6.17	1 400	Pass	145	-96	6.91	1 400	Pass
95720	72169	90368	A41 Watford Way (n) - A504 The Burroughs	267	247	-20	1.23	Pass	Pass	249	-18	1.12	Pass	Pass
72149	72154	72162	A5 Edgware Road (n) - A5 Edgware Road (s)	843	797	-46	1.62	Pass	Pass	827	-16	0.55	Pass	Pass
72149	72154	90337	A5 Edgware Road (n) - A5150 Colindeep Lane	424	447	23	1.12	Pass	Pass	443	19	0.91	Pass	Pass
72149	72154	95739	A5 Edgware Road (n) - Windover Lane	27	32	5	0.89	Pass	Pass	0	-27	7.35		Pass
72162	72154	72149		821	749	-72	2.57	Pass	Pass	746	-75	2.68	Pass	Pass
72162	72154	90337	A5 Edgware Road (s) - A5150 Colindeep Lane	194	178	-16	1.18	Pass	Pass	182	-12	0.88	Pass	Pass
72162	72154	95739	A5 Edgware Road (s) - Windover Lane	59	56	-3	0.34	Pass	Pass	56	-3	0.40	Pass	Pass
90337	72154	72149	A5150 Colindeep Lane - A5 Edgware Road (n)	381	388	7	0.38	Pass	Pass	383	2	0.10	Pass	Pass
90337	72154	72162	A5150 Colindeep Lane - A5 Edgware Road (s)	125	128	3	0.27	Pass	Pass	126	1	0.09	Pass	Pass
90337	72154	95739	A5150 Colindeep Lane - Windover Lane	26	26	0	0.09	Pass	Pass	24	-2	0.40	Pass	Pass
95739	72154	72149	Windover Lane - A5 Edgware Road (n)	13	0	-13	5.10		Pass	0	-13	5.10		Pass
95739	72154	72162	Windover Lane - A5 Edgware Road (s)	5	7	2	0.67	Pass	Pass	7	2	0.82	Pass	Pass
95739	72154	90337	Windover Lane - A5150 Colindeep Lane	1	6	5	2.56	Pass	Pass	6	5	2.67	Pass	Pass
72154	72149	90309	A5 Edgware Road (s) - A5 Edgware Road (n)	353	390	37	1.92	Pass	Pass	393	40	2.07	Pass	Pass
72154	72149	95063	A5 Edgware Road (s) - A5 Edgware Road (n)	796	747	-49	1.75	Pass	Pass	736	-60	2.17	Pass	Pass
90309	72149	72154	Colindale Avenue - A5 Edgware Road (s)	446	444	-2	0.09	Pass	Pass	428	-18	0.86	Pass	Pass
95063	72149	72154	A5 Edgware Road (n) - A5 Edgware Road (s)	886	836	-50	1.71	Pass	Pass	843	-43	1.46	Pass	Pass
95063	72149	90309	A5 Edgware Road (n) - A5 Edgware Road (n)	170	121	-49	4.09	Pass	Pass	137	-33	2.66	Pass	Pass
90024	72141	90033	Colindale Avenue - Grahame Park Way	289	315	26	1.50	Pass	Pass	314	25	1.44	Pass	Pass
90024	72141	90049	Colindale Avenue - Eagle Drive	14	45	31	5.72		Pass	46	32	5.84		Pass
90024	72141	90320	Colindale Avenue - Aerodrome Road	252	254	2	0.13	Pass	Pass	293	41	2.48	Pass	Pass
90033	72141	90024	Grahame Park Way - Colindale Avenue	440	419	-21	1.03	Pass	Pass	510	70	3.21	Pass	Pass
90033	72141	90049	Grahame Park Way - Eagle Drive	22	24	2	0.52	Pass	Pass	23	1	0.21	Pass	Pass
90033	72141	90320	Grahame Park Way - Aerodrome Road	272	288	16	0.93	Pass	Pass	243	-29	1.81	Pass	Pass
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Table D.1 Overall Area Comparison of Observed Flows, Modelled Flows and Modified Model Flows (with network changes) for Morning Peak Hour

90049	72141	00024	Eagle Drive - Colindale Avenue	38	48	10	1.46	Pass	Pass	48	10	1.52	Pass	Pass
90049	72141	90033	Eagle Drive - Golindale Avende  Eagle Drive - Grahame Park Way	30	28	-2	0.34	Pass	Pass	28	-2	0.37	Pass	Pass
90049	72141	90320	Eagle Drive - Aerodrome Road	38	41	3	0.44	Pass	Pass	41	3	0.48	Pass	Pass
90320	72141	90024	Aerodrome Road - Colindale Avenue	251	344	93	5.38	F 055	Pass	338	87	5.07	r ass	Pass
90320	72141	90024		242	262	20	1.25	D	Pass	256	14	0.89	Pass	
			Aerodrome Road - Grahame Park Way					Pass						Pass
90320	72141	90049	Aerodrome Road - Eagle Drive	5	5	0	0.01	Pass	Pass	5	0	0.00	Pass	Pass
72102	72104	72106	Bunns Lane (n) - Bunns Lane (s)	851	793	-58	2.01	Pass	Pass	797	-54	1.88	Pass	Pass
72102	72104	90018	Bunns Lane (n) - Woodcroft Avenue	81	64	-17	1.97	Pass	Pass	63	-18	2.12	Pass	Pass
72106	72104	72102	Bunns Lane (s) - Bunns Lane (n)	556	425	-131	5.92			430	-126	5.67		
72106	72104	90018	Bunns Lane (s) - Woodcroft Avenue	254	253	-1	0.09	Pass	Pass	234	-20	1.28	Pass	Pass
90018	72104	72102	Woodcroft Avenue - Bunns Lane (n)	112	149	37	3.22	Pass	Pass	135	23	2.07	Pass	Pass
90018	72104	72106	Woodcroft Avenue - Bunns Lane (s)	191	150	-41	3.10	Pass	Pass	160	-31	2.34	Pass	Pass
72267	72122	90011	Watling Avenue (s) - Cressingham Road	23	21	-2	0.53	Pass	Pass	21	-2	0.43	Pass	Pass
72267	72122	90085	Watling Avenue (s) - Watling Avenue (n)	46	0	-46	9.59		Pass	0	-46	9.59		Pass
72267	72122	95403	Watling Avenue (s) - Montrose Avenue	116	76	-40	4.10	Pass	Pass	74	-42	4.31	Pass	Pass
90011	72122	72267	Cressingham Road - Watling Avenue (s)	17	14	-3	0.81	Pass	Pass	14	-3	0.76	Pass	Pass
90011	72122	90085	Cressingham Road - Watling Avenue (n)	80	74	-6	0.65	Pass	Pass	68	-12	1.39	Pass	Pass
90011	72122	95403	Cressingham Road - Montrose Avenue	10	8	-2	0.80	Pass	Pass	8	-2	0.67	Pass	Pass
90085	72122	72267	Watling Avenue (n) - Watling Avenue (s)	47	35	-12	1.89	Pass	Pass	17	-30	5.30	1 433	Pass
90085	72122	90011	Watting Avenue (n) - Cressingham Road	87	85	-12	0.22	Pass	Pass	85	-30	0.22	Pass	Pass
90085	72122	95403	Watling Avenue (n) - Cressingham Road Watling Avenue (n) - Montrose Avenue	160	163	3	0.22	Pass	Pass	165	5	0.22	Pass	Pass
95403	72122	72267	Montrose Avenue - Watling Avenue (s)	193	181	-12	0.91	Pass	Pass	181	-12	0.88	Pass	Pass
95403	72122	90011	Montrose Avenue - Cressingham Road		7	0	0.02	Pass	Pass	7	0	0.00	Pass	Pass
95403	72122	90085	Montrose Avenue - Watling Avenue (n)	297	269	-28	1.69	Pass	Pass	268	-29	1.73	Pass	Pass
70001	72136	95232	Stag Lane - A5 Burnt Oak Broadway (s)	70	119	49	5.01		Pass	124	54	5.48		Pass
70001	72136	95728	Stag Lane - A5 Burnt Oak Broadway (n)	265	245	-20	1.25	Pass	Pass	247	-18	1.13	Pass	Pass
72136	95728	90055	A5 Burnt Oak Broadway (s) - Watling Avenue	223	197	-26	1.82	Pass	Pass	199	-24	1.65	Pass	Pass
72136	95728	95219	A5 Burnt Oak Broadway (s) - A5 Burnt Oak Broadway (n)	612	536	-76	3.18	Pass	Pass	534	-78	3.26	Pass	Pass
90055	95728	72136	Watling Avenue - A5 Burnt Oak Broadway (s)	283	209	-74	4.73	Pass	Pass	200	-83	5.34		Pass
90055	95728	95219	Watling Avenue - A5 Burnt Oak Broadway (n)	98	132	34	3.15	Pass	Pass	131	33	3.08	Pass	Pass
95219	95728	72136	A5 Burnt Oak Broadway (n) - A5 Burnt Oak Broadway (s)	666	604	-62	2.48	Pass	Pass	609	-57	2.26	Pass	Pass
95219	95728	90055	A5 Burnt Oak Broadway (n) - Watling Avenue	122	93	-29	2.77	Pass	Pass	92	-30	2.90	Pass	Pass
95232	72136	70001	A5 Burnt Oak Broadway (s) - Stag Lane	36	45	9	1.34	Pass	Pass	41	5	0.81	Pass	Pass
95232	72136	95728	A5 Burnt Oak Broadway (s) - A5 Burnt Oak Broadway (n)	570	487	-83	3.59	Pass	Pass	486	-84	3.66	Pass	Pass
95728	72136	70001	A5 Burnt Oak Broadway (n) - Stag Lane	246	215	-31	2.02	Pass	Pass	211	-35	2.32	Pass	Pass
95728	72136	95232	A5 Burnt Oak Broadway (n) - Otag Eane A5 Burnt Oak Broadway (n) - A5 Burnt Oak Broadway (s)	703	597	-106	4.16	Pass	1 433	598	-105	4.12	Pass	Pass
71156	72118	72128	Camrose Avenue - A5 Burnt Oak Broadway	32	25	-7	1.25	Pass	Pass	24	-103	1.51	Pass	Pass
		90105				-17								
71156	72118		Camrose Avenue - A5 High Street	122	105		1.56	Pass	Pass	103	-19	1.79 0.44	Pass	Pass
71156	72118	90124	Camrose Avenue - A5109 Deansbrook Road	427	428	1	0.06	Pass	Pass	418	-9		Pass	Pass
72128	72118	71156	A5 Burnt Oak Broadway - Camrose Avenue	32	19	-13	2.50	Pass	Pass	19	-13	2.57	Pass	Pass
72128	72118	90105	A5 Burnt Oak Broadway - A5 High Street	646	588	-58	2.34	Pass	Pass	586	-60	2.42	Pass	Pass
72128	72118	90124	A5 Burnt Oak Broadway - A5109 Deansbrook Road	153	88	-65	5.92		Pass	87	-66	6.02		Pass
90105	72118	71156	A5 High Street - Camrose Avenue	120	99	-21	2.00	Pass	Pass	97	-23	2.21	Pass	Pass
90105	72118	72128	A5 High Street - A5 Burnt Oak Broadway	625	544	-81	3.35	Pass	Pass	548	-77	3.18	Pass	Pass
90105	72118	90124	A5 High Street - A5109 Deansbrook Road	131	167	36	2.96	Pass	Pass	164	33	2.72	Pass	Pass
90124	72118	71156	A5109 Deansbrook Road - Camrose Avenue	377	376	-1	0.06	Pass	Pass	374	-3	0.15	Pass	Pass
90124	72118	72128	A5109 Deansbrook Road - A5 Burnt Oak Broadway	107	102	-5	0.53	Pass	Pass	101	-6	0.59	Pass	Pass
90124	72118	90105	A5109 Deansbrook Road - A5 High Street	126	112	-14	1.31	Pass	Pass	112	-14	1.28	Pass	Pass
90105	72105	95282	A5 High Street (s) - Whitchurch Lane	202	147	-55	4.16	Pass	Pass	148	-54	4.08	Pass	Pass
90105	72105	95286	A5 High Street (s) - A5100 Station Road	166	156	-10	0.79	Pass	Pass	153	-13	1.03	Pass	Pass
90105	72105	95293	A5 High Street (s) - A5 High Street (n)	580	540	-40	1.68	Pass	Pass	540	-40	1.69	Pass	Pass
95282	72105	90105	Whitchurch Lane - A5 High Street (s)	176	141	-35	2.81	Pass	Pass	143	-33	2.61	Pass	Pass
95282	72105	95286	Whitchurch Lane - A5100 Station Road	281	246	-35	2.14	Pass	Pass	242	-39	2.41	Pass	Pass
				170						175				
95282 95286	72105 72105	95293 90105	Whitchurch Lane - A5 High Street (n) A5100 Station Road - A5 High Street (s)	184	175 133	-51	0.38 4.05	Pass Pass	Pass Pass	175	-52	0.38 4.14	Pass Pass	Pass Pass
95286	72105	95282	A5100 Station Road - Whitchurch Lane	347	372	25	1.31	Pass	Pass	371	24	1.27	Pass	Pass
95293	72105	90105	A5 High Street (n) - A5 High Street (s)	781	784	3	0.10	Pass	Pass	782	1	0.04	Pass	Pass
95293	72105	95286	A5 High Street (n) - A5100 Station Road	63	50	-13	1.77	Pass	Pass	54	-9	1.18	Pass	Pass
95308	72085	95316	A5100 Hale Lane (w) - A5109 Selvage Lane	47	42	-5	0.69	Pass	Pass	42	-5	0.75	Pass	Pass
95308	72085	99972	A5100 Hale Lane (w) - A5100 Hale Lane (e)	406	376	-30	1.52	Pass	Pass	376	-30	1.52	Pass	Pass
95308	72085	99973	A5100 Hale Lane (w) - A5109 Deans Lane	231	223	-8	0.53	Pass	Pass	222	-9	0.60	Pass	Pass
95316	72085	95308	A5109 Selvage Lane - A5100 Hale Lane (w)	53	81	28	3.37	Pass	Pass	80	27	3.31	Pass	Pass
95316	72085	99972	A5109 Selvage Lane - A5100 Hale Lane (e)	114	81	-33	3.30	Pass	Pass	82	-32	3.23	Pass	Pass
95316	72085	99973	A5109 Selvage Lane - A5109 Deans Lane	461	461	0	0.01	Pass	Pass	463	2	0.09	Pass	Pass
99972	72085	95308	A5100 Hale Lane (e) - A5100 Hale Lane (w)	284	255	-29	1.75	Pass	Pass	250	-34	2.08	Pass	Pass
99972	72085	95316	A5100 Hale Lane (e) - A5109 Selvage Lane	59	118	59	6.25	. 400	Pass	117	58	6.18	. 400	Pass
99972	72085	99973	A5100 Hale Lane (e) - A5109 Deans Lane	67	15	-52	8.20		Pass	15	-52	8.12		Pass
99973	72085	95308	A5109 Deans Lane - A5109 Hale Lane (w)	193	175	-18	1.31	Pass	Pass	178	-15	1.10	Pass	Pass
	12000	33300	mo roo Deans Lane - Ao roo riale Lane (w)	133	1/3	-10	1.31	r d55	r abb	1/0	-10	1.10	r a55	r ass

Table D.1 Overall Area Comparison of Observed Flows, Modelled Flows and Modified Model Flows (with network changes) for Morning Peak Hour

99973	72085	95316	A5109 Deans Lane - A5109 Selvage Lane	315	412	97	5.08		Pass	407	92	4.84	Pass	Pass
99973	72085		A5109 Deans Lane - A5100 Hale Lane (e)	52	16	-36	6.22		Pass	16	-36	6.17		Pass
72073	95754		Apex Corner Roundabout turning into A41 Edgware Way	1342	1191	-151	4.25	Pass	Pass	1188	-154	4.33	Pass	Pass
72073	95754	95756	Apex Corner Roundabout not turning into A41 Edgware Way	2493	2496	3	0.07	Pass	Pass	2494	1	0.02	Pass	Pass
95756	95757	95758	Apex Corner Roundabout turning into A1 Barnet Way	3556	3526	-30	0.50	Pass	Pass	3528	-28	0.47	Pass	Pass
95756	95757	95759	Apex Corner Roundabout not turning into A1 Barnet Way	990	954	-36	1.14	Pass	Pass	948	-42	1.35	Pass	Pass
72070	72280	95763	Apex Corner Roundabout turning into A1 Barnet Bypass	1608	1572	-36	0.91	Pass	Pass	1573	-35	0.88	Pass	Pass
95759	95760	95762	Apex Corner Roundabout not turning into A1 Barnet Bypass	2098	2009	-89	1.97	Pass	Pass	2005	-93	2.05	Pass	Pass
95762	72073	72239	Apex Corner Roundabout turning into A5019 Selvage Lane	1034	1001	-33	1.05	Pass	Pass	1004	-30	0.94	Pass	Pass
95762	72073	95754	Apex Corner Roundabout not turning into A5019 Selvage Lane	3236	3005	-231	4.14	Pass	Pass	3005	-231	4.14	Pass	Pass
72037	95747	72010	Stirling Corner Roundabout turning into A1 Barnet Bypass	2292	2262	-30	0.63	Pass	Pass	2260	-32	0.67	Pass	Pass
72037	95747	95750		1146	1119	-27	0.80	Pass	Pass	1117	-29	0.86	Pass	Pass
75067	72037	95740	Stirling Corner Roundabout turning into Stirling Way	149	139	-10	0.85	Pass	Pass	138	-11	0.92	Pass	Pass
75067	72037	95747	Stirling Corner Roundabout not turning into Stirling Way	3217	3156	-61	1.08	Pass	Pass	3152	-65	1.15	Pass	Pass
95747	95750	95748	Stirling Corner Roundabout not turning into A411 Barnet Road	2850	2726	-124	2.35	Pass	Pass	2727	-123	2.33	Pass	Pass
95747	95750	95751	Stirling Corner Roundabout turning into A411 Barnet Road	662	620	-42	1.64	Pass	Pass	619	-43	1.70	Pass	Pass
95748	95752	95749	Stirling Corner Roundabout not turning into A1 Barnet Way	774	787	13	0.45	Pass	Pass	787	13	0.47	Pass	Pass
95748	95752	95753	Stirling Corner Roundabout turning into A1 Barnet Way	2708	2633	-75	1.45	Pass	Pass	2635	-73	1.41	Pass	Pass
95749	75067	72037	Stirling Corner Roundabout not turning into A411 Barnet Lane	2571	2532	-39	0.77	Pass	Pass	2531	-40	0.79	Pass	Pass
95749	75067		Stirling Corner Roundabout turning into A411 Barnet Lane	821	837	16	0.57	Pass	Pass	841	20	0.69	Pass	Pass
70002	90023	90065	A5 Edgware Road - Montrose Avenue	215	201	-14	0.97	Pass	Pass	203	-12	0.83	Pass	Pass
70002	90023	95232	A5 Edgware Road - A5 Burnt Oak Broadway	568	514	-54	2.34	Pass	Pass	509	-59	2.54	Pass	Pass
90065	90023	70002	Montrose Avenue - A5 Edgware Road	413	382	-31	1.55	Pass	Pass	380	-33	1.66	Pass	Pass
90065	90023	95232	Montrose Avenue - A5 Burnt Oak Broadway	33	22	-11	2.16	Pass	Pass	22	-11	2.10	Pass	Pass
95232	90023	70002	A5 Burnt Oak Broadway - A5 Edgware Road	664	606	-58	2.31	Pass	Pass	601	-63	2.51	Pass	Pass
95232	90023	90065	A5 Burnt Oak Broadway - Montrose Avenue	111	114	3	0.25	Pass	Pass	120	9	0.84	Pass	Pass

A-Node	B-Node	C-Node	Description	Observed Flow	Modelled Flow (HYDER)	Difference	GEH	DMRB G	uidelines	Modelled Flow (CB WITH CHANGES)	Difference	GEH	DMRB G	uidelines
			·	Flows (PCUs)	Flows (PCUs)	(PCUs)	Value	GEH	Flows	Flows (PCUs)	(PCUs)	Value	GEH	Flows
72041	75069	95780	A411 Barnet Lane - A5183 High Street (s)	166	155	-11	0.85	Pass	Pass	155	-11	0.87	Pass	Pass
72041	75069	75060	A411 Barnet Lane - A5183 High Street (n)	20	20	0	0.00	Pass	Pass	20	0	0.00	Pass	Pass
72041	75069	75068	A411 Barnet Lane - A411 Watford Road	533	532	-1	0.02	Pass	Pass	532	-1	0.04	Pass	Pass
95780	75069	72041	A5183 High Street (s) - A411 Barnet Lane	144	78	-66	6.29		Pass	53	-91	9.17		Pass
95780	75069	75060	A5183 High Street (s) - A5183 High Street (n)	251	218	-33	2.18	Pass	Pass	162	-89	6.19		Pass
95780	75069	75068	A5183 High Street (s) - A411 Watford Road	11	0	-11	4.69	Pass	Pass	0	-11	4.69	Pass	Pass
75060	75069	72041	A5183 High Street (n) - A411 Barnet Lane	41	37	-4	0.62	Pass	Pass	34	-7	1.14	Pass	Pass
75060	75069	95780	A5183 High Street (n) - A5183 High Street (s)	420	429	9	0.45	Pass	Pass	382	-38	1.90	Pass	Pass
75068	75069	72041	A411 Watford Road - A411 Barnet Lane	603	558	-45	1.87	Pass	Pass	561	-42	1.74	Pass	Pass
75068	75069	95780	A411 Watford Road - A5183 High Street (s)	36	0	-36	8.49		Pass	0	-36	8.49		Pass
75068	75069	75060	A411 Watford Road - A5183 High Street (n)	219	329	110	6.64			360	141	8.29		
71001	72043	72050	A41 Watford Bypass - A41 Egeware Way	297	314	17	0.97	Pass	Pass	314	17	0.97	Pass	Pass
71001	72043	95780	A41 Watford Bypass - A5183 Elstree Hill South	27	28	1	0.17	Pass	Pass	28	1	0.19	Pass	Pass
71001	72043	95446	A41 Watford Bypass - A5 Brockley Hill	267	263	-4	0.24	Pass	Pass	270	3	0.18	Pass	Pass
72049	72043	71001	A41 Egeware Way - A41 Watford Bypass	332	315	-17	0.97	Pass	Pass	314	-18	1.00	Pass	Pass
72049	72043	95780	A41 Egeware Way - A5183 Elstree Hill South	135	120	-15	1.31	Pass	Pass	120	-15	1.33	Pass	Pass
72049	72043	95446	A41 Egeware Way - A5 Brockley Hill	89	0	-89	13.33		Pass	0	-89	13.34		Pass
95780	72043	71001	A5183 Elstree Hill South - A41 Watford Bypass	247	312	65	3.88	Pass	Pass	357	110	6.33		
95780	72043	72050	A5183 Elstree Hill South - A41 Egeware Way	183	192	9	0.63	Pass	Pass	196	13	0.94	Pass	Pass
95780	72043	95446	A5183 Elstree Hill South - A5 Brockley Hill	447	437	-10	0.48	Pass	Pass	436	-11	0.52	Pass	Pass
95446	72043	71001	A5 Brockley Hill - A41 Watford Bypass	301	275	-26	1.54	Pass	Pass	274	-27	1.59	Pass	Pass
95446	72043	72050	A5 Brockley Hill - A41 Egeware Way	81	0	-81	12.73	1 400	Pass	0	-81	12.73	1 400	Pass
95446	72043	95780	A5 Brockley Hill - A5183 Elstree Hill South	366	365	-1	0.06	Pass	Pass	365	-1	0.05	Pass	Pass
72075	72069	72049	A410 Spur Road - A41 Edgware Way (n)	460	411	-49	2.37	Pass	Pass	406	-54	2.60	Pass	Pass
72075	72069	72076	A410 Spur Road - A41 Edgware Way (n)	711	696	-15	0.58	Pass	Pass	696	-15	0.57	Pass	Pass
72075	72069	95285	A410 Spur Road - Green Lane	43	43	0	0.06	Pass	Pass	43	0	0.00	Pass	Pass
72229	72069	72075	A41 Edgware Way (n) - A410 Spur Road	474	459	-15	0.69	Pass	Pass	460	-14	0.65	Pass	Pass
72229	72069	72076	A41 Edgware Way (n) - A41 Edgware Way (s)	718	720	2	0.03	Pass	Pass	722	4	0.05	Pass	Pass
72229	72069	95285	A41 Edgware Way (n) - A41 Edgware Way (s) A41 Edgware Way (n) - Green Lane	98	97	-1	0.07	Pass	Pass	97	-1	0.10	Pass	Pass
72265	72069	72049	A41 Edgware Way (n) - Gleen Earle A41 Edgware Way (n)	733	710	-23	0.84	Pass	Pass	717	-16	0.10	Pass	Pass
72265	72069	72049	A41 Edgware Way (s) - A410 Spur Road	669	596	-73	2.92	Pass	Pass	594	-75	2.98	Pass	Pass
72265	72069	95285		32		-73	0.02			32		0.00		Pass
	72069	72049	A41 Edgware Way (s) - Green Lane	34	32 30		0.02	Pass	Pass	32	0		Pass	
95285			Green Lane - A41 Edgware Way (n)	36	21	-4		Pass	Pass		-4	0.71 2.81	Pass	Pass
95285	72069	72075	Green Lane - A410 Spur Road	36 41		-15 -19	2.81	Pass	Pass	21 22	-15 -19		Pass	Pass
95285	72069	72076	Green Lane - A41 Edgware Way (s)		22		3.38	Pass	Pass			3.39	Pass	Pass
72069	72075	95264	A410 Spur Road - A410 London Road	702	672	-30	1.13	Pass	Pass	676	-26	0.99	Pass	Pass
72069	72075	95273	A410 Spur Road - A5 Stonegrove	290	282	-8	0.46	Pass	Pass	278	-12	0.71	Pass	Pass
72069	72075	95446	A410 Spur Road - A5 Brockley Hill	62	121	59	6.19		Pass	121	59	6.17		Pass
95264	72075	72069	A410 London Road - A410 Spur Road	803	755	-49	1.74	Pass	Pass	718	-85	3.08	Pass	Pass
95264	72075	95273	A410 London Road - A5 Stonegrove	161	131	-30	2.48	Pass	Pass	131	-30	2.48	Pass	Pass
95264	72075	95446	A410 London Road - A5 Brockley Hill	113	88	-25	2.49	Pass	Pass	83	-30	3.03	Pass	Pass
95273	72075	72069	A5 Stonegrove - A410 Spur Road	423	342	-81	4.12	Pass	Pass	339	-84	4.30	Pass	Pass
95273	72075	95264	A5 Stonegrove - A410 London Road	157	144	-13	1.06	Pass	Pass	139	-18	1.48	Pass	Pass
95273	72075	95446	A5 Stonegrove - A5 Brockley Hill	342	413	71	3.65	Pass	Pass	409	67	3.46	Pass	Pass
95446	72075	72069	A5 Brockley Hill - A410 Spur Road	103	87	-16	1.64	Pass	Pass	87	-16	1.64	Pass	Pass
95446	72075	95264	A5 Brockley Hill - A410 London Road	115	126	11	1.03	Pass	Pass	127	12	1.09	Pass	Pass
95446	72075	95273	A5 Brockley Hill - A5 Stonegrove	282	274	-8	0.47	Pass	Pass	271	-11	0.66	Pass	Pass
71011	71010	71022	A410 The Broadway - A4140 Marsh Lane	233	233	0	0.01	Pass	Pass	231	-2	0.13	Pass	Pass
71011	71010	95264	A410 The Broadway - A410 London Road	680	625	-55	2.14	Pass	Pass	624	-56	2.19	Pass	Pass
71011	71010	95738	A410 The Broadway - Dennis Lane	44	0	-44	9.38		Pass	0	-44	9.38		Pass
71022	71010	71011	A4140 Marsh Lane - A410 The Broadway	258	233	-25	1.57	Pass	Pass	243	-15	0.95	Pass	Pass
71022	71010	95264	A4140 Marsh Lane - A410 London Road	294	265	-29	1.72	Pass	Pass	263	-31	1.86	Pass	Pass
71022	71010	95738	A4140 Marsh Lane - Dennis Lane	155	160	5	0.43	Pass	Pass	157	2	0.16	Pass	Pass
95264	71010	71011	A410 London Road - A410 The Broadway	672	636	-36	1.40	Pass	Pass	642	-30	1.17	Pass	Pass
95264	71010	71022	A410 London Road - A4140 Marsh Lane	307	316	9	0.52	Pass	Pass	307	0	0.00	Pass	Pass
95264	71010	95738	A410 London Road - Dennis Lane	38	39	1	0.10	Pass	Pass	39	1	0.16	Pass	Pass
95738	71010	71011	Dennis Lane - A410 The Broadway	36	0	-36	8.49		Pass	0	-36	8.49		Pass
95738	71010	71022	Dennis Lane - A4140 Marsh Lane	186	191	5	0.34	Pass	Pass	191	5	0.36	Pass	Pass
95738	71010	95264	Dennis Lane - A410 London Road	29	28	-1	0.11	Pass	Pass	28	-1	0.19	Pass	Pass
70016	70010	70210	A4140 Fryent Way - The Mall	83	76	-7	0.74	Pass	Pass	74	-9	1.02	Pass	Pass
70016	70010	71070	A4140 Fryent Way - A4006 Kenton Road	486	481	-5	0.24	Pass	Pass	468	-18	0.82	Pass	Pass
70016	70010	95686	A4140 Fryent Way - A4140 Honeypot Lane	366	379	13	0.66	Pass	Pass	369	3	0.16	Pass	Pass
70016	70010	95688	A4140 Fryent Way - A4006 Kingsbury Road	170	164	-6	0.48	Pass	Pass	157	-13	1.02	Pass	Pass
70210	70010	70016	The Mall - A4140 Fryent Way	120	107	-13	1.25	Pass	Pass	98	-22	2.11	Pass	Pass

70040	70040	71070	The Mall - A4006 Kenton Road	23	2	04	5.88		Pass	2	n4	5.94		Pass
70210 70210	70010 70010	95686		215	198	-21 -17	1.15	D		194	-21 -21	1.47	Pass	
		95688	The Mall - A4140 Honeypot Lane	215 56		0		Pass	Pass	66		1.47		Pass
70210 71070	70010 70010	70016	The Mall - A4006 Kingsbury Road A4006 Kenton Road - A4140 Fryent Way	190	56 211	21	0.02 1.51	Pass Pass	Pass Pass	199	10 9	0.65	Pass Pass	Pass Pass
71070	70010	70010	A4006 Kenton Road - The Mall	146		-146	17.09	F455	rass	0	-146	17.09	rass	F455
71070	70010	95686	A4006 Kenton Road - A4140 Honeypot Lane	83	0 86	3	0.31	Pass	Pass	85	2	0.22	Pass	Pass
71070	70010	95688	A4006 Kenton Road - A4140 Honeypot Lane A4006 Kenton Road - A4006 Kingsbury Road	195	220	25	1.74	Pass	Pass	236	41	2.79	Pass	Pass
95686	70010	70016	A4140 Honeypot Lane - A4140 Fryent Way	532	503	-29	1.74	Pass	Pass	508	-24	1.05	Pass	Pass
95686	70010	70010	A4140 Honeypot Lane - The Mall	157	268	111	7.61	F455	rass	263	106	7.31	Fd55	F455
95686	70010	71070	A4140 Honeypot Lane - A4006 Kenton Road	154	0	-154	17.55			0	-154	17.55		
95686	70010	95688	A4140 Honeypot Lane - A4006 Kingsbury Road	134	125	-134	0.77	Pass	Pass	122	-12	1.06	Pass	Pass
95688	70010	70016	A4006 Kingsbury Road - A4140 Fryent Way	68	86	18	2.01	Pass	Pass	73	5	0.60	Pass	Pass
95688	70010	70210	A4006 Kingsbury Road - The Mall	149	145	-4	0.35	Pass	Pass	146	-3	0.00	Pass	Pass
95688	70010	71070	A4006 Kingsbury Road - A4006 Kenton Road	348	333	-15	0.83	Pass	Pass	331	-17	0.23	Pass	Pass
95688	70010	95686	A4006 Kingsbury Road - A4140 Honeypot Lane	207	241	34	2.25	Pass	Pass	244	37	2.46	Pass	Pass
70014	70010	95594	A4006 Kingsbury Road (e) - B454 Church Lane	209	165	-44	3.18	Pass	Pass	179	-30	2.15	Pass	Pass
70014	70012	95764	A4006 Kingsbury Road (e) - A4006 Kingsbury Road (w)	510	510	0	0.02	Pass	Pass	508	-2	0.09	Pass	Pass
95594	70012	70014	B454 Church Lane - A4006 Kingsbury Road (e)	253	213	-40	2.62	Pass	Pass	221	-32	2.08	Pass	Pass
95594	70012	95764	B454 Church Lane - A4006 Kingsbury Road (w)	390	397	7	0.34	Pass	Pass	395	5	0.25	Pass	Pass
95764	70012	70014	A4006 Kingsbury Road (w) - A4006 Kingsbury Road (e)	508	522	14	0.60	Pass	Pass	538	30	1.31	Pass	Pass
95764	70012	95594	A4006 Kingsbury Road (w) - B454 Church Lane	298	280	-18	1.05	Pass	Pass	278	-20	1.18	Pass	Pass
90358	72173	95163	A5 The Hyde (n) - A4006 Kingsbury Road	192	143	-49	3.82	Pass	Pass	141	-51	3.95	Pass	Pass
90358	72173	95169	A5 The Hyde (n) - A5 The Hyde (s)	645	597	-48	1.93	Pass	Pass	611	-34	1.36	Pass	Pass
95163	72173	90358	A4006 Kingsbury Road - A5 The Hyde (n)	197	176	-21	1.51	Pass	Pass	185	-12	0.87	Pass	Pass
95163	72173	95169	A4006 Kingsbury Road - A5 The Hyde (s)	360	331	-29	1.53	Pass	Pass	334	-26	1.40	Pass	Pass
95169	72173	90358	A5 The Hyde (s) - A5 The Hyde (n)	786	721	-65	2.35	Pass	Pass	714	-72	2.63	Pass	Pass
95169	72173	95163	A5 The Hyde (s) - A4006 Kingsbury Road	428	418	-10	0.47	Pass	Pass	422	-6	0.29	Pass	Pass
72176	72169	72259	A41 Watford Way (s) - A504 Station Road	12	0	-12	4.90	Pass	Pass	0	-12	4.90	Pass	Pass
72176	72169	90368	A41 Watford Way (s) - A504 The Burroughs	163	171	8	0.65	Pass	Pass	168	5	0.39	Pass	Pass
72176	72169	72164	A41 Watford Way (s) - A41 Watford Way (n)	2339	2272	-67	1.40	Pass	Pass	2277	-62	1.29	Pass	Pass
72259	72169	72176	A504 Station Road - A41 Watford Way (s)	39	33	-6	1.01	Pass	Pass	30	-9	1.53	Pass	Pass
72259	72169	90368	A504 Station Road - A504 The Burroughs	236	197	-39	2.64	Pass	Pass	213	-23	1.54	Pass	Pass
72259	72169	72164	A504 Station Road - A41 Watford Way (n)	292	428	136	7.15			439	147	7.69		
90368	72169	72176	A504 The Burroughs - A41 Watford Way (s)	120	117	-3	0.30	Pass	Pass	81	-39	3.89	Pass	Pass
90368	72169	72259	A504 The Burroughs - A504 Station Road	220	167	-53	3.80	Pass	Pass	181	-39	2.75	Pass	Pass
90368	72169	72164	A504 The Burroughs - A41 Watford Way (n)	364	332	-32	1.71	Pass	Pass	319	-45	2.44	Pass	Pass
95720	72169	72176	A41 Watford Way (n) - A41 Watford Way (s)	1683	1618	-65	1.59	Pass	Pass	1626	-57	1.40	Pass	Pass
95720	72169	72259	A41 Watford Way (n) - A504 Station Road	151	167	16	1.25	Pass	Pass	171	20	1.58	Pass	Pass
95720	72169	90368	A41 Watford Way (n) - A504 The Burroughs	248	236	-12	0.75	Pass	Pass	250	2	0.13	Pass	Pass
72149	72154	72162	A5 Edgware Road (n) - A5 Edgware Road (s)	829	762	-67	2.36	Pass	Pass	762	-67	2.38	Pass	Pass
72149	72154	90337	A5 Edgware Road (n) - A5150 Colindeep Lane	356	344	-12	0.67	Pass	Pass	352	-4	0.21	Pass	Pass
72149	72154	95739	A5 Edgware Road (n) - Windover Lane	22	22	-1	0.11	Pass	Pass	0	-22	6.63		Pass
72162	72154	72149	A5 Edgware Road (s) - A5 Edgware Road (n)	843	842	-1	0.02	Pass	Pass	843	0	0.00	Pass	Pass
72162	72154	90337	A5 Edgware Road (s) - A5150 Colindeep Lane	152	135	-17	1.46	Pass	Pass	142	-10	0.82	Pass	Pass
72162	72154	95739	A5 Edgware Road (s) - Windover Lane	26	25	-1	0.14	Pass	Pass	25	-1	0.20	Pass	Pass
90337	72154	72149	A5150 Colindeep Lane - A5 Edgware Road (n)	445	417	-28	1.34	Pass	Pass	413	-32	1.54	Pass	Pass
90337	72154	72162	A5150 Colindeep Lane - A5 Edgware Road (s)	188	177	-11	0.83	Pass	Pass	180	-8	0.59	Pass	Pass
90337	72154	95739	A5150 Colindeep Lane - Windover Lane	8	11	3	0.97	Pass	Pass	10	2	0.67	Pass	Pass
95739	72154	72149	Windover Lane - A5 Edgware Road (n)	61	0	-61	11.05		Pass	0	-61	11.05		Pass
95739	72154	72162	Windover Lane - A5 Edgware Road (s)	39	41	2	0.35	Pass	Pass	41	2	0.32	Pass	Pass
95739	72154	90337	Windover Lane - A5150 Colindeep Lane	30	39	9	1.59	Pass	Pass	39	9	1.53	Pass	Pass
72154	72149	90309	A5 Edgware Road (s) - A5 Edgware Road (n)	290	271	-19	1.11	Pass	Pass	317	27	1.55	Pass	Pass
72154	72149	95063	A5 Edgware Road (s) - A5 Edgware Road (n)	1080	988	-92	2.85	Pass	Pass	939	-141	4.44	Pass	Pass
90309	72149	72154	Colindale Avenue - A5 Edgware Road (s)	423	401	-22	1.09	Pass	Pass	355	-68	3.45	Pass	Pass
95063	72149	72154	A5 Edgware Road (n) - A5 Edgware Road (s)	795	726	-69	2.49	Pass	Pass	759	-36	1.29	Pass	Pass
95063	72149	90309	A5 Edgware Road (n) - A5 Edgware Road (n)	132	128	-4	0.35	Pass	Pass	261	129	9.20		
90024	72141	90033	Colindale Avenue - Grahame Park Way	406	398	-8	0.40	Pass	Pass	392	-14	0.70	Pass	Pass
90024	72141	90049	Colindale Avenue - Eagle Drive	19	19	0	0.04	Pass	Pass	19	0	0.00	Pass	Pass
90024	72141	90320	Colindale Avenue - Aerodrome Road	172	188	16	1.16	Pass	Pass	188	16	1.19	Pass	Pass
90033	72141	90024	Grahame Park Way - Colindale Avenue	306	331	25	1.39	Pass	Pass	408	102	5.40		
90033	72141	90049	Grahame Park Way - Eagle Drive	29	29	0	0.01	Pass	Pass	29	0	0.00	Pass	Pass
90033	72141	90320	Grahame Park Way - Aerodrome Road	196	193	-3	0.22	Pass	Pass	192	-4	0.29	Pass	Pass
90049	72141	90024	Eagle Drive - Colindale Avenue	22	22	0	0.05	Pass	Pass	22	0	0.00	Pass	Pass
90049	72141	90033	Eagle Drive - Grahame Park Way	22	23	1	0.19	Pass	Pass	23	1	0.21	Pass	Pass
90049	72141	90320	Eagle Drive - Aerodrome Road	16	16	0	0.11	Pass	Pass	16	0	0.00	Pass	Pass
90320	72141	90024	Aerodrome Road - Colindale Avenue	364	440	76	3.81	Pass	Pass	444	80	3.98	Pass	Pass
90320	72141	90033	Aerodrome Road - Grahame Park Way	338	341	3	0.15	Pass	Pass	346	8	0.43	Pass	Pass
90320	72141	90049	Aerodrome Road - Eagle Drive	18	17	-1	0.23	Pass	Pass	17	-1	0.24	Pass	Pass

72102	72104	72106	Bunns Lane (n) - Bunns Lane (s)	765	796	31	1.10	Pass	Pass	809	44	1.57	Pass	Pass
72102	72104	90018	Bunns Lane (n) - Woodcroft Avenue	133	50	-83	8.72		Pass	29	-104	11.56		
72106	72104	72102	Bunns Lane (s) - Bunns Lane (n)	749	640	-109	4.14	Pass	Pass	636	-113	4.29	Pass	Pass
72106	72104	90018	Bunns Lane (s) - Woodcroft Avenue	225	365	140	8.14			344	119	7.06		
90018	72104	72102	Woodcroft Avenue - Bunns Lane (n)	127	112	-15	1.40	Pass	Pass	114	-13	1.18	Pass	Pass
90018	72104	72106	Woodcroft Avenue - Bunns Lane (s)	172	191	19	1.42	Pass	Pass	201	29	2.12	Pass	Pass
72267	72122	90011	Watling Avenue (s) - Cressingham Road	9	10	1	0.24	Pass	Pass	10	1	0.32	Pass	Pass
72267	72122	90085	Watling Avenue (s) - Watling Avenue (n)	64	0	-64	11.31		Pass	0	-64	11.31		Pass
72267	72122	95403	Watling Avenue (s) - Montrose Avenue	133	110	-23	2.05	Pass	Pass	111	-22	1.99	Pass	Pass
90011	72122	72267	Cressingham Road - Watling Avenue (s)	7	5	-2	0.77	Pass	Pass	5	-2	0.82	Pass	Pass
90011	72122	90085	Cressingham Road - Watling Avenue (n)	45	47	2	0.33	Pass	Pass	51	6	0.87	Pass	Pass
90011	72122	95403	Cressingham Road - Montrose Avenue	10	9	-1	0.36	Pass	Pass	9	-1	0.32	Pass	Pass
90085	72122	72267	Watling Avenue (n) - Watling Avenue (s)	45	40	-5	0.81	Pass	Pass	29	-16	2.63	Pass	Pass
90085	72122	90011	Watling Avenue (n) - Cressingham Road	81	87	6	0.67	Pass	Pass	85	4	0.44	Pass	Pass
90085	72122	95403	Watling Avenue (n) - Montrose Avenue	240	234	-6	0.42	Pass	Pass	235	-5	0.32	Pass	Pass
95403	72122	72267	Montrose Avenue - Watling Avenue (s)	160	122	-38	3.16	Pass	Pass	120	-40	3.38	Pass	Pass
95403	72122	90011	Montrose Avenue - Cressingham Road	9	27	18	4.27	Pass	Pass	29	20	4.59	Pass	Pass
95403	72122	90085	Montrose Avenue - Watling Avenue (n)	206	201	-5	0.36	Pass	Pass	187	-19	1.36	Pass	Pass
70001	72136	95232	Stag Lane - A5 Burnt Oak Broadway (s)	53	65	12	1.57	Pass	Pass	68	15	1.93	Pass	Pass
70001	72136	95728	Stag Lane - A5 Burnt Oak Broadway (n)	243	206	-37	2.49	Pass	Pass	207	-36	2.40	Pass	Pass
72136	95728	90055	A5 Burnt Oak Broadway (s) - Watling Avenue	217	173	-44	3.16	Pass	Pass	174	-43	3.08	Pass	Pass
72136	95728	95219	A5 Burnt Oak Broadway (s) - A5 Burnt Oak Broadway (n)	723	673	-50	1.90	Pass	Pass	671	-52	1.97	Pass	Pass
90055	95728	72136	Watling Avenue - A5 Burnt Oak Broadway (s)	238	178	-60	4.13	Pass	Pass	175	-63	4.38	Pass	Pass
90055	95728	95219	Watling Avenue - A5 Burnt Oak Broadway (n)	107	114	7	0.69	Pass	Pass	114	7	0.67	Pass	Pass
95219	95728	72136	A5 Burnt Oak Broadway (n) - A5 Burnt Oak Broadway (s)	315	608	293	13.65			639	324	14.83		
95219	95728	90055	A5 Burnt Oak Broadway (n) - Watling Avenue	275	125	-150	10.60			107	-168	12.16		
95232	72136	70001	A5 Burnt Oak Broadway (s) - Stag Lane	57	45	-12	1.68	Pass	Pass	44	-13	1.83	Pass	Pass
95232	72136	95728	A5 Burnt Oak Broadway (s) - A5 Burnt Oak Broadway (n)	696	640	-56	2.17	Pass	Pass	639	-57	2.21	Pass	Pass
95728	72136	70001	A5 Burnt Oak Broadway (n) - Stag Lane	246	235	-11	0.70	Pass	Pass	239	-7	0.45	Pass	Pass
95728	72136	95232	A5 Burnt Oak Broadway (n) - A5 Burnt Oak Broadway (s)	703	551	-152	6.05			575	-128	5.06		Pass
71156	72118	72128	Camrose Avenue - A5 Burnt Oak Broadway	29	33	4	0.65	Pass	Pass	29	0	0.00	Pass	Pass
71156	72118	90105	Camrose Avenue - A5 High Street	137	138	1	0.06	Pass	Pass	140	3	0.25	Pass	Pass
71156	72118	90124	Camrose Avenue - A5109 Deansbrook Road	408	405	-3	0.14	Pass	Pass	403	-5	0.25	Pass	Pass
72128	72118	71156	A5 Burnt Oak Broadway - Camrose Avenue	38	19	-19	3.48	Pass	Pass	20	-18	3.34	Pass	Pass
72128	72118	90105	A5 Burnt Oak Broadway - A5 High Street	687	627	-60	2.33	Pass	Pass	611	-76	2.98	Pass	Pass
72128	72118	90124	A5 Burnt Oak Broadway - A5109 Deansbrook Road	145	92	-53	4.82	Pass	Pass	92	-53	4.87	Pass	Pass
90105	72118	71156	A5 High Street - Camrose Avenue	146	99	-47	4.27	Pass	Pass	92	-54	4.95	Pass	Pass
90105	72118	72128	A5 High Street - A5 Burnt Oak Broadway	590	500	-90	3.86	Pass	Pass	488	-102	4.39	Pass	
90105	72118	90124	A5 High Street - A5109 Deansbrook Road	140	144	4	0.34	Pass	Pass	124	-16	1.39	Pass	Pass
90124	72118	71156	A5109 Deansbrook Road - Camrose Avenue	483	522	39	1.76	Pass	Pass	527	44	1.96	Pass	Pass
90124	72118	72128	A5109 Deansbrook Road - A5 Burnt Oak Broadway	138	127	-11	0.95	Pass	Pass	129	-9	0.78	Pass	Pass
90124	72118	90105	A5109 Deansbrook Road - A5 High Street	144	167	23	1.81	Pass	Pass	165	21	1.69	Pass	Pass
90105	72105	95282	A5 High Street (s) - Whitchurch Lane	361	294	-67	3.72	Pass	Pass	292	-69	3.82	Pass	Pass
90105	72105	95286	A5 High Street (s) - A5100 Station Road	215	218	3	0.17	Pass	Pass	222	7	0.47	Pass	Pass
90105	72105	95293	A5 High Street (s) - A5 High Street (n)	659	657	-2	0.09	Pass	Pass	655	-4	0.16	Pass	Pass
95282	72105	90105	Whitchurch Lane - A5 High Street (s)	133	94	-39	3.63	Pass	Pass	94	-39	3.66	Pass	Pass
95282	72105	95286	Whitchurch Lane - A5100 Station Road	219	236	17	1.10	Pass	Pass	238	19	1.26	Pass	Pass
95282	72105	95293	Whitchurch Lane - A5 High Street (n)	159	150	-9	0.74	Pass	Pass	149	-10	0.81	Pass	Pass
95286	72105	90105	A5100 Station Road - A5 High Street (s)	333	284	-49	2.79	Pass	Pass	285	-48	2.73	Pass	Pass
95286	72105	95282	A5100 Station Road - Whitchurch Lane	381	386	5	0.25	Pass	Pass	384	3	0.15	Pass	Pass
95293	72105	90105	A5 High Street (n) - A5 High Street (s)	602	560	-42	1.74	Pass	Pass	559	-43	1.78	Pass	Pass
95293	72105	95286	A5 High Street (n) - A5100 Station Road	72	58	-14	1.78	Pass	Pass	56	-16	2.00	Pass	Pass
95308	72085	95316	A5100 Hale Lane (w) - A5109 Selvage Lane	52	48	-4	0.50	Pass	Pass	48	-4	0.57	Pass	Pass
95308	72085	99972	A5100 Hale Lane (w) - A5100 Hale Lane (e)	319	272	-47	2.75	Pass	Pass	270	-49	2.86	Pass	Pass
95308	72085	99973	A5100 Hale Lane (w) - A5109 Deans Lane	194	216	22	1.52	Pass	Pass	219	25	1.74	Pass	Pass
05040	72085	95308	A5109 Selvage Lane - A5100 Hale Lane (w)	65	54	-11	1.45	Pass	Pass	54	-11	1.43	Pass	Pass
95316						23	1.86	Pass	Pass	166	23	1.85	Pass	Pass
95316	72085	99972	A5109 Selvage Lane - A5100 Hale Lane (e)	143	166									
95316 95316	72085 72085	99972 99973	A5109 Selvage Lane - A5109 Deans Lane	477	483	6	0.27	Pass	Pass	485	8	0.36	Pass	Pass
95316 95316 99972	72085 72085 72085	99972 99973 95308	A5109 Selvage Lane - A5109 Deans Lane A5100 Hale Lane (e) - A5100 Hale Lane (w)	477 455	483 509	6 54	0.27 2.46		Pass Pass	513	8 58	0.36 2.64	Pass Pass	Pass
95316 95316 99972 99972	72085 72085 72085 72085	99972 99973 95308 95316	A5109 Selvage Lane - A5109 Deans Lane A5100 Hale Lane (e) - A5100 Hale Lane (w) A5100 Hale Lane (e) - A5109 Selvage Lane	477 455 75	483 509 0	6 54 -75	0.27 2.46 12.22	Pass	Pass Pass Pass	513 0	8 58 -75	0.36 2.64 12.25		Pass Pass
95316 95316 99972 99972 99972	72085 72085 72085 72085 72085	99972 99973 95308 95316 99973	A5109 Selvage Lane - A5109 Deans Lane A5100 Hale Lane (e) - A5100 Hale Lane (w) A5100 Hale Lane (e) - A5109 Selvage Lane A5100 Hale Lane (e) - A5109 Deans Lane	477 455 75 92	483 509 0 15	6 54 -75 -77	0.27 2.46 12.22 10.54	Pass Pass	Pass Pass Pass Pass	513 0 15	8 58 -75 -77	0.36 2.64 12.25 10.53	Pass	Pass Pass Pass
95316 95316 99972 99972 99972 99973	72085 72085 72085 72085 72085 72085	99972 99973 95308 95316 99973 95308	A5109 Selvage Lane - A5109 Deans Lane A5100 Hale Lane (e) - A5100 Hale Lane (w) A5100 Hale Lane (e) - A5109 Selvage Lane A5100 Hale Lane (e) - A5109 Deans Lane A5100 Hale Lane (e) - A5109 Deans Lane A5109 Deans Lane - A510	477 455 75 92 243	483 509 0 15 215	6 54 -75 -77 -28	0.27 2.46 12.22 10.54 1.85	Pass Pass Pass	Pass Pass Pass Pass Pass Pass	513 0 15 213	8 58 -75 -77 -30	0.36 2.64 12.25 10.53 1.99	Pass Pass	Pass Pass Pass Pass
95316 95316 99972 99972 99972 99973 99973	72085 72085 72085 72085 72085 72085 72085	99972 99973 95308 95316 99973 95308 95316	A5109 Selvage Lane - A5109 Deans Lane A5100 Hale Lane (e) - A5100 Hale Lane (w) A5100 Hale Lane (e) - A5109 Selvage Lane A5100 Hale Lane (e) - A5109 Deans Lane	477 455 75 92	483 509 0 15	6 54 -75 -77 -28 72	0.27 2.46 12.22 10.54 1.85 4.12	Pass Pass	Pass Pass Pass Pass	513 0 15 213 340	8 58 -75 -77	0.36 2.64 12.25 10.53	Pass	Pass Pass Pass
95316 95316 99972 99972 99972 99973	72085 72085 72085 72085 72085 72085	99972 99973 95308 95316 99973 95308	A5109 Selvage Lane - A5109 Deans Lane A5100 Hale Lane (e) - A5100 Hale Lane (w) A5100 Hale Lane (e) - A5109 Selvage Lane A5100 Hale Lane (e) - A5109 Deans Lane A5100 Hale Lane (e) - A5109 Deans Lane A5109 Deans Lane - A510	477 455 75 92 243	483 509 0 15 215 339	6 54 -75 -77 -28	0.27 2.46 12.22 10.54 1.85	Pass Pass Pass	Pass Pass Pass Pass Pass Pass	513 0 15 213 340	8 58 -75 -77 -30	0.36 2.64 12.25 10.53 1.99	Pass Pass	Pass Pass Pass Pass
95316 95316 99972 99972 99972 99973 99973	72085 72085 72085 72085 72085 72085 72085	99972 99973 95308 95316 99973 95308 95316	A5109 Selvage Lane - A5109 Deans Lane A5100 Hale Lane (e) - A5100 Hale Lane (w) A5100 Hale Lane (e) - A5109 Selvage Lane A5100 Hale Lane (e) - A5109 Selvage Lane A5100 Hale Lane (e) - A5109 Deans Lane A5109 Deans Lane - A5100 Hale Lane (w) A5109 Deans Lane - A5109 Selvage Lane	477 455 75 92 243 267	483 509 0 15 215 339 11 1450	6 54 -75 -77 -28 72	0.27 2.46 12.22 10.54 1.85 4.12	Pass Pass Pass	Pass Pass Pass Pass Pass Pass Pass	513 0 15 213 340	8 58 -75 -77 -30 73	0.36 2.64 12.25 10.53 1.99 4.19	Pass Pass	Pass Pass Pass Pass Pass Pass
95316 95316 99972 99972 99972 99973 99973	72085 72085 72085 72085 72085 72085 72085 72085 72085	99972 99973 95308 95316 99973 95308 95316 99972	A5109 Selvage Lane - A5109 Deans Lane A5100 Hale Lane (e) - A5100 Hale Lane (w) A5100 Hale Lane (e) - A5100 Selvage Lane A5100 Hale Lane (e) - A5109 Selvage Lane A5109 Deans Lane - A5100 Hale Lane (w) A5109 Deans Lane - A5100 Hale Lane (w) A5109 Deans Lane - A5100 Hale Lane (e)	477 455 75 92 243 267 77	483 509 0 15 215 339	6 54 -75 -77 -28 72 -66	0.27 2.46 12.22 10.54 1.85 4.12 9.86	Pass Pass Pass Pass Pass	Pass Pass Pass Pass Pass Pass Pass Pass	513 0 15 213 340	8 58 -75 -77 -30 73 -66	0.36 2.64 12.25 10.53 1.99 4.19 9.95	Pass Pass Pass	Pass Pass Pass Pass Pass Pass Pass
95316 95316 99972 99972 99972 99973 99973 99973 72073	72085 72085 72085 72085 72085 72085 72085 72085 72085 95754	99972 99973 95308 95316 99973 95308 95316 99972 95755	A5109 Selvage Lane - A5109 Deans Lane A5100 Hale Lane (e) - A5100 Hale Lane (w) A5100 Hale Lane (e) - A5109 Selvage Lane A5100 Hale Lane (e) - A5109 Deans Lane A5100 Hale Lane (e) - A5109 Deans Lane A5109 Deans Lane - A5100 Hale Lane (w) A5109 Deans Lane - A5100 Selvage Lane A5109 Deans Lane - A5100 Hale Lane (e) A5109 Deans Lane - A5100 Hale Lane (e) A500 Deans Lane - A5100 Hale Lane (e) A500 Deans Lane - A5100 Hale Lane (e)	477 455 75 92 243 267 77 1610	483 509 0 15 215 339 11 1450	6 54 -75 -77 -28 72 -66 -160	0.27 2.46 12.22 10.54 1.85 4.12 9.86 4.09	Pass Pass Pass Pass Pass Pass	Pass Pass Pass Pass Pass Pass Pass Pass	513 0 15 213 340 11 1450	8 58 -75 -77 -30 73 -66 -160	0.36 2.64 12.25 10.53 1.99 4.19 9.95 4.09	Pass Pass Pass Pass	Pass Pass Pass Pass Pass Pass Pass Pass

Table D.2 Overall Area Comparison of Observed Flows, Modelled Flows and Modified Model Flows (with network changes) for Evening Peak Hour

72070	72280	95763	Apex Corner Roundabout turning into A1 Barnet Bypass	1126	1168	42	1.24	Pass	Pass	1169	43	1.27	Pass	Pass
95759	95760	95762	Apex Corner Roundabout not turning into A1 Barnet Bypass	1960	1934	-26	0.59	Pass	Pass	1936	-24	0.54	Pass	Pass
95762	72073	72239	Apex Corner Roundabout turning into A5019 Selvage Lane	883	817	-66	2.27	Pass	Pass	819	-64	2.19	Pass	Pass
95762	72073		Apex Corner Roundabout not turning into A5019 Selvage Lane	3891	3716	-175	2.84	Pass	Pass	3716	-175	2.84	Pass	Pass
72037	95747	72010	Stirling Corner Roundabout turning into A1 Barnet Bypass	2671	2656	-15	0.29	Pass	Pass	2655	-16	0.31	Pass	Pass
72037	95747	95750	Stirling Corner Roundabout not turning into A1 Barnet Bypass	1093	1061	-32	0.99	Pass	Pass	1063	-30	0.91	Pass	Pass
75067	72037	95740	Stirling Corner Roundabout turning into Stirling Way	69	74	5	0.59	Pass	Pass	75	6	0.71	Pass	Pass
75067	72037	95747	Stirling Corner Roundabout not turning into Stirling Way	3622	3575	-47	0.78	Pass	Pass	3577	-45	0.75	Pass	Pass
95747	95750	95748	Stirling Corner Roundabout not turning into A411 Barnet Road	2643	2607	-36	0.70	Pass	Pass	2612	-31	0.60	Pass	Pass
95747	95750	95751	Stirling Corner Roundabout turning into A411 Barnet Road	676	621	-55	2.15	Pass	Pass	618	-58	2.28	Pass	Pass
95748	95752	95749	Stirling Corner Roundabout not turning into A1 Barnet Way	877	873	-4	0.13	Pass	Pass	873	-4	0.14	Pass	Pass
95748	95752	95753	Stirling Corner Roundabout turning into A1 Barnet Way	2553	2529	-24	0.48	Pass	Pass	2531	-22	0.44	Pass	Pass
95749	75067		Stirling Corner Roundabout not turning into A411 Barnet Lane	2675	2655	-20	0.39	Pass	Pass	2657	-18	0.35	Pass	Pass
95749	75067		Stirling Corner Roundabout turning into A411 Barnet Lane	1108	1092	-16	0.47	Pass	Pass	1092	-16	0.48	Pass	Pass
70002	90023		A5 Edgware Road - Montrose Avenue	327	310	-17	0.95	Pass	Pass	333	6	0.33	Pass	Pass
70002	90023	95232	A5 Edgware Road - A5 Burnt Oak Broadway	715	643	-72	2.77	Pass	Pass	640	-75	2.88	Pass	Pass
90065	90023	70002	Montrose Avenue - A5 Edgware Road	407	427	20	0.97	Pass	Pass	439	32	1.56	Pass	Pass
90065	90023	95232	Montrose Avenue - A5 Burnt Oak Broadway	55	79	24	2.93	Pass	Pass	82	27	3.26	Pass	Pass
95232	90023	70002	A5 Burnt Oak Broadway - A5 Edgware Road	619	546	-73	3.01	Pass	Pass	572	-47	1.93	Pass	Pass
95232	90023	90065	A5 Burnt Oak Broadway - Montrose Avenue	92	88	-4	0.40	Pass	Pass	86	-6	0.64	Pass	Pass

Site	Location	Turning Movement	ANODE	BNODE	C NODE		WITH CHANGES		% Differe
1	Colindale Avenue/Edgware Road	Edgware Road N LT Colindale Avenue Edgware Road N Straight Edgware Road S	95063 95063	72149 72149	90309 72154	121 836	137 843	16 7	13% 1%
		Colindale Avenue LT Edgware Road S	90003	72149	72154	836 440	843 428	-12	-3%
		Edgware Road S Straight Edgware Road N	72154	72149	95063	747	736	-11	-1%
		Edgware Road S RT Colindale Avenue	72154	72149	90309	390	393	3	1%
2	Annesley Avenue/Edgware Road	Edgware Road N Straight Edgware Road S Edgware Road N LT Annesley Avenue	90290 90290	90312 90312	95063 90313	894 5	916 #N/A	22 #N/A	2% #N/A
		Annesley Avenue RT Edgware Road N	90290	90312	90313	11	#N/A 24	#N/A 13	#N/A 118%
		Annesley Avenue LT Edgware Road S	90313	90312	95063	4	37	33	825%
		Edgware Road S Straight Edgware Road N	95063	90312	90290	767	761	-6	-1%
		Edgware Road S RT Annesley Avenue	95063	90312	90313	5	#N/A	#N/A	#N/A
3	Montrose Avenue/Edgware Road	Edgware Road N Straight Edgware Road S Edgware Road N LT Montrose Avenue	95232 95232	90023 90023	70002 90065	606 114	601 120	-5 6	-1% 5%
		Montrose Avenue LT Edgware Road S	90065	90023	70002	382	380	-2	-1%
		Montrose Avenue RT Edgware Road N	90065	90023	95232	22	22	ō	0%
		Edgware Road S Straight Edgware Road N	70002	90023	95232	514	509	-5	-1%
	Booth Avenue/Montrose Avenue	Edgware Road S RT Montrose Avenue Booth Road N Straight Booth Road S	70002 90072	90023	90065	201 115	203 79	-36	1% -31%
4	Booth Avenue/Montrose Avenue	Booth Road N LT Montrose Avenue E	90072	90022	90024	115	79 2	-36 0	-31%
		Booth Road N RT Montrose Avenue W	90072	90022	90227	45	87	42	93%
		Montrose Avenue E RT Booth Road N	90070	90022	90072	10	28	18	180%
		Montrose Avenue E Straight Montrose Avenue W	90070	90022	90227	270	237	-33	-12%
		Montrose Avenue E LT Booth Road S Booth Road S RT Montrose Avenue F	90070 90024	90022	90024	80 97	66 86	-14 -11	-18%
		Booth Road S RT Montrose Avenue E Booth Road S Straight Booth Road N	90024	90022	90070	277	271	-11	-11%
		Booth Road S LT Montrose Avenue W	90024	90022	90227	65	55	-10	-15%
		Montrose Avenue W LT Booth Road N	90227	90022	90072	29	31	2	7%
		Montrose Avenue W Straight Montrose Avenue E	90227	90022	90070	194	197	3	2%
5	Montrose Avenue/Lanacre Avenue	Montrose Avenue W RT Booth Road S  Montrose Avenue W Straight Montrose Avenue E	90227	90022	90024 90021	56 243	53 233	-3 -10	-5% -4%
5	MOIILIOSE AVEILUE/LANACITE AVEILUE	Montrose Avenue W Straight Montrose Avenue E Montrose Avenue W RT Lanacre Avenue	90070	90037	90021	243 44	233 44	-10	-4%
		Montrose Avenue E Straight Montrose Avenue W	90021	90037	90070	168	148	-20	-129
		Montrose Avenue E LT Lanacre Avenue	90021	90037	90046	12	12	0	0%
		Lanacre Avenue LT Montrose Avenue W	90046	90037	90070	156	149	-7	-4%
6	Bunns Lane/Woodcroft Avenue	Lanacre Avenue RT Montrose Avenue E Woodcroft Avenue LT Bunns Lane N	90046 90018	90037 72104	90021 72102	71 149	57 135	-14 -14	-209 -9%
•	Bunns Lane/Woodcroft Avenue	Woodcroft Avenue RT Bunns Lane N	90018	72104	72102	149	135	-14 10	-9% 7%
		Bunns Lane N Straight Bunns Lane S	72102	72104	72106	793	797	4	1%
		Bunns Lane N RT Woodcroft Avenue	72102	72104	90018	64	63	-1	-2%
		Bunns Lane S Straight Bunns Lane N	72106	72104	72102	425	430	5	1%
	Burney Lawre (Ourbrance Book West	Bunns Lane S LT Woodcroft Avenue Bunns Lane N Straight Grahame Park Way	72106 72104	72104 72106	90018	253 159	234 162	-19 3	-8% 2%
7	Bunns Lane/Grahame Park Way	Bunns Lane N Straight Graname Park Way Bunns Lane N LT Bunns Lane S	72104	72106	95329	785	795	10	2% 1%
		Bunns Lane S LT Grahame Park Way	95329	72106	90038	93	112	19	20%
		Bunns Lane S RT Bunns Lane N	95329	72106	72104	520	512	-8	-2%
		Grahame Park Way Straight Bunns Lane N	90038	72106	72104	158	153	-5	-3%
_	W-41W-4	Grahame Park Way RT Bunns Lane S	90038 90333	72106 72146	95329	185 28	182 24	-3	-2% -149
8	Watford Way/Aerodrome Road/Greyhound Hill	Aerodrome Road LT Watford Way N Aerodrome Road Straight Greyhound Hill	90333	72146 72146	95734 90364	28 312	24 316	-4 4	-149 1%
		Aerodrome Road RT Watford Way S	90333	72146	95720	100	96	-4	-4%
		Watford Way N RT Aerodrome Road	95351	72146	90333	14	16	2	14%
		Watford Way N Straight Watford Way S	95351	72146	95720	1600	1602	2	0%
		Watford Way N LT Greyhound Hill	95351 90364	72146 72146	90364 95734	292 83	290 85	-2	-1% 2%
		Greyhound Hill RT Watford Way N Greyhound Hill Straight Aerodrome Road	90364	72146	90333	273	267	-6	-2%
		Greyhound Hill LT Watford Way S	90364	72146	95720	0	0	0	#DIV/
		Watford Way S LT Aerodrome Road	95725	72146	90333	341	334	-7	-2%
		Watford Way S Straight Watford Way N	95725	72146	95734	1322	1345	23	2%
_	Outlied and Long Other Heads	Watford Way S RT Greyhound Hill	95725	72146	90364	2 447	2 443	0	0% -1%
9	Colindeep Lane/The Hyde	The Hyde N LT Colindeep Lane E The Hyde N Straight The Hyde S	72149 72149	72154 72154	90337 72162	447 797	443 827	-4 30	-1% 4%
		The Hyde N RT Colindeep Lane W	72149	72154	95739	32	0	-32	-100
		Colindeep Lane E RT The Hyde N	90337	72154	72149	388	383	-5	-1%
		Colindeep Lane E Straight Colindeep Lane W	90337	72154	95739	26	24	-2	-8%
		Colindeep Lane E LT The Hyde S The Hyde S RT Colindeep Lane E	90337 72162	72154 72154	72162 90337	128 178	126 182	-2 4	-2% 2%
		The Hyde S Straight The Hyde N	72162	72154	72149	749	182 746	-3	2% 0%
		The Hyde S LT Colindeep Lane W	72162	72154	95739	56	56	0	0%
		Colindeep Lane W LT The Hyde N	95739	72154	72149	0	0	0	#DIV/
		Colindeep Lane W Straight Colindeep Lane W Colindeep Lane W RT The Hyde S	95739 95739	72154 72154	90337 72162	6	6	0	0% 0%
10	Lanacre Avenue/Graham Park Way	Lanacre Avenue LT Graham Park Way E	95739	90033	90027	1	1	0	0%
10	Landere Avenuer Granam Park Way	Lanacre Avenue RT Graham Park Way W	90034	90033	72141	133	156	23	17%
		Graham Park Way E RT Lanacre Avenue	90027	90033	90034	1	1	0	0%
		Graham Park Way E Straight Graham Park Way W	90027	90033	72141	597	620	23	4%
		Graham Park Way W LT Lanacre Avenue Graham Park Way W Straight Graham Park Way E	72141 72141	90033 90033	90034 90027	29 576	29 569	0 -7	0% -1%
11	Aerodrome Road/Graham Park Way/Colindale Avenue	Colindale Avenue I T Raven Close	90024	72141	90027	45	46	1	-1%
	ACTORIONIC INDUITORISMIN FAIR Way/Collindate Avenue	Colindale Avenue Straight Graham Park Way	90024	72141	90033	315	314	-1	0%
		Colindale Avenue RT Aerodrome Road	90024	72141	90320	254	293	39	15%
		Raven Close LT Graham Park Way	90049	72141	90033	28	28	0	0%
		Raven Close Straight Aerodrome Road Raven Close RT Colindale Avenue	90049 90049	72141 72141	90320 90024	41	41 48	0	0% 0%
		Raven Close RT Colindale Avenue Graham Park Way LT Aerodrome Road	90049 90033	72141 72141	90024 90320	48 288	48 243	0 -45	-169
		Graham Park Way Straight Colindale Avenue	90033	72141	90024	419	510	91	22%
		Graham Park Way RT Raven Close	90033	72141	90049	24	23	-1	-4%
		Aerodrome Road LT Colindale Avenue	90320	72141	90024	344	338	-6	-2%
		Aerodrome Road Straight Raven Close Aerodrome Road RT Graham Park Way	90320 90320	72141	90049	5	5	0	0%
		Aerogrome Road RT Graham Park Way		72141	90033	262 4	256 3	-6 -1	-2% -25%
12	Colindala Avanua/Booth Boos	Colindale Avenue W.I.T. Rooth Dood							
12	Colindale Avenue/Booth Roac	Colindale Avenue W LT Booth Road Colindale Avenue W Straight Colindale Avenue F	90299 90299	90024 90024	72141	459	456	-1 -3	
12	Colindale Avenue/Booth Roac	Colindale Avenue W LT Booth Road Colindale Avenue W Straight Colindale Avenue E Booth Road LT Colindale Avenue E							-1%
12	Colindale Avenue/Booth Road	Colindale Avenue W Straight Colindale Avenue E Booth Road LT Colindale Avenue E Booth Road RT Colindale Avenue W	90299 90022 90022	90024 90024 90024	72141 72141 90299	459 155 95	456 197 #N/A	-3 42 #N/A	-1% 27% #N/A
12	Colindale Avenue/Booth Roac	Colindale Avenue W Straight Colindale Avenue E Booth Road LT Colindale Avenue E	90299 90022	90024 90024	72141 72141	459 155	456 197	-3 42	-1% 27%

Site	Location	Turning Movement	ANODE	BNODE		ORIGINAL BASE	WITH CHANGES	Difference	% Differenc
1	Colindale Avenue/Edgware Road	Edgware Road N LT Colindale Avenue Edgware Road N Straight Edgware Road S	95063 95063	72149 72149	90309 72154	128 726	261 759	133 33	104% 5%
		Colindale Avenue LT Edgware Road S	90309	72149	72154	401	355	-46	-11%
		Edgware Road S Straight Edgware Road N Edgware Road S RT Colindale Avenue	72154 72154	72149 72149	95063 90309	988 271	939 317	-49 46	-5% 17%
2	Annesley Avenue/Edgware Road	Edgware Road S RT Collindate Avertus  Edgware Road N Straight Edgware Road S	90290	90312	95063	773	865	92	12%
	·	Edgware Road N LT Annesley Avenue	90290	90312	90313	38	#N/A	#N/A	#N/A
		Annesley Avenue RT Edgware Road N Annesley Avenue LT Edgware Road S	90313 90313	90312 90312	90290 95063	50 84	83 179	33 95	66% 113%
		Edgware Road S Straight Edgware Road N	95063	90312	90290	1080	1076	-4	0%
3		Edgware Road S RT Annesley Avenue	95063	90312	90313	47	#N/A	#N/A	#N/A
3	Montrose Avenue/Edgware Road	Edgware Road N Straight Edgware Road S Edgware Road N LT Montrose Avenue	95232 95232	90023 90023	70002 90065	546 88	572 86	26 -2	5% -2%
		Montrose Avenue LT Edgware Road S	90065	90023	70002	427	439	12	3%
		Montrose Avenue RT Edgware Road N Edgware Road S Straight Edgware Road N	90065	90023	95232	79 643	82 640	3 -3	4% 0%
		Edgware Road S Straight Edgware Road N Edgware Road S RT Montrose Avenue	70002 70002	90023 90023	95232 90065	310	333	-3 23	7%
4		Booth Road N Straight Booth Road S	90072	90022	90024	168	80	-88	-52%
		Booth Road N LT Montrose Avenue E Booth Road N RT Montrose Avenue W	90072 90072	90022 90022	90070 90227	0 59	0 112	0 53	#DIV/0! 90%
		Montrose Avenue E RT Booth Road N	90070	90022	90072	0	11	11	#DIV/0!
		Montrose Avenue E Straight Montrose Avenue W	90070	90022	90227	294	270	-24	-8%
		Montrose Avenue E LT Booth Road S Booth Road S RT Montrose Avenue E	90070 90024	90022 90022	90024 90070	69 203	28 195	-41 -8	-59% -4%
		Booth Road S Straight Booth Road N	90024	90022	90072	276	262	-14	-5%
		Booth Road S LT Montrose Avenue W	90024 90227	90022	90227	156	144 31	-12 4	-8% 15%
		Montrose Avenue W LT Booth Road N Montrose Avenue W Straight Montrose Avenue E	90227	90022 90022	90072 90070	27 214	231	17	8%
		Montrose Avenue W RT Booth Road S	90227	90022	90024	112	116	4	4%
5	Montrose Avenue/Lanacre Avenue	Montrose Avenue W Straight Montrose Avenue E Montrose Avenue W RT Lanacre Avenue	90070 90070	90037 90037	90021 90046	390 13	398 13	8	2% 0%
		Montrose Avenue W RT Lanacre Avenue Montrose Avenue E Straight Montrose Avenue W	90070	90037	90046	333	275	-58	-17%
		Montrose Avenue E LT Lanacre Avenue	90021	90037	90046	2	17	15	750%
		Lanacre Avenue LT Montrose Avenue W Lanacre Avenue RT Montrose Avenue E	90046 90046	90037 90037	90070 90021	14 52	19 41	5 -11	36% -21%
6	Bunns Lane/Woodcroft Avenue	Woodcroft Avenue LT Bunns Lane N	90018	72104	72102	112	114	2	2%
		Woodcroft Avenue RT Bunns Lane S	90018	72104	72106	191	201	10	5%
		Bunns Lane N Straight Bunns Lane S Bunns Lane N RT Woodcroft Avenue	72102 72102	72104 72104	72106 90018	796 50	809 29	13 -21	2% -42%
		Bunns Lane S Straight Bunns Lane N	72106	72104	72102	640	636	-4	-1%
		Bunns Lane S LT Woodcroft Avenue	72106	72104	90018	365	344	-21	-6%
7	Bunns Lane/Grahame Park Way	Bunns Lane N Straight Grahame Park Way Bunns Lane N LT Bunns Lane S	72104 72104	72106 72106	90038 95329	179 808	206 804	27 -4	15% 0%
		Bunns Lane S LT Grahame Park Way	95329	72106	90038	107	138	31	29%
		Bunns Lane S RT Bunns Lane N	95329	72106	72104	732	707	-25	-3%
		Grahame Park Way Straight Bunns Lane N Grahame Park Way RT Bunns Lane S	90038 90038	72106 72106	72104 95329	272 214	272 217	0 3	0% 1%
8	Watford Way/Aerodrome Road/Greyhound Hill	Aerodrome Road LT Watford Way N	90333	72146	95734	0	0	0	#DIV/0!
		Aerodrome Road Straight Greyhound Hill	90333 90333	72146	90364	275	275 78	0	0% -3%
		Aerodrome Road RT Watford Way S Watford Way N RT Aerodrome Road	90333	72146 72146	95720 90333	80 77	78 82	-2 5	-3% 6%
		Watford Way N Straight Watford Way S	95351	72146	95720	1478	1477	-1	0%
		Watford Way N LT Greyhound Hill Greyhound Hill RT Watford Way N	95351 90364	72146 72146	90364 95734	96 86	93 86	-3 0	-3% 0%
		Greyhound Hill Straight Aerodrome Road	90364	72146	90333	243	243	0	0%
		Greyhound Hill LT Watford Way S	90364	72146	95720	0	0	ō	#DIV/0!
		Watford Way S LT Aerodrome Road Watford Way S Straight Watford Way N	95725 95725	72146 72146	90333 95734	347 2020	346 2023	-1 3	0% 0%
		Watford Way S RT Greyhound Hill	95725	72146	90364	2	2	0	0%
9	Colindeep Lane/The Hyde	The Hyde N LT Colindeep Lane E	72149	72154	90337	344	352	8	2%
		The Hyde N Straight The Hyde S The Hyde N RT Colindeep Lane W	72149 72149	72154 72154	72162 95739	762 22	762 0	0 -22	0% -100%
		Colindeep Lane E RT The Hyde N	90337	72154	72149	417	413	-22 -4	-100%
		Colindeep Lane E Straight Colindeep Lane W	90337	72154	95739	11	10	-1	-9%
		Colindeep Lane E LT The Hyde S The Hyde S RT Colindeep Lane E	90337 72162	72154 72154	72162 90337	177 135	180 142	3 7	2% 5%
		The Hyde S Straight The Hyde N	72162	72154	72149	842	843	1	0%
		The Hyde S LT Colindeep Lane W	72162	72154	95739	25	25	0	0%
		Colindeep Lane W LT The Hyde N Colindeep Lane W Straight Colindeep Lane W	95739 95739	72154 72154	72149 90337	0 39	0 39	0	#DIV/0! 0%
		Colindeep Lane W RT The Hyde S	95739	72154	72162	41	41	ō	0%
10	Lanacre Avenue/Graham Park Way	Lanacre Avenue LT Graham Park Way E	90034	90033	90027	0	0	0	#DIV/0!
		Lanacre Avenue RT Graham Park Way W Graham Park Way E RT Lanacre Avenue	90034 90027	90033 90033	72141 90034	25 0	46 0	21 0	84% #DIV/0!
		Graham Park Way E Straight Graham Park Way W	90027	90033	72141	527	582	55	10%
			72141	90033 90033	90034 90027	47 715	47 715	0	0% 0%
		Graham Park Way W Straight Graham Park Way F	72444						U76
11	Aerodrome Road/Graham Park Wav/Colindale Avenue	Graham Park Way W Straight Graham Park Way E	72141 90024	72141	90049	19	19	0	0%
11	Aerodrome Road/Graham Park Way/Colindale Avenue	Graham Park Way W Straight Graham Park Way E Colindale Avenue LT Raven Close Colindale Avenue Straight Graham Park Way	90024 90024	72141 72141		19 398	19 392	0 -6	0% -2%
11	Aerodrome Road/Graham Park Way/Colindale Avenue	Graham Park Way W Straight Graham Park Way E Colindale Avenue LT Raven Close Colindale Avenue Straight Graham Park Way Colindale Avenue RT Aerodrome Road	90024 90024 90024	72141 72141 72141	90049 90033 90320	19 398 188	19 392 188	0 -6 0	0% -2% 0%
11	Aerodrome Road/Graham Park Way/Colindale Avenue	Graham Park Way W Straight Graham Park Way E Colindale Avenue LT Raven Close Colindale Avenue Straight Graham Park Way Colindale Avenue RT Aerodrome Road Raven Close LT Graham Park Way	90024 90024	72141 72141 72141 72141	90049	19 398 188 23	19 392 188 23	0 -6	0% -2%
11	·	Graham Park Way W Straight Graham Park Way E Colindiale Avenue LT Raven Close Colindiale Avenue LT Raven Close Colindiale Avenue Straight Graham Park Way Colindiale Avenue RT Aerodrome Road Raven Close LT Graham Park Way Raven Close Straight Aerodrome Road Raven Close RT Colindiale Avenue	90024 90024 90024 90049 90049 90049	72141 72141 72141 72141 72141 72141	90049 90033 90320 90033 90320 90024	19 398 188 23 16 22	19 392 188 23 16 22	0 -6 0 0 0	0% -2% 0% 0% 0%
11	·	Graham Park Way W Straight Graham Park Way E Colindale Avenue LT Raven Close Colindale Avenue Straight Graham Park Way Colindale Avenue RT Aerodrome Road Raven Close LT Graham Park Way Raven Close Straight Aerodrome Road Raven Close Straight Aerodrome Road Raven Close Straight Aerodrome Road Raven Close RT Colindale Avenue Graham Park Way LT Aerodrome Road	90024 90024 90024 90049 90049 90049 90033	72141 72141 72141 72141 72141 72141 72141	90049 90033 90320 90033 90320 90024 90320	19 398 188 23 16 22 193	19 392 188 23 16 22 192	0 -6 0 0 0 0 -1	0% -2% 0% 0% 0% 0% -1%
11		Graham Park Way W Straight Graham Park Way E Colindiale Avenue LT Raven Close Colindiale Avenue LT Raven Close Colindiale Avenue Braight Graham Park Way Colindiale Avenue RT Aerodrome Road Raven Close LT Graham Park Way Raven Close Straight Aerodrome Road Raven Close RT Colindiale Avenue Graham Park Way LT Aerodrome Road Graham Park Way LT Aerodrome Road Graham Park Way Straight Colindiale Avenue	90024 90024 90024 90049 90049 90049	72141 72141 72141 72141 72141 72141 72141 72141	90049 90033 90320 90033 90320 90024	19 398 188 23 16 22	19 392 188 23 16 22	0 -6 0 0 0	0% -2% 0% 0% 0% 0%
11		Graham Park Way W Straight Graham Park Way E Colindiale Avenue LT Raven Close Colindiale Avenue Straight Graham Park Way Colindiale Avenue RT Aerofrome Road Raven Close LT Graham Park Way Raven Close Straight Aerodrome Road Raven Close RT Colindiale Avenue Graham Park Way LT Aerodrome Road Graham Park Way Straight Colindiale Avenue Graham Park Way RT Raven Close Aerodrome Road of LT Colindiale Avenue	90024 90024 90024 90049 90049 90049 90033 90033 90033	72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141	90049 90033 90320 90033 90320 90024 90320 90024 90049 90024	19 398 188 23 16 22 193 331 29 440	19 392 188 23 16 22 192 408 29	0 -6 0 0 0 0 -1 77 0 4	0% -2% 0% 0% 0% 0% -1% 23% 0% 1%
11		Graham Park Way W Straight Graham Park Way E Colindale Avenue LT Raven Close Colindale Avenue LT Raven Close Colindale Avenue RT Aerodrome Road Raven Close LT Graham Park Way Raven Close Straight Aerodrome Road Raven Close Straight Aerodrome Road Raven Close RT Colindale Avenue Graham Park Way LT Aerodrome Road Graham Park Way LT Raven Close Aerodrome Road LT Colindale Avenue Aerodrome Road LT Colindale Avenue Aerodrome Road Straight Raven Close Aerodrome Road Straight Raven Close	90024 90024 90024 90049 90049 90049 90033 90033 90033 900320	72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141	90049 90033 90320 90033 90320 90024 90320 90024 90024 90024 90049	19 398 188 23 16 22 193 331 29 440 17	19 392 188 23 16 22 192 408 29 444	0 -6 0 0 0 0 -1 77 0 4	0% -2% 0% 0% 0% 0% -1% 23% 0% 1% 0%
		Graham Park Way W Straight Graham Park Way E Colindiale Avenue LT Raven Close Colindiale Avenue Straight Graham Park Way Colindiale Avenue RT Aerodrome Road Raven Close LT Graham Park Way Raven Close Straight Aerodrome Road Raven Close Raven Close Raven Close Raven Close Raven Rave	90024 90024 90024 90049 90049 90033 90033 90033 90032 90320 90320	72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141	90049 90033 90320 90033 90320 90024 90320 90024 90049 90024 90049 90033	19 398 188 23 16 22 193 331 29 440 17 341	19 392 188 23 16 22 192 408 29 444 17 346	0 -6 0 0 0 0 -1 77 0 4 0 5	0% -2% 0% 0% 0% 0% -1% 23% 0% 1% 0%
11		Graham Park Way W Straight Graham Park Way E Colindial Avenue LT Raven Close Colindiale Avenue Straight Graham Park Way Colindiale Avenue RT Aerodrome Road Raven Close LT Graham Park Way Raven Close Straight Aerodrome Road Raven Close RT Colindiale Avenue Graham Park Way LT Aerodrome Road Graham Park Way LT Aerodrome Road Graham Park Way Straight Colindiale Avenue Graham Park Way RT Raven Close Aerodrome Road LT Colindiale Avenue Aerodrome Road RT Graham Park Way Straight Colindiale Avenue Aerodrome Road RT Graham Park Way Colindiale Avenue W LT Booth Road Colindiale Avenue W Straight Colindiale Evenue W Straight Colindiale Avenue E	90024 90024 90024 90049 90049 90033 90033 90033 900320 90320 90320 90229	72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 90024 90024	90049 90033 90320 90033 90320 90024 90024 90024 90049 90024 90049 90033	19 398 188 23 16 22 193 331 29 440 17 341 198 402	19 392 188 23 16 22 192 408 29 444 17 346 179 375	0 -6 0 0 0 0 0 -1 77 0 4 0 5 -19 -27	0% -2% 0% 0% 0% 0% -1% -1% -1% -1% -10% -7%
		Graham Park Way W Straight Graham Park Way E Colindiale Avenue LT Raven Close Colindiale Avenue LT Raven Close Colindiale Avenue RT Aerodrome Road Raven Close LT Graham Park Way Raven Close Straight Aerodrome Road Raven Close Straight Aerodrome Road Raven Close RT Colindiale Avenue Graham Park Way LT Aerodrome Road Graham Park Way Straight Colindiale Avenue Graham Park Way RT Raven Close Aerodrome Road LT Colindiale Avenue Aerodrome Road Straight Raven Close Aerodrome Road Straight Raven Close Aerodrome Road Straight Raven Close Aerodrome Road RT Graham Park Way Colindiale Avenue W Straight Colindiale Avenue E Booth Road LT Colindiale Avenue E Booth Road LT Colindiale Avenue E Booth Road LT Colindiale Avenue E	90024 90024 90024 90049 90049 90033 90033 90330 90320 90320 90299 90299	72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 90024 90024	90049 90033 90320 90034 90320 90024 90024 90049 90024 90049 90033 90022 72141 72141	19 398 188 23 16 22 193 331 29 440 17 341 198 402 202	19 392 188 23 16 22 192 408 29 444 17 346 179 375	0 -6 0 0 0 0 -1 77 0 4 0 5 -19 -27	0% -2% 0% 0% 0% 0% -1% 23% 0% 1% -1% 1% -10% -10% -1%
		Graham Park Way W Straight Graham Park Way E Colindial Avenue LT Raven Close Colindiale Avenue Straight Graham Park Way Colindiale Avenue RT Aerodrome Road Raven Close LT Graham Park Way Raven Close Straight Aerodrome Road Raven Close RT Colindiale Avenue Graham Park Way LT Aerodrome Road Graham Park Way LT Aerodrome Road Graham Park Way Straight Colindiale Avenue Graham Park Way RT Raven Close Aerodrome Road LT Colindiale Avenue Aerodrome Road RT Graham Park Way Straight Colindiale Avenue Aerodrome Road RT Graham Park Way Colindiale Avenue W LT Booth Road Colindiale Avenue W Straight Colindiale Evenue W Straight Colindiale Avenue E	90024 90024 90024 90049 90049 90033 90033 90033 900320 90320 90320 90229	72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 90024 90024	90049 90033 90320 90033 90320 90024 90024 90024 90049 90024 90049 90033	19 398 188 23 16 22 193 331 29 440 17 341 198 402	19 392 188 23 16 22 192 408 29 444 17 346 179 375	0 -6 0 0 0 0 0 -1 77 0 4 0 5 -19 -27	0% -2% 0% 0% 0% 0% -1,6 23% 0% 116 0% 116 -106 -7%

#### Table F.1 AM and PM Journey Times Validation

	Route Journey Time			Mean			Hyder LPL vs. Orig. Model	Obs. vs. Orig	Model			Modified vs.Orig	ad vs.Orig Model				
AM Peak	Observed (Mean)	Modelled	Diff in Secs	% Diff	Within 15% (or 60secs if higher)	Modelled (From Hyder LPL Files)	Original Model	Diff in Secs	Diff in Secs	% Diff	Within 15% (or 60secs if higher)	MODIFIED MODEL	Diff in Secs	% Diff	Within 15% (or 60secs if higher)		
Route 1 NB AM	0:14:59	0:15:37	38	4.2%	,	0:15:37	0:15:37	0	38	4%	~	0:15:35	36	4%	~		
Route 1 SB AM	0:22:27	0:24:17	110	8.2%	~	0:24:17	0:24:17	0	110	8%	~	0:24:16	109	8%	~		
Route 2 NB AM	0:27:54	0:28:25	31	1.8%	~	0:28:25	0:28:25	0	31	2%	~	0:28:13	19	1%	~		
Route 2 SB AM	0:32:43	0:30:14	-149	-7.6%	~	0:30:10	0:30:10	0	-153	-8%	~	0:30:17	-146	-7%	~		
Route 3 NB AM	0:22:20	0:19:04	-196	-14.6%	~	0:19:04	0:19:04	0	-196	-15%	~	0:19:14	-186	-14%	~		
Route 3 SB AM	0:29:52	0:24:20	-332	-18.5%	×	0:24:15	0:24:15	0	-337	-19%	×	0:24:37	-315	-18%	×		
Route 4 NB AM	0:23:48	0:21:14	-154	-10.8%	~	0:21:14	0:21:14	0	-154	-11%	~	0:21:16	-152	-11%	~		
Route 4 SB AM	0:24:27	0:23:50	-37	-2.5%	~	0:23:50	0:23:50	0	-37	-3%	~	0:22:42	-105	-7%	~		
Route 5 NB AM	0:28:03	0:27:00	-63	-3.8%	~	0:27:00	0:27:00	0	-63	-4%	~	0:26:47	-76	-5%	~		
Route 5 SB AM	0:30:52	0:29:12	-100	-5.4%	~	0:29:12	0:29:12	0	-100	-5%	~	0:28:33	-139	-8%	~		
Route 6 NB AM	0:13:27	0:14:43	76	9.4%	~	0:14:43	0:14:43	0	76	9%	~	0:14:45	78	10%	-		
Route 6 SB AM	0:20:30	0:19:21	-69	-5.6%	~	0:19:34	0:19:34	0	-56	-5%	~	0:19:39	-51	-4%	~		
Total No. of Routes	12		No. of Routes W	ithin 15%			No. of Routes Wi	thin 15%			11	No. of Re	outes Within 15%		11		
Total No. of Routes	12 %		% of All Route W	ithin 15%	92%		% of All Routes W	ithin 15%			92%	% of All F	Routes Within 15%		92%		

	Route Journey Time				Mean			Hyder LPL vs. Orig. Model	Obs. vs. Orig	Model			Modified vs.Orig	Model	
PM Peak	Observed (Mean)	Modelled	Diff in Secs	% Diff	Within 15% (or 60secs if higher)	Modelled (From Hyder LPL Files)	Original Model	Diff in Secs	Diff in Secs	% Diff	Within 15% (or 60secs if higher)	MODIFIED MODEL	Diff in Secs	% Diff	Within 15% (or 60secs if higher)
Route 1 NB PM	0:23:22	0:19:57	-205	-14.6%	~	0:19:57	0:19:57	0	-205	-15%	~	0:19:59	-203	-14%	~
Route 1 SB PM	0:16:14	0:16:39	25	2.5%	•	0:16:39	0:16:39	0	25	3%	~	0:16:39	25	3%	~
Route 2 NB PM	0:32:54	0:32:54	0	0.0%	~	0:32:54	0:32:54	0	0	0%	~	0:33:06	12	1%	~
Route 2 SB PM	0:29:04	0:30:11	67	3.9%	•	0:30:08	0:30:08	0	64	4%	~	0:30:22	78	4%	~
Route 3 NB PM	0:24:22	0:23:22	-60	-4.1%	,	0:23:22	0:23:22	0	-60	-4%	~	0:23:25	-57	-4%	~
Route 3 SB PM	0:19:24	0:21:32	127	10.9%	~	0:20:14	0:20:14	0	50	4%	~	0:20:02	38	3%	~
Route 4 NB PM	0:22:24	0:25:29	185	13.8%	•	0:25:29	0:25:29	0	185	14%	~	0:25:38	194	14%	~
Route 4 SB PM	0:21:24	0:21:42	18	1.4%	,	0:21:42	0:21:42	0	18	1%	~	0:21:13	-11	-1%	~
Route 5 NB PM	0:28:42	0:30:00	78	4.5%	~	0:30:00	0:30:00	0	78	5%	~	0:29:53	71	4%	~
Route 5 SB PM	0:22:43	0:24:43	120	8.8%	•	0:24:43	0:24:43	0	120	9%	~	0:24:30	107	8%	~
Route 6 NB PM	0:15:22	0:13:53	-89	-9.7%	~	0:13:53	0:13:53	0	-89	-10%	~	0:13:55	-87	-9%	~
Route 6 SB PM	0:13:51	0:14:11	20	2.4%	~	0:14:19	0:14:19	0	28	3%	~	0:14:21	30	4%	~
Total No. of Routes	12		No. of Routes Wi % of All Route Wi		12 100%		No. of Routes Wil % of All Routes W				12 100%		utes Within 15% utes Within 15%		12 100%



# Appendix B- Validation statistics

Table A.1 Overall Area Comparison of Observed flows, Modelled Flows and Modified Model Flows (with network changes) for Morning Peak Hour

A-Node	B-Node	Site Description	Direction	Observed Flow	Modelled Flow (HYDER)	Difference	GEH	DMRB Guidelines		Modelled Flow (CB WITH CHANGES)	Difference	GEH	DMRB Guidelines		
		•		Flows (PCUs)	Flows (PCUs)	(PCUs)	Value	GEH	Flows	Flows (PCUs)	(PCUs)	Value	GEH	Flows	
75060	75069	A5183 High Street(n)	SB	448	479	31	1.45	Pass	Pass	479	31	1.46	Pass	Pass	
72041	75069	A411 Barnet Lane	WB	791	831	40	1.39	Pass	Pass	832	41	1.43	Pass	Pass	
95780	75069	A5183 High Street(s)	NB	478	343	-135	6.67			317	-161	8.08			
75068	75069	A411 Watford Road	EB	810	822	12	0.43	Pass	Pass	843	33	1.15	Pass	Pass	
75069	75060	A5183 High Street(n)	NB	578	572	-6	0.26	Pass	Pass	575	-3	0.12	Pass	Pass	
75069	72041	A411 Barnet Lane	EB	649	600	-49	1.94	Pass	Pass	598	-51	2.04	Pass	Pass	
75069	95780	A5183 High Street(s)	SB	739	683	-56	2.12	Pass	Pass	681	-58	2.18	Pass	Pass	
75069	75068	A411 Watford Road	WB	561	545	-16	0.69	Pass	Pass	546	-15	0.65	Pass	Pass	
72049	72043	A41 Edgware Way	WB	777	540	-237	9.25			533	-244	9.53			
95446	72043	A5 Brockley Hill	NB	910	823	-87	2.94	Pass	Pass	824	-86	2.90	Pass	Pass	
71001	72043	A41 Watford Bypass	EB	825	829	5	0.17	Pass	Pass	834	9	0.33	Pass	Pass	
72043	72050	A41 Edgware Way	EB	714	742	28	1.05	Pass	Pass	746	33	1.20	Pass	Pass	
72043	95446	A5 Brockley Hill	SB	581	516	-65	2.77	Pass	Pass	516	-65	2.77	Pass	Pass	
72043	71001	A41 Watford Bypass	WB	1169	1171	2	0.06	Pass	Pass	1189	20	0.59	Pass	Pass	
72229		A41 Edgware Way(n)	SB	1563	1598	35	0.88	Pass	Pass	1599	36	0.90	Pass	Pass	
72265		A41 Edgware Way(s)	WB	1372	1252	-120	3.32	Pass	Pass	1241	-131	3.62	Pass	Pass	
95285		Green Lane	NB	221	183	-38	2.69	Pass	Pass	183	-38	2.67	Pass	Pass	
72075		A410 Spur Road	EB	1273	1156	-117	3.37	Pass	Pass	1161	-112	3.21	Pass	Pass	
72069		A41 Edgware Way(n)	NB	1305	1262	-43	1.21	Pass	Pass	1259	-46	1.28	Pass	Pass	
72069		A41 Edgware Way(s)	EB	1583	1650	67	1.68	Pass	Pass	1643	60	1.50	Pass	Pass	
72069		Green Lane	SB	183	180	-3	0.21	Pass	Pass	180	-3	0.21	Pass	Pass	
72069		A410 Spur Road	WB	1177	1097	-81	2.39	Pass	Pass	1101	-76	2.26	Pass	Pass	
95264		A410 London Road	EB	1019	983	-36	1.15	Pass	Pass	981	-38	1.20	Pass	Pass	
95446		A5 Brockley Hill	SB	548	598	50	2.11	Pass	Pass	598	50	2.10	Pass	Pass	
95273		A5 Stonegrove	NB	952	857	-95	3.17	Pass	Pass	861	-91	3.04	Pass	Pass	
72075		A410 London Road	WB	960	1009	49	1.56	Pass	Pass	1003	43	1.38	Pass	Pass	
72075		A5 Brockley Hill	NB	503	564	61	2.65	Pass	Pass	564	62	2.66	Pass	Pass	
72075		A5 Stonegrove	SB	780	793	14	0.48	Pass	Pass	799	20	0.69	Pass	Pass	
71011		A410 The Broadway	EB	933	806	-126	4.28	Pass	Pass	799	-134	4.55	Pass	Pass	
95738		Dennis Lane	SB	198	172	-26	1.91	Pass	Pass	165	-33	2.45	Pass	Pass	
95264		A410 London Road	WB	939	925	-13	0.44	Pass	Pass	920	-19	0.61	Pass	Pass	
71022		A4140 Marsh Lane	NB	788	611	-177	6.69	1 455	1 400	622	-166	6.24	1 455	1 455	
71010		A410 The Broadway	WB	926	671	-256	9.04			663	-263	9.33			
71010		Dennis Lane	NB	331	333	2	0.09	Pass	Pass	341	10	0.55	Pass	Pass	
71010		A410 London Road	EB	887	847	-40	1.35	Pass	Pass	847	-40	1.37	Pass	Pass	
71010		A4140 Marsh Lane	SB	713	662	-51	1.94	Pass	Pass	655	-58	2.21	Pass	Pass	
71070		A4006 Kenton Road (w)	EB	896	783	-113	3.91	Pass	Pass	791	-105	3.61	Pass	Pass	
95686		A4140 Honeypot Lane	SB	962	926	-36	1.18	Pass	Pass	908	-54	1.77	Pass	Pass	
95688		A4006 Kingsbury Road (e)	WB	633	580	-52	2.12	Pass	Pass	583	-50	2.02	Pass	Pass	
70016		A4140 Fryent Way	NB	819	803	-15	0.54	Pass	Pass	815	-30	0.12	Pass	Pass	
70010	70010	The Mall	NB	736	674	-62	2.32	Pass	Pass	677	-59	2.22	Pass	Pass	
70210		A4006 Kenton Road (w)	WB	686	647	-39	1.50	Pass	Pass	649	-37	1.42	Pass	Pass	
70010		A4140 Honeypot Lane	NB	725	699	-26	0.98	Pass	Pass	694	-31	1.16	Pass	Pass	
70010		A4006 Kingsbury Road (e)	EB	762	726	-36	1.32	Pass	Pass	734	-28	1.03	Pass	Pass	
70010		A4140 Fryent Way	SB	1319	1311	-30 -7	0.20	Pass	Pass	1305	-20	0.38	Pass	Pass	
70010	70016	The Mall	SB	554	359	-7 -195	9.11	F455	F d 5 5	374	-14	8.35	F455	F455	
70010		A4006 Kingsbury Road (E)	WB	722	668	-195	2.07	Pass	Pass	647	-75	2.87	Pass	Pass	
95594	70012	B454 Church Lane	NB	541	498	-54 -43	1.88	Pass	Pass	498	-75	1.88	Pass	Pass	
95594	70012	A4006 Kingsbury Road (W)	EB	1076	1058	- <del>4</del> 3	0.54	Pass	Pass	1061	-43 -15	0.46	Pass	Pass	
70012		A4006 Kingsbury Road (W)	EB	949	884	-16 -65	2.14	Pass	Pass	893	-15	1.84	Pass	Pass	
70012			SB	633	612	-05 -21	0.85			603	-30	1.04	Pass		
70012	95594	B454 Church Lane	28	<b>633</b>	612	-21	0.85	Pass	Pass	603	-30	1.20	Pass	Pass	

Table A.1 Overall Area Comparison of Observed flows, Modelled Flows and Modified Model Flows (with network changes) for Morning Peak Hour

70012 95764 A4006 Kingsbu	v Road (W) WB	757	728	-29	1.07	Pass	Pass	709	-48	1.78	Pass	Pass
90358 72173 A5 The Hyde(n	SB	970	900	-70	2.28	Pass	Pass	883	-87	2.86	Pass	Pass
	NB	918	821	-70				819	-99	3.35		
95169 72173 A5 The Hyde(s)					3.28	Pass	Pass				Pass	Pass
95163 72173 A4006 Kingsbu		605	543	-62	2.61	Pass	Pass	548	-57	2.37	Pass	Pass
72173 90358 A5 The Hyde(n)	NB	769	711	-58	2.12	Pass	Pass	703	-66	2.43	Pass	Pass
72173 95169 A5 The Hyde(s)	SB	1099	1017	-82	2.52	Pass	Pass	1033	-66	2.01	Pass	Pass
72173 95163 A4006 Kingsbu		592	536	-56	2.37	Pass	Pass	513	-79	3.37	Pass	Pass
72176 72169 A41 Watford W		1928	1802	-126	2.91	Pass	Pass	1809	-119	2.74	Pass	Pass
72259 72169 A504 Station R		499	485	-14	0.65	Pass	Pass	490	-9	0.40	Pass	Pass
95720 72169 A41 Watford Water	ay(n) SB	2474	2254	-220	4.53	Pass	Pass	2254	-220	4.53	Pass	Pass
90368 72169 A504 The Burro	ughs WB	733	679	-54	2.03	Pass	Pass	676	-57	2.13	Pass	Pass
72169 72176 A41 Watford W	ay(s) SB	2131	1926	-205	4.56	Pass	Pass	1932	-199	4.42	Pass	Pass
72169 72259 A504 Station Re	oad WB	524	397	-126	5.88			396	-128	5.95		
72169 72164 A41 Watford W		2257	2186	-71	1.52	Pass	Pass	2193	-64	1.36	Pass	Pass
72169 90368 A504 The Burro		721	651	-70	2.68	Pass	Pass	650	-71	2.72	Pass	Pass
72149 72154 A5 Edgware Ro		1313	1276	-37	1.04	Pass	Pass	1270	-43	1.20	Pass	Pass
90337 72154 A5150 Colindee		531	542	11	0.46	Pass	Pass	533	2	0.07	Pass	Pass
72162 72154 A5 Edgware Ro		1074	983	-91	2.82	Pass	Pass	984	-90	2.80	Pass	Pass
	EB	18	12		1.46			12		1.55		
				-6 -44		Pass	Pass		-6		Pass	Pass
72154 72149 A5 Edgware Ro		1182	1137		1.30	Pass	Pass	1129	-53	1.55	Pass	Pass
72154 90337 A5150 Colindee		619	631	12	0.47	Pass	Pass	631	12	0.48	Pass	Pass
72154 72162 A5 Edgware Ro		972	931	-40	1.31	Pass	Pass	960	-12	0.37	Pass	Pass
72154 95739 Windover Lane	WB	112	114	2	0.17	Pass	Pass	81	-31	3.16	Pass	Pass
95063 72149 A5 Edgware Ro		1055	956	-99	3.12	Pass	Pass	980	-75	2.36	Pass	Pass
90309 72149 Colindale Avenu	ie WB	446	444	-2	0.11	Pass	Pass	428	-18	0.88	Pass	Pass
72149 95063 A5 Edgware Ro		796	747	-49	1.75	Pass	Pass	736	-60	2.17	Pass	Pass
72149 90309 Colindale Avenu	ie EB	523	511	-12	0.53	Pass	Pass	530	7	0.31	Pass	Pass
90049 72141 Eagle Drive	SB	106	116	10	0.99	Pass	Pass	116	10	0.95	Pass	Pass
90033 72141 Grahame Park	Vav WB	783	731	-52	1.90	Pass	Pass	776	-7	0.25	Pass	Pass
90320 72141 Aerodrome Roa		499	611	112	4.75	Pass		599	100	4.28	Pass	
90024 72141 Colindale Avenu		645	614	-31	1.22	Pass	Pass	654	9	0.36	Pass	Pass
72141 90049 Eagle Drive	NB	41	75	34	4.42	Pass	Pass	75	34	4.46	Pass	Pass
72141 90033 Grahame Park		610	605	-5	0.22	Pass	Pass	598	-12	0.50	Pass	Pass
72141 90320 Aerodrome Roa		561	582	21	0.88	Pass	Pass	577	16	0.66	Pass	Pass
		820	810	-10	0.34	Pass		896	76	2.60	Pass	Pass
							Pass					
72102 72104 Bunns Lane(n)	SB	932	858	-75	2.49	Pass	Pass	860	-72	2.42	Pass	Pass
90018 72104 Woodcroft Aver		303	299	-3	0.19	Pass	Pass	295	-8	0.43	Pass	Pass
72106 72104 Bunns Lane(s)	EB	810	677	-132	4.85	Pass		665	-145	5.33	_	
72104 72102 Bunns Lane(n)	NB	668	574	-94	3.78	Pass	Pass	565	-103	4.14	Pass	
72104 90018 Woodcroft Aver		335	317	-18	1.01	Pass	Pass	298	-37	2.08	Pass	Pass
72104 72106 Bunns Lane(s)	WB	1042	944	-98	3.11	Pass	Pass	957	-85	2.68	Pass	Pass
72267 72122 Watling Avenue		185	96	-88	7.45		Pass	95	-90	7.59		Pass
90011 72122 Cressingham R		107	96	-11	1.07	Pass	Pass	90	-17	1.66	Pass	Pass
95403 72122 Watling Avenue	(n) WB	496	456	-39	1.81	Pass	Pass	456	-40	1.81	Pass	Pass
90085 72122 Montrose Aven	ie NB	294	283	-11	0.63	Pass	Pass	267	-27	1.61	Pass	Pass
72122 72267 Watling Avenue	(s) WB	257	229	-27	1.75	Pass	Pass	212	-45	2.91	Pass	Pass
72122 90011 Cressingham R		117	113	-4	0.37	Pass	Pass	112	-5	0.42	Pass	Pass
72122 95403 Watling Avenue		286	247	-39	2.42	Pass	Pass	247	-39	2.41	Pass	Pass
72122 90085 Montrose Avenu	\ /	422	343	-79	4.02	Pass	Pass	336	-86	4.39	Pass	Pass
95219 95728 A5 Burnt Oak B		788	697	-91	3.34	Pass	Pass	701	-87	3.18	Pass	Pass
90055 95728 Watling Avenue		381	341	-40	2.13	Pass	Pass	332	-67 -49	2.60	Pass	Pass
95232 72136 A5 Burnt Oak B		605	532	-73	3.07	Pass		527	-49	3.29	Pass	Pass
	EB	335	364	29	1.52		Pass	371	36	1.90		
						Pass	Pass				Pass	Pass
95728 95219 A5 Burnt Oak B		710	607	-103	4.00	Pass	Pass	605	-105	4.08	Pass	Pass
95728 90055 Watling Avenue	EB	345	290	-55	3.11	Pass	Pass	291	-54	3.04	Pass	Pass

Table A.1 Overall Area Comparison of Observed flows, Modelled Flows and Modified Model Flows (with network changes) for Morning Peak Hour

72136 95232 A5 Burnt Oak Broadway(s)	SB	773	716	-57	2.10	Pass	Pass	722	-51	1.87	Pass	Pass
72136   70001   Stag Lane	WB	281	260	-21	1.30	Pass	Pass	252	-29	1.79	Pass	Pass
90105 72118 A5 High Street	SB	875	810	-65	2.24	Pass	Pass	810	-65	2.25	Pass	Pass
90124 72118 A5109 Deansbrook Road	WB	610	589	-21	0.84	Pass	Pass	587	-23	0.92	Pass	Pass
72128 72118 A5 Burnt Oak Broadway	NB	830	695	-135	4.90	Pass		692	-138	5.02		
71156 72118 Camrose Avenue	EB	580	559	-21	0.88	Pass	Pass	556	-24	1.01	Pass	Pass
72118 90105 A5 High Street	NB	893	803	-90	3.11	Pass	Pass	800	-93	3.20	Pass	Pass
72118 90124 A5109 Deansbrook Road	EB	711	674	-36	1.39	Pass	Pass	670	-41	1.55	Pass	Pass
72118 72128 A5 Burnt Oak Broadway	SB	763	670	-93	3.46	Pass	Pass	673	-90	3.36	Pass	Pass
72118 71156 Camrose Avenue	WB	529	494	-34	1.52	Pass	Pass	490	-39	1.71	Pass	Pass
95293 72105 A5 High Street (N)	SB	846	834	-12	0.42	Pass	Pass	836	-10	0.33	Pass	Pass
95293 72105 A5 High Street (N) 95286 72105 A5100 Station Road	WB	531	447	-12	3.82			445	-86	3.91		_
90105 72105 A5 High Street (S)	NB	948	843	-04	3.49	Pass Pass	Pass Pass	841	-107	3.57	Pass Pass	Pass Pass
				-104								
95282 72105 B461 Whitchurch Lane	EB	626	562		2.64	Pass	Pass	560	-66	2.72	Pass	Pass
72105 95293 A5 High Street (N)	NB	750	715	-35	1.29	Pass	Pass	715	-35	1.30	Pass	Pass
72105 95286 A5100 Station Road	EB	510	394	-116	5.45		_	391	-119	5.60		<u> </u>
72105 90105 A5 High Street (S)	SB	1142	1058	-84	2.54	Pass	Pass	1057	-85	2.55	Pass	Pass
72105 95282 B461 Whitchurch Lane	WB	550	519	-31	1.32	Pass	Pass	518	-32	1.36	Pass	Pass
99973 72085 A5109 Deans Lane	NB	566	603	37	1.54	Pass	Pass	600	34	1.42	Pass	Pass
95308 72085 A5100 Hale Lane(w)	EB	689	642	-47	1.82	Pass	Pass	641	-48	1.84	Pass	Pass
95316 72085 A5109 Selvage Lane	SB	628	623	-5	0.20	Pass	Pass	625	-3	0.11	Pass	Pass
99972 72085 A5100 Hale Lane(e)	WB	410	388	-22	1.12	Pass	Pass	382	-28	1.41	Pass	Pass
72085 99973 A5109 Deans Lane	SB	764	699	-65	2.41	Pass	Pass	699	-65	2.39	Pass	Pass
72085 95308 A5100 Hale Lane(w)	WB	535	511	-24	1.05	Pass	Pass	508	-27	1.19	Pass	Pass
72085 95316 A5109 Selvage Lane	NB	420	572	152	6.81			566	146	6.56		
72085 99972 A5100 Hale Lane(e)	EB	573	473	-100	4.35	Pass	Pass	474	-99	4.32	Pass	Pass
95458 95755 A41 Edgware Way	EB	2053	1985	-68	1.51	Pass	Pass	1982	-71	1.57	Pass	Pass
72280 95758 A1 Barnet Way	SB	1897	1938	42	0.95	Pass	Pass	1938	41	0.94	Pass	Pass
72281 95761 A1 Barnet Bypass	WB	2173	1997	-176	3.86	Pass	Pass	2004	-169	3.70	Pass	Pass
72239 72073 A5019 Selvage Lane	NB	599	682	84	3.31	Pass	Pass	677	78	3.10	Pass	Pass
95755 95458 A41 Edgware Way	WB	1342	1191	-151	4.25	Pass	Pass	1188	-154	4.32	Pass	Pass
95758 72280 A1 Barnet Way	NB	3556	3526	-131	0.49	Pass	Pass	3528	-134	0.46	Pass	Pass
	WB	789	729	-60				727	-62	2.26		
95761 72281 A1 Barnet Bypass					2.18	Pass	Pass				Pass	Pass
72280 95763 A1 Barnet Bypass Filter	SB	1608	1572	-36	0.91	Pass	Pass	1573	-35	0.87	Pass	Pass
72073 72239 A5019 Selvage Lane	SB	1034	1001	-34	1.06	Pass	Pass	1004	-30	0.95	Pass	Pass
75065 75067 A411 Barnet Lane	EB	796	762	-33	1.19	Pass	Pass	759	-37	1.31	Pass	Pass
95740 72037 Stirling Way	SB	219	225	7	0.44	Pass	Pass	225	7	0.44	Pass	Pass
72230 95747 A1 Barnet Bypass	SB	2368	2544	177	3.56	Pass	Pass	2545	178	3.58	Pass	Pass
73156 95751 A411 Barnet Road	WB	632	694	62	2.40	Pass	Pass	695	63	2.43	Pass	Pass
95464 95753 A1 Barnet Way	NB	2617	2583	-34	0.68	Pass	Pass	2585	-32	0.64	Pass	Pass
75067 75065 A411 Barnet Lane	WB	821	837	17	0.58	Pass	Pass	841	20	0.70	Pass	Pass
72037 95740 Stirling Way	NB	149	139	-10	0.83	Pass	Pass	138	-11	0.90	Pass	Pass
95747 72010 A1 Barnet Bypass	NB	2292	2262	-30	0.62	Pass	Pass	2260	-32	0.66	Pass	Pass
95751 73156 A411 Barnet Road	EB	662	620	-42	1.64	Pass	Pass	619	-43	1.70	Pass	Pass
95753 95464 A1 Barnet Way	SB	2708	2633	-74	1.44	Pass	Pass	2635	-73	1.41	Pass	Pass
95232 90023 A5 Burnt Oak Broadway	SB	775	720	-55	2.02	Pass	Pass	722	-53	1.93	Pass	Pass
90065 90023 Montrose Avenue	WB	446	404	-42	2.05	Pass	Pass	402	-44	2.14	Pass	Pass
70002 90023 A5 Edgware Road	NB	783	715	-68	2.50	Pass	Pass	711	-72	2.63	Pass	Pass
90023 95232 A5 Burnt Oak Broadway	NB	601	488	-113	4.83	Pass		483	-118	5.06		1 4400
90023 90065 Montrose Avenue	EB	326	315	-11	0.60	Pass	Pass	323	-3	0.14	Pass	Pass
90023 70002 A5 Edgware Road	SB	1077	988	-89	2.78	Pass	Pass	982	-95	2.97	Pass	Pass
72129 72132 A1 North	SB	3100	2917	-183	3.33	Pass	Pass	2919	-181	3.29	Pass	Pass
72132 72132 AT NORTH	WB	2350	2129	-103	4.69	Pass	Pass	2177	-173	3.64	Pass	
72132 72129 A41 Watioid Way 72137 95734 A1 South	VVD	2330		-222		rass	газэ					Pass
	ND	760	024	GE.	2 20	Door	Dooo	052	0.4	2.06	Door	
72137 99734 AT South	NB NB	769 1254	834 1218	65 -36	2.30 1.04	Pass Pass	Pass Pass	853 1207	-47	2.96 1.34	Pass Pass	Pass Pass

Table A.1 Overall Area Comparison of Observed flows, Modelled Flows and Modified Model Flows (with network changes) for Morning Peak Hour

95734	95351	A41 Watford Way	EB	1964	1837	-127	2.92	Pass	Pass	1840	-124	2.85	Pass	Pass
72146	95734	A1 South	SB	1700	1433	-268	6.76			1453	-247	6.23		Pass
99698	70029	A5 Edgware Road (S)	SB	909	848	-61	2.07	Pass	Pass	845	-64	2.17	Pass	Pass
99725	99699	A406 North Circular Road (W)	NB	750	742	-9	0.32	Pass	Pass	745	-5	0.20	Pass	Pass
99720	70027	A5 Edgware Road (N)	WB	1878	1706	-172	4.07	Pass	Pass	1615	-263	6.29		Pass
99726	99721	A406 North Circular Road (E)	EB	1356	1246	-110	3.06	Pass	Pass	1128	-228	6.48		
99722	99724	A5 Edgware Road (S)	NB	657	621	-36	1.41	Pass	Pass	617	-40	1.57	Pass	Pass
72206	99696	A406 North Circular Road (W)	SB	907	870	-37	1.23	Pass	Pass	876	-31	1.03	Pass	Pass
99723	99849	A5 Edgware Road (N)	EB	1852	1772	-79	1.86	Pass	Pass	1765	-87	2.04	Pass	Pass
99690	99697	A406 North Circular Road (E)	WB	2282	2089	-193	4.13	Pass	Pass	2094	-188	4.02	Pass	Pass
95723	95725	Colindeep Lane	NB	243	248	5	0.34	Pass	Pass	247	4	0.26	Pass	Pass
95723	95724	Colindeep Lane	EB	559	554	-5	0.20	Pass	Pass	556	-3	0.12	Pass	Pass
72164	95721	A41 N/B Off Slip	WB	759	768	9	0.33	Pass	Pass	759	0	0.01	Pass	Pass
95722	95723	Colindeep Lane	EB	802	802	1	0.02	Pass	Pass	803	1	0.04	Pass	Pass
95729	73171	Lawrence Street	NB	281	265	-16	0.99	Pass	Pass	259	-22	1.34	Pass	Pass
73171	95729	A1 Barnet Bypass (S)	SB	580	615	35	1.42	Pass	Pass	613	33	1.35	Pass	Pass
95730	95732	The Broadway	EB	2538	2353	-185	3.74	Pass	Pass	2348	-190	3.84	Pass	Pass
95732	95731	A1 Barnet Bypass (N)	WB	1944	1576	-368	8.78			1576	-368	8.78		
95311	72088	Lawrence Street	SB	702	481	-221	9.10			487	-215	8.81		
72088	95311	A1 Barnet Bypass (S)	NB	545	527	-18	0.78	Pass	Pass	537	-8	0.34	Pass	Pass
95733	95320	The Broadway	WB	1745	1636	-110	2.67	Pass	Pass	1647	-98	2.39	Pass	Pass
72281	72084	A1 Barnet Bypass (N)	EB	2197	2301	104	2.19	Pass	Pass	2300	103	2.18	Pass	Pass
99669	72198	A406 North Circular Road (S)	SB	1533	1413	-120	3.12	Pass	Pass	1445	-88	2.28	Pass	Pass
72198	99667	A41 Hendon Way (N)	NB	1978	2239	261	5.68		Pass	2238	260	5.67		Pass
99667	99674	A406 North Circular Road (N)	WB	956	849	-107	3.57	Pass	Pass	859	-97	3.23	Pass	Pass
99675	99666	A41 Hendon Way (S)	EB	904	663	-241	8.59			671	-233	8.30		
99666	99673	A406 North Circular Road (S)	NB	283	300	17	0.99	Pass	Pass	301	18	1.03	Pass	Pass
99672	99668	A41 Hendon Way (N)	SB	366	198	-168	10.00			204	-162	9.60		
99668	72192	A406 North Circular Road (N)	EB	1384	1357	-27	0.73	Pass	Pass	1347	-37	1.00	Pass	Pass
99671	99669	A41 Hendon Way (S)	WB	909	862	-47	1.60	Pass	Pass	882	-27	0.91	Pass	Pass
95743	95744	Russell Road	SB	82	147	65	6.10		Pass	106	24	2.48	Pass	Pass
95744	95743	Russell Road	NB	35	1	-34	8.15		Pass	5	-30	6.71		Pass
95742	72185	Willberforce Road	SB	437	343	-94	4.76	Pass	Pass	299	-138	7.19		
72178	72185	Station Road	WB	408	607	199	8.84			580	172	7.74		
72185	72178	Station Road	EB	568	695	127	5.05			515	-53	2.28	Pass	Pass
95557	72196	Park Road	WB	179	92	-87	7.43		Pass	154	-25	1.94	Pass	Pass
72196	95557	Park Road	EB	20	79	59	8.43		Pass	61	41	6.44		Pass
72197	72196	A5 West Hendon (S)	NB	679	761	82	3.05	Pass	Pass	629	-50	1.96	Pass	Pass
72196	72197	A5 West Hendon (S)	SB	1052	1185	133	3.98	Pass	Pass	1154	102	3.07	Pass	Pass

A-Node	B-Node	Site Description	Direction	Observed Flow	Modelled Flow (HYDER)	Difference	GEH	DMRB G	uidelines	Modelled Flow (CB WITH CHANGES)	Difference	GEH	DMRE	3 Guidelines
				Flows (PCUs)	Flows (PCUs)	(PCUs)	Value	GEH	Flows	Flows (PCUs)	(PCUs)	Value	GEH	Flows
75060	75069	A5183 High Street(n)	SB	461	466	5	0.25	Pass	Pass	465	4	0.19	Pass	Pass
72041	75069	A411 Barnet Lane	WB	719	708	-11	0.40	Pass	Pass	707	-12	0.43	Pass	Pass
95780	75069	A5183 High Street(s)	NB	405	295	-110	5.86			244	-161	8.94		
75068	75069	A411 Watford Road	EB	857	887	30	1.02	Pass	Pass	921	65	2.16	Pass	Pass
75069	75060	A5183 High Street(n)	NB	489	541	52	2.30	Pass	Pass	543	54	2.38	Pass	Pass
75069	72041	A411 Barnet Lane	EB	787	660	-127	4.73	Pass		649	-138	5.15		Pass
75069	95780	A5183 High Street(s)	SB	622	538	-84	3.47	Pass	Pass	537	-85	3.53	Pass	Pass
75069	75068	A411 Watford Road	WB	543	532	-11	0.45	Pass	Pass	532	-11	0.47	Pass	Pass
72049	72043	A41 Edgware Way	WB	558	435	-123	5.53			434	-124	5.58		
95446	72043	A5 Brockley Hill	NB	748	640	-108	4.09	Pass	Pass	639	-109	4.12	Pass	Pass
71001	72043	A41 Watford Bypass	EB	591	605	14	0.58	Pass	Pass	612	21	0.86	Pass	Pass
72043	72050	A41 Edgware Way	EB	562	506	-56	2.44	Pass	Pass	510	-52	2.25	Pass	Pass
72043	95446	A5 Brockley Hill	SB	803	700	-103	3.75	Pass	Pass	706	-97	3.52	Pass	Pass
72043	71001	A41 Watford Bypass	WB	880	901	21	0.70	Pass	Pass	945	65	2.14	Pass	Pass
72229	72069	A41 Edgware Way(n)	SB	1290	1286	-3	0.10	Pass	Pass	1288	-2	0.05	Pass	Pass
72265	72069	A41 Edgware Way(s)	WB	1434	1496	62	1.62	Pass	Pass	1505	71	1.85	Pass	Pass
95285	72069	Green Lane	NB	110	73	-37	3.87	Pass	Pass	73	-37	3.87	Pass	Pass
72075	72069	A410 Spur Road	EB	1279	1149	-130	3.73	Pass	Pass	1144	-135	3.88	Pass	Pass
72069		A41 Edgware Way(n)	NB	1226	1161	-65	1.88	Pass	Pass	1161	-65	1.88	Pass	Pass
72069	72076	A41 Edgware Way(s)	EB	1469	1596	127	3.24	Pass	Pass	1602	133	3.39	Pass	Pass
72069		Green Lane	SB	173	172	-1	0.04	Pass	Pass	172	-1	0.04	Pass	Pass
72069	72075	A410 Spur Road	WB	1125	1076	-49	1.48	Pass	Pass	1075	-50	1.50	Pass	Pass
95264	72075	A410 London Road	EB	1082	974	-109	3.39	Pass	Pass	973	-109	3.41	Pass	Pass
95446	72075	A5 Brockley Hill	SB	499	488	-11	0.52	Pass	Pass	485	-14	0.63	Pass	Pass
95273	72075	A5 Stonegrove	NB	924	899	-24	0.80	Pass	Pass	897	-27	0.88	Pass	Pass
72075	95264	A410 London Road	WB	980	941	-38	1.24	Pass	Pass	942	-38	1.22	Pass	Pass
72075	95446	A5 Brockley Hill	NB	516	615	99	4.15	Pass	Pass	614	98	4.12	Pass	Pass
72075	95273	A5 Stonegrove	SB	734	682	-52	1.97	Pass	Pass	680	-54	2.04	Pass	Pass
71011	71010	A410 The Broadway	EB	956	858	-97	3.23	Pass	Pass	855	-101	3.35	Pass	Pass
95738	71010	Dennis Lane	SB	250	219	-31	2.02	Pass	Pass	219	-31	2.02	Pass	Pass
95264	71010	A410 London Road	WB	1017	991	-26	0.81	Pass	Pass	988	-29	0.90	Pass	Pass
71022	71010	A4140 Marsh Lane	NB	707	659	-48	1.83	Pass	Pass	663	-44	1.67	Pass	Pass
71010	71011	A410 The Broadway	WB	965	870	-95	3.15	Pass	Pass	885	-80	2.63	Pass	Pass
71010	95738	Dennis Lane	NB	236	199	-37	2.51	Pass	Pass	195	-41	2.79	Pass	Pass
71010	95264	A410 London Road	EB	1003	919	-84	2.70	Pass	Pass	915	-88	2.84	Pass	Pass
71010	71022	A4140 Marsh Lane	SB	725	740	15	0.54	Pass	Pass	729	4	0.14	Pass	Pass
71070		A4006 Kenton Road (w)	EB	614	517	-96	4.04	Pass	Pass	521	-93	3.88	Pass	Pass
95686	70010	A4140 Honeypot Lane	SB	977	896	-80	2.62	Pass	Pass	893	-84	2.73	Pass	Pass
95688	70010	A4006 Kingsbury Road (e)	WB	785	804	19	0.66	Pass	Pass	794	9	0.32	Pass	Pass
70016	70010	A4140 Fryent Way	NB	1104	1100	-4	0.13	Pass	Pass	1099	-5	0.15	Pass	Pass
70210	70010	The Mall	NB	413	363	-49	2.50	Pass	Pass	361	-52	2.62	Pass	Pass
70010	71070	A4006 Kenton Road (w)	WB	1010	801	-209	6.94			801	-209	6.95		Pass
70010	95686	A4140 Honeypot Lane	NB	871	892	22	0.73	Pass	Pass	893	23	0.76	Pass	Pass
70010		A4006 Kingsbury Road (e)	EB	569	560	-8	0.35	Pass	Pass	582	14	0.56	Pass	Pass
70010	70016	A4140 Fryent Way	SB	909	907	-2	0.07	Pass	Pass	878	-31	1.04	Pass	Pass
70010		The Mall	SB	534	487	-47	2.07	Pass	Pass	483	-51	2.24	Pass	Pass

Table A.2 Overall Area Comparison of Observed, Modelled Flows and Modified Model Flows (with network changes) for Evening Peak Hour

		•	7								_
70014 70012 A4006 Kingsbury F		719	676	-43	1.63	Pass	Pass	687	-32	1.21 Pass	Pass
95594 70012 B454 Church Lane	NB	643	610	-33	1.31	Pass	Pass	615	-28	1.10 Pass	Pass
95764 70012 A4006 Kingsbury F	oad (W) EB	806	802	-4	0.14	Pass	Pass	816	10	0.35 Pass	Pass
70012 70014 A4006 Kingsbury F	oad (E) EB	761	735	-26	0.94	Pass	Pass	759	-2	0.05 Pass	Pass
70012 95594 B454 Church Lane	SB	507	446	-61	2.81	Pass	Pass	457	-50	2.28 Pass	
70012 95764 A4006 Kingsbury F		900	907	7	0.23	Pass	Pass	903	3	0.10 Pass	Pass
90358 72173 A5 The Hyde(n)	SB	865	739	-126	4.43	Pass	Pass	752	-113	3.97 Pass	
95169 72173 A5 The Hyde(II)	NB	1214	1140	-74	2.15	Pass	Pass	1136	-78	2.26 Pass	Pass
95163 72173 A4006 Kingsbury F		556	508	-48	2.09	Pass	Pass	519	-37	1.60 Pass	Pass
72173 90358 A5 The Hyde(n)	NB	983	898	-85	2.77	Pass	Pass	899	-84	2.72 Pass	
72173 95169 A5 The Hyde(s)	SB	1004	928	-76	2.44	Pass	Pass	945	-59	1.89 Pass	Pass
72173 95163 A4006 Kingsbury F		620	561	-58	2.41	Pass	Pass	563	-57	2.32 Pass	Pass
72176 72169 A41 Watford Way(	) NB	2525	2443	-82	1.64	Pass	Pass	2444	-81	1.62 Pass	Pass
72259 72169 A504 Station Road	EB	567	658	91	3.69	Pass	Pass	683	117	4.66 Pass	
95720 72169 A41 Watford Way(	) SB	2141	2080	-61	1.33	Pass	Pass	2103	-38	0.83 Pass	Pass
90368 72169 A504 The Burroug	s WB	704	616	-87	3.40	Pass	Pass	592	-112	4.38 Pass	Pass
72169 72176 A41 Watford Way(		1854	1768	-86	2.01	Pass	Pass	1738	-116	2.73 Pass	Pass
72169 72259 A504 Station Road	WB	383	334	-49	2.56	Pass	Pass	352	-31	1.59 Pass	Pass
72169 72164 A41 Watford Way(		3054	3077	24	0.43	Pass	Pass	3091	37	0.67 Pass	
72169 90368 A504 The Burroug		646	605	-41	1.65	Pass	Pass	631	-15	0.59 Pass	Pass
72149 72154 A5 Edgware Road		1212	1127	-85	2.48	Pass	Pass	1114	-15	2.88 Pass	Pass
		641									
			605	-36	1.43	Pass	Pass	603	-38	1.50 Pass	
72162 72154 A5 Edgware Road		1020	1002	-17	0.54	Pass	Pass	1010	-10	0.30 Pass	Pass
95739 72154 Windover Lane	EB	130	81	-49	4.77	Pass	Pass	81	-49	4.73 Pass	
72154 72149 A5 Edgware Road		1359	1260	-99	2.73	Pass	Pass	1256	-103	2.83 Pass	
72154 90337 A5150 Colindeep L		537	517	-20	0.85	Pass	Pass	533	-4	0.17 Pass	Pass
72154 72162 A5 Edgware Road	s) NB	1055	980	-75	2.35	Pass	Pass	984	-71	2.24 Pass	Pass
72154 95739 Windover Lane	WB	56	58	2	0.30	Pass	Pass	35	-21	3.05 Pass	Pass
95063 72149 A5 Edgware Road	N) SB	927	854	-72	2.43	Pass	Pass	1019	92	2.95 Pass	Pass
90309 72149 Colindale Avenue	WB	426	401	-25	1.24	Pass	Pass	355	-71	3.60 Pass	Pass
72149 95063 A5 Edgware Road	S) NB	1083	988	-94	2.93	Pass	Pass	939	-144	4.51 Pass	Pass
72149 90309 Colindale Avenue	EB	422	399	-22	1.09	Pass	Pass	578	157	7.00	
90049 72141 Eagle Drive	SB	60	60	1	0.10	Pass	Pass	60	1	0.06 Pass	Pass
90033 72141 Grahame Park Wa	WB	565	553	-12	0.53	Pass	Pass	628	63	2.57 Pass	
90320 72141 Aerodrome Road	NB	719	798	79	2.87	Pass	Pass	807	88	3.19 Pass	Pass
90024 72141 Colindale Avenue	EB	639	604	-35	1.39	Pass	Pass	599	-40	1.61 Pass	
72141 90049 Eagle Drive	NB	65	65	0	0.01	Pass	Pass	65	0	0.00 Pass	Pass
72141 90033 Grahame Park Wa		800	762	-39	1.39	Pass	Pass	761	-39	1.41 Pass	Pass
72141 90320 Aerodrome Road	SB	383	396	13	0.66	Pass	Pass	396	13	0.66 Pass	
72141 90024 Colindale Avenue	WB	735	793	59	2.12	Pass	Pass	873	139	4.89 Pass	Pass
72102 72104 Bunns Lane(n)	SB	898	845	-52	1.77	Pass	Pass	838	-60	2.03 Pass	Pass
90018 72104 Woodcroft Avenue	NB	299	303	4	0.22	Pass	Pass	315	16	0.91 Pass	
72106 72104 Bunns Lane(s)	EB	974	1005	31	0.98	Pass	Pass	980	6	0.20 Pass	Pass
72104 72102 Bunns Lane(n)	NB	876	752	-124	4.36	Pass	Pass	750	-126	4.41 Pass	
72104 90018 Woodcroft Avenue	SB	358	415	57	2.90	Pass	Pass	374	17	0.86 Pass	
72104 72106 Bunns Lane(s)	WB	937	987	50	1.60	Pass	Pass	1010	73	2.33 Pass	Pass
72267 72122 Watling Avenue(s)	EB	206	120	-85	6.69		Pass	120	-86	6.70	Pass
90011 72122 Cressingham Road	SB	62	61	0	0.03	Pass	Pass	65	4	0.44 Pass	Pass
95403 72122 Watling Avenue(n)	WB	374	350	-24	1.24	Pass	Pass	336	-38	2.02 Pass	Pass
90085 72122 Montrose Avenue	NB	366	360	-6	0.29	Pass	Pass	349	-17	0.90 Pass	Pass
72122 72267 Watling Avenue(s)	WB	211	167	-44	3.17	Pass	Pass	154	-57	4.22 Pass	Pass
72122 90011 Cressingham Road	NB	99	124	26	2.42	Pass	Pass	124	26	2.42 Pass	Pass
72122 95403 Watling Avenue(n)	EB	383	353	-30	1.55	Pass	Pass	355	-28	1.43 Pass	
72122 90085 Montrose Avenue	SB	315	248	-67	3.99	Pass	Pass	238	-77	4.63 Pass	Pass
95219 95728 A5 Burnt Oak Broa		789	733	-56	2.02	Pass	Pass	746	-43	1.56 Pass	Pass
90055 95728 Watling Avenue	WB	345	293	-52	2.90	Pass	Pass	290	-55	3.06 Pass	
JULIU WALLING AVEILUE	WD	070	233	-52	2.00	1 000	1 000	200	-55	0.00 i ass	1 033

Table A.2 Overall Area Comparison of Observed, Modelled Flows and Modified Model Flows (with network changes) for Evening Peak Hour

05000   70400   A5 D   O-1-D	ND	750	005	00	0.54	D	D	200	70	0.04		Deres
95232 72136 A5 Burnt Oak Broadway(s)	NB	753	685	-68	2.54	Pass	Pass	683	-70		Pass	Pass
70001 72136 Stag Lane	EB	296	271	-25	1.50	Pass	Pass	275	-21		Pass	Pass
95728 95219 A5 Burnt Oak Broadway(n)	NB	829	727	-102	3.64	Pass	Pass	726	-103	3.69 F	Pass	Pass
95728 90055 Watling Avenue	EB	345	298	-47	2.60	Pass	Pass	281	-64	3.59 F	Pass	Pass
72136 95232 A5 Burnt Oak Broadway(s)	SB	702	616	-86	3.34	Pass	Pass	643	-59	2.28	Pass	Pass
72136 70001 Stag Lane	WB	307	280	-27	1.57	Pass	Pass	284	-23	1.34 F	Pass	Pass
90105 72118 A5 High Street	SB	876	743	-133	4.67	Pass		744	-132		Pass	Pass
90124 72118 A5109 Deansbrook Road	WB	764	816	53	1.87	Pass	Pass	822	59		Pass	Pass
72128 72118 A5 Burnt Oak Broadway	NB	870	739	-130	4.60	Pass	Pass	739	-131		Pass	Pass
	EB			-130								
		574	576		0.09	Pass	Pass	572	-2		Pass	Pass
72118 90105 A5 High Street	NB	967	917	-50	1.64	Pass	Pass	916	-51		Pass	Pass
72118 90124 A5109 Deansbrook Road	EB	693	634	-58	2.27	Pass	Pass	619	-74		Pass	Pass
72118 72128 A5 Burnt Oak Broadway	SB	756	633	-123	4.66	Pass		647	-109	4.13	Pass	Pass
72118 71156 Camrose Avenue	WB	667	634	-33	1.29	Pass	Pass	639	-28	1.08 F	Pass	Pass
95293 72105 A5 High Street (N)	SB	674	618	-56	2.22	Pass	Pass	615	-59	2.33 F	Pass	Pass
95286 72105 A5100 Station Road	WB	713	612	-101	3.92	Pass	Pass	612	-101	3.92	Pass	Pass
90105 72105 A5 High Street (S)	NB	1234	1168	-66	1.91	Pass	Pass	1169	-65		Pass	Pass
95282 72105 B461 Whitchurch Lane	EB	510	480	-30	1.37	Pass	Pass	481	-29		Pass	Pass
72105 95293 A5 High Street (N)	NB	818	806	-11	0.39	Pass	Pass	804	-14		Pass	Pass
5												
72105 95286 A5100 Station Road	EB	506	453	-52	2.39	Pass	Pass	458	-48		Pass	Pass
72105 90105 A5 High Street (S)	SB	1067	938	-129	4.07	Pass	Pass	939	-128		Pass	Pass
72105 95282 B461 Whitchurch Lane	WB	741	680	-61	2.30	Pass	Pass	677	-64		Pass	Pass
99973 72085 A5109 Deans Lane	NB	596	565	-31	1.28	Pass	Pass	565	-31	1.29 F	Pass	Pass
95308 72085 A5100 Hale Lane(w)	EB	567	536	-31	1.32	Pass	Pass	538	-29	1.23 F	Pass	Pass
95316 72085 A5109 Selvage Lane	SB	684	703	20	0.74	Pass	Pass	705	22	0.82 F	Pass	Pass
99972 72085 A5100 Hale Lane(e)	WB	624	524	-100	4.19	Pass		528	-96	4.01	Pass	Pass
72085 99973 A5109 Deans Lane	SB	772	714	-58	2.12	Pass	Pass	719	-53		Pass	Pass
72085 95308 A5100 Hale Lane(w)	WB	765	778	13	0.48	Pass	Pass	779	15		Pass	Pass
72085 95316 A5109 Selvage Lane	NB	394	387	-6	0.33	Pass	Pass	389	-5		Pass	Pass
72085 99972 A5100 Hale Lane(e)	EB	541	449	-92	4.12	Pass	Pass	448	-93		Pass	Pass
95458 95755 A41 Edgware Way	EB	1485	1484	-1	0.03	Pass	Pass	1487	2		Pass	Pass
72280 95758 A1 Barnet Way	SB	1726	1728	2	0.05	Pass	Pass	1729	3		Pass	Pass
72281 95761 A1 Barnet Bypass	WB	2814	2598	-216	4.15	Pass	Pass	2599	-215		Pass	Pass
72239 72073 A5019 Selvage Lane	NB	533	532	0	0.01	Pass	Pass	532	-1	0.02	Pass	Pass
95755 95458 A41 Edgware Way	WB	1610	1450	-160	4.09	Pass	Pass	1450	-160	4.09 F	Pass	Pass
95758 72280 A1 Barnet Way	NB	3648	3600	-48	0.80	Pass	Pass	3600	-48	0.80 F	Pass	Pass
95761 72281 A1 Barnet Bypass	WB	417	396	-20	1.00	Pass	Pass	396	-21		Pass	Pass
72280 95763 A1 Barnet Bypass Filter	SB	1126	1168	42	1.24	Pass	Pass	1169	43		Pass	Pass
72073 72239 A5019 Selvage Lane	SB	883	817	-67	2.28	Pass	Pass	819	-64		Pass	Pass
	EB		995					994				Pass
75065 75067 A411 Barnet Lane		1015		-21	0.65	Pass	Pass		-21		Pass	
95740 72037 Stirling Way	SB	139	141	3	0.24	Pass	Pass	141	3		Pass	Pass
72230 95747 A1 Barnet Bypass	SB	2229	2168	-62	1.31	Pass	Pass	2167	-62		Pass	Pass
73156 95751 A411 Barnet Road	WB	787	795	8	0.29	Pass	Pass	793	7		Pass	Pass
95464 95753 A1 Barnet Way	NB	2906	2874	-32	0.59	Pass	Pass	2876	-30	0.55 F	Pass	Pass
75067 75065 A411 Barnet Lane	WB	1108	1092	-15	0.46	Pass	Pass	1092	-16	0.47	Pass	Pass
72037 95740 Stirling Way	NB	69	74	5	0.65	Pass	Pass	75	7	0.77 F	Pass	Pass
95747 72010 A1 Barnet Bypass	NB	2671	2656	-15	0.28	Pass	Pass	2655	-16		Pass	Pass
95751 73156 A411 Barnet Road	EB	676	621	-55	2.15	Pass	Pass	618	-58		Pass	Pass
95753 95464 A1 Barnet Way	SB	2553	2529	-24	0.47	Pass	Pass	2531	-22		Pass	Pass
95753 95464 AT Barnet Way 95232 90023 A5 Burnt Oak Broadway	SB	2553 711	635	-24	2.93			659	-52		Pass	Pass
						Pass	Pass					
90065 90023 Montrose Avenue	WB	461	506	45	2.04	Pass	Pass	521	60		Pass	Pass
70002 90023 A5 Edgware Road	NB	1041	953	-88	2.79	Pass	Pass	973	-68		Pass	Pass
90023 95232 A5 Burnt Oak Broadway	NB	769	675	-94	3.48	Pass	Pass	676	-93		Pass	Pass
90023 90065 Montrose Avenue	EB	418	398	-20	0.98	Pass	Pass	419	1		Pass	Pass
90023 70002 A5 Edgware Road	SB	1026	973	-52	1.66	Pass	Pass	1012	-14	0.43 F	Pass	Pass
72129 72132 A1 North	SB	2387	2316	-70	1.45	Pass	Pass	2314	-73	1.50 F	Pass	Pass

Table A.2 Overall Area Comparison of Observed, Modelled Flows and Modified Model Flows (with network changes) for Evening Peak Hour

72132	72129	A41 Watford Way	WB	3097	2821	-275	5.06		Pass	2821	-276	5.07		Pass
72137	95734	A1 South	NB	1003	965	-38	1.21	Pass	Pass	964	-39	1.25	Pass	Pass
72132	72135	A1 North	NB	859	807	-52	1.79	Pass	Pass	804	-55	1.89	Pass	Pass
95734	95351	A41 Watford Way	EB	1568	1586	18	0.46	Pass	Pass	1587	19	0.48	Pass	Pass
72146	95734	A1 South	SB	2133	2106	-28	0.60	Pass	Pass	2109	-24	0.53	Pass	Pass
99698	70029	A5 Edgware Road (S)	SB	764	746	-17	0.63	Pass	Pass	743	-21	0.75	Pass	Pass
99725	99699	A406 North Circular Road (W)	NB	1114	1086	-27	0.83	Pass	Pass	1098	-16	0.47	Pass	Pass
99720	70027	A5 Edgware Road (N)	WB	1377	1304	-73	2.00	Pass	Pass	1309	-68	1.86	Pass	Pass
99726	99721	A406 North Circular Road (E)	EB	1482	1417	-65	1.70	Pass	Pass	1404	-78	2.05	Pass	Pass
99722	99724	A5 Edgware Road (S)	NB	654	611	-43	1.70	Pass	Pass	613	-41	1.63	Pass	Pass
72206	99696	A406 North Circular Road (W)	SB	826	817	-9	0.32	Pass	Pass	819	-7	0.24	Pass	Pass
99723	99849	A5 Edgware Road (N)	EB	2525	2430	-95	1.92	Pass	Pass	2418	-107	2.15	Pass	Pass
99690	99697	A406 North Circular Road (E)	WB	1899	1771	-128	2.99	Pass	Pass	1761	-138	3.22	Pass	Pass
95723	95725	Colindeep Lane	NB	177	167	-10	0.76	Pass	Pass	157	-20	1.51	Pass	Pass
95723	95724	Colindeep Lane	EB	534	522	-11	0.49	Pass	Pass	548	15	0.62	Pass	Pass
72164	95721	A41 N/B Off Slip	WB	878	875	-3	0.10	Pass	Pass	877	-1	0.03	Pass	Pass
95722	95723	Colindeep Lane	EB	710	689	-21	0.80	Pass	Pass	705	-5	0.19	Pass	Pass
95729	73171	Lawrence Street	NB	478	307	-170	8.60			306	-172	8.66		
73171	95729	A1 Barnet Bypass (S)	SB	537	513	-23	1.01	Pass	Pass	512	-25	1.07	Pass	Pass
95730	95732	The Broadway	EB	2004	1930	-74	1.68	Pass	Pass	1928	-76	1.72	Pass	Pass
95732	95731	A1 Barnet Bypass (N)	WB	2614	2476	-139	2.75	Pass	Pass	2474	-140	2.78	Pass	Pass
95311	72088	Lawrence Street	SB	629	441	-188	8.14			444	-185	8.00		
72088	95311	A1 Barnet Bypass (S)	NB	727	726	-1	0.02	Pass	Pass	730	3	0.12	Pass	Pass
95733	95320	The Broadway	WB	2368	2453	85	1.73	Pass	Pass	2454	86	1.75	Pass	Pass
72281	72084	A1 Barnet Bypass (N)	EB	1602	1564	-38	0.95	Pass	Pass	1566	-36	0.90	Pass	Pass
99669	72198	A406 North Circular Road (S)	SB	1938	1949	11	0.25	Pass	Pass	1896	-42	0.96	Pass	Pass
72198	99667	A41 Hendon Way (N)	NB	1647	1702	55	1.35	Pass	Pass	1675	28	0.68	Pass	Pass
99667	99674	A406 North Circular Road (N)	WB	972	961	-11	0.37	Pass	Pass	950	-22	0.72	Pass	Pass
99675	99666	A41 Hendon Way (S)	EB	993	1006	13	0.41	Pass	Pass	976	-17	0.55	Pass	Pass
99666		A406 North Circular Road (S)	NB	411	321	-90	4.69	Pass	Pass	376	-35	1.75	Pass	Pass
99672	99668	A41 Hendon Way (N)	SB	378	358	-20	1.04	Pass	Pass	373	-5	0.26	Pass	Pass
99668	72192	A406 North Circular Road (N)	EB	1000	1005	4	0.14	Pass	Pass	976	-24	0.78	Pass	Pass
99671	99669	A41 Hendon Way (S)	WB	1303	1256	-47	1.32	Pass	Pass	1275	-28	0.78	Pass	Pass
95743	95744	Russell Road	SB	16	21	5	1.23	Pass	Pass	28	12	2.56	Pass	Pass
95744	95743	Russell Road	NB	26	16	-10	2.27	Pass	Pass	16	-10	2.18	Pass	Pass
95742		Willberforce Road	SB	398	389	-9	0.45	Pass	Pass	388	-10	0.50	Pass	Pass
72178		Station Road	WB	394	313	-81	4.31	Pass	Pass	323	-71	3.75	Pass	Pass
72185	72178	Station Road	EB	611	538	-73	3.04	Pass	Pass	556	-55	2.28	Pass	Pass
95557		Park Road	WB	174	183	9	0.65	Pass	Pass	184	10	0.75	Pass	Pass
72196	95557	Park Road	EB	26	24	-2	0.34	Pass	Pass	39	13	2.28	Pass	Pass
72197	72196	A5 West Hendon (S)	NB	771	668	-103	3.84	Pass	Pass	689	-82	3.03	Pass	Pass
72196		A5 West Hendon (S)	SB	913	960	47	1.53	Pass	Pass	962	49	1.60	Pass	Pass

Table B.1 Core Area Comparison of Modelled Flows and Target Validation Counts for Morning Peak Hour

Location	Description	A_Node	B_Node	Observed Flow	Modelled Flow (HYDER)	GEH (Validation)	GEH	Modelled Flow (with changes CB)	GEH (Validation)	GEH
Site 3 EB	A5100 Hale Lane, Edgware (west of Maxwelton Ave)	99972	90001	552	700.84	5.95		702	5.99	
Site 3 WB	A5100 Hale Lane, Edgware (west of Maxwelton Ave)	90001	99972	411	462.59	2.47	Pass	458	2.25	Pass
Site 4 EB	Watling Avenue, Woodcroft Park (SW of Goldbeaters Gr)	72122	95403	318	246.84	4.23	Pass	247	4.22	Pass
Site 4 WB	Watling Avenue, Woodcroft Park (SW of Goldbeaters Gr)	95403	72122	366	456.12	4.44	Pass	456	4.44	Pass
Site 5 NB	A5 Burnt Oak Broadway (N of North Rd)	72128	72118	808	695.13	4.12	Pass	692	4.24	Pass
Site 5 SB	A5 Burnt Oak Broadway (N of North Rd)	72118	72128	753	670.38	3.10	Pass	673	3.00	Pass
Site 6 NB	Grahame Park Way (W of Great Strand)	90033	90027	516	577.22	2.62	Pass	570	2.32	Pass
Site 6 SB	Grahame Park Way (W of Great Strand)	90027	90033	602	598.47	0.14	Pass	621	0.77	Pass
Site 11 EB	A5150 Colindeep Lane (W of railway bridge)	90335	95722	836	802.49	1.17	Pass	803	1.15	Pass

## Table B.2 Core Area Comparison of Modelled Flows and Target Validation Counts for Evening Peak Hour

Location	Description	A_Node	B_Node	Observed Flow	Modelled Flow (HYDER)	GEH (Validation)	GEH	Modelled Flow (with changes CB)	GEH (Validation)	GEH
Site 3 EB	A5100 Hale Lane, Edgware (west of Maxwelton Ave)	99972	90001	529	638.16	4.52	Pass	635	4.39	Pass
Site 3 WB	A5100 Hale Lane, Edgware (west of Maxwelton Ave)	90001	99972	560	710.73	5.98		714	6.10	
Site 4 EB	Watling Avenue, Woodcroft Park (SW of Goldbeaters Gr)	72122	95403	367	352.83	0.75	Pass	355	0.63	Pass
Site 4 WB	Watling Avenue, Woodcroft Park (SW of Goldbeaters Gr)	95403	72122	350	350.46	0.02	Pass	336	0.76	Pass
Site 5 NB	A5 Burnt Oak Broadway (N of North Rd)	72128	72118	798	739.17	2.12	Pass	739	2.13	Pass
Site 5 SB	A5 Burnt Oak Broadway (N of North Rd)	72118	72128	729	633.41	3.66	Pass	647	3.13	Pass
Site 6 NB	Grahame Park Way (W of Great Strand)	90033	90027	624	714.89	3.51	Pass	715	3.52	Pass
Site 6 SB	Grahame Park Way (W of Great Strand)	90027	90033	419	527.45	4.99	Pass	582	7.29	
Site 11 EB	A5150 Colindeep Lane (W of railway bridge)	90335	95722	734	688.81	1.69	Pass	705	1.08	Pass
Site 11 WB	A5150 Colindeep Lane (W of railway bridge)	95722	90335	864	874.96	0.37	Pass	801	2.18	Pass

Table C.1 Comparison of Original Base Model Flows and the Modified Model (with network changes) for the Morning Peak Hour

Site	Location	Direction	ANODE	BNODE	ORIGINAL BASE	WITH CHANGES	Difference	% Difference
1	Colindale Avenue	Between Annesley Avenue and Pasteur Close (EB)	90309	90299	511	521	10	2%
2	Colindale Avenue	Between Annesley Avenue and Pasteur Close (WB)	90299	90309	447	478	31	7%
3	Colindale Avenue	Between Pasteur Close and Booth Road (EB)	90299	90024	463	459	-4	-1%
4	Colindale Avenue	Between Pasteur Close and Booth Road (WB)	90024	90299	470	487	17	4%
5	Booth Road	Booth Road (NB)	90024	90022	440	411	-29	-7%
6	Booth Road	Booth Road (SB)	90022	90024	250	197	-53	-21%
7	Graham Park Way	Between Lanacre Avenue and Great Strand (EB)	90033	90027	577	570	-7	-1%
8	Graham Park Way	Between Lanacre Avenue and Great Strand (WB)	90027	90033	598	621	23	4%
9	Graham Park Way	Between Great Strand and RAF Hendon (NB)	90027	90323	435	429	-6	-1%
10	Graham Park Way	Between Great Strand and RAF Hendon (SB)	90323	90027	323	345	22	7%
11	Graham Park Way	Between RAF Hendon and Avion Crescent (NB)	90323	90026	437	430	-7	-2%
12	Graham Park Way	Between RAF Hendon and Avion Crescent (SB)	90026	90323	330	352	22	7%
13	Graham Park Way	Between Avion Crescent and Avion Crescent (NB)	90026	90025	437	430	-7	-2%
14	Graham Park Way	Between Avion Crescent and Avion Crescent (SB)	90025	90026	330	352	22	7%
15	Graham Park Way	Between Graham Park Way and Longmead (NB)	90025	90042	437	430	-7	-2%
16	Graham Park Way	Between Graham Park Way and Longmead (SB)	90042	90025	330	352	22	7%
17	Graham Park Way	Between Longmead and Clayton Field (NB)	90042	90038	261	255	-6	-2%
18	Graham Park Way	Between Longmead and Clayton Field (NB)	90038	90042	80	102	22	28%
19	Graham Park Way	Between Clayton Field and Roundabout (NB)	90038	72106	342	335	-7	-2%
20	Graham Park Way	Between Clayton Field and Roundabout (NB)	72106	90038	252	274	22	9%
21	Lanacre Avenue	Between Graham Park Way and Near Acre (NB)	90033	90034	30	30	0	0%
22	Lanacre Avenue	Between Graham Park Way and Near Acre (NB)	90034	90033	134	157	23	17%
23	Lanacre Avenue	Between Hemswell and Near Acre (EB)	90035	90033	134	157	23	17%
24	Lanacre Avenue	Between Hemswell and Near Acre (VB)	90034	90035	30	30	0	0%
25	Lanacre Avenue	Between Kenley Avenue and Henswell (EB)	90034	90035	80	51	-29	-36%
26	Lanacre Avenue	Between Kenley Avenue and Henswell (WB)	90035	90046	147	95	-52	-35%
27	Lanacre Avenue	Between Blundell Road and Kenley Avenue (EB)	90033	90046	55	56	-52	2%
28	Lanacre Avenue	Between Blundell Road and Kenley Avenue (WB)	90046	90037	227	205	-22	-10%
29	Montrose Avenue	Between Playfield Road and The Greenway (EB)	90046	90037	313	321	8	3%
30	Montrose Avenue	Between Playfield Road and The Greenway (WB)	90003	90065	380	378	-2	-1%
31	Montrose Avenue	Between The Greenway and Gervase Road (EB)	90227	90003	279	281	2	1%
32		Between The Greenway and Gervase Road (EB)	90022	90227	381	379	-2	-1%
33	Montrose Avenue		90022	90315	653	653	0	0%
	Colindeep Lane	Colindeep Lane (EB)			651	640		
34	Colindeep Lane	Colindeep Lane (WB)	90315	90337			-11	-2% 0%
35	Colindeep Lane	Colindeep Lane (EB)	90315	90335	653	653	0	
36	Colindeep Lane	Colindeep Lane (WB)	90335	90315	651	640	-11	-2%
37	Colindeep Lane	Colindeep Lane (EB)	90335	95722	802	803	1	0%
38	Colindeep Lane	Colindeep Lane (WB)	95721	90335	768	759	-9 57	-1%
39	Annesley Avenue	Annesley Avenue (NB)	90309	90310	3	60	57	1900%
40	Annesley Avenue	Annesley Avenue (SB)	90310	90309	0	0	0	#DIV/0!
41	Annesley Avenue	Annesley Avenue (EB)	90312	90313	11	#N/A	#N/A	#N/A
42	Annesley Avenue	Annesley Avenue (WB)	90313	90312	15	51	36	240%
43	Edgware Road	Between Carlisle Road and Holmstall Avenue (NB)	95175	70002	753	754	1	0%
44	Edgware Road	Between Carlisle Road and Holmstall Avenue (SB)	70002	95175	961	966	5	1%
45	Edgware Road	Between Capitol Way and Carlisle Road (NB)	95172	95175	747	750	3	0%
46	Edgware Road	Between Capitol Way and Carlisle Road (SB)	95175	95172	932	940	8	1%
47	Edgware Road	Between The Greenway and Capitol Way (NB)	90290	95172	761	768	7	1%
48	Edgware Road	Between The Greenway and Capitol Way (SB)	95172	90290	929	930	1	0%
49	Edgware Road	Between Annesley Avenue and The Greenway (NB)	90312	90290	778	785	7	1%
50	Edgware Road	Between Annesley Avenue and The Greenway (SB)	90290	90312	899	916	17	2%
51	Edgware Road	Between Grove Park and Annesley Avenue (NB)	95063	90312	773	761	-12	-2%
52	Edgware Road	Between Grove Park and Annesley Avenue (SB)	90312	95063	897	954	57	6%

Table C.1 Comparison of Original Base Model Flows and the Modified Model (with network changes) for the Morning Peak Hour

Site	Location	Direction	ANODE	BNODE	ORIGINAL BASE	WITH CHANGES	Difference	% Difference
1	Colindale Avenue	Between Annesley Avenue and Pasteur Close (EB)	90309	90299	511	521	10	2%
2	Colindale Avenue	Between Annesley Avenue and Pasteur Close (WB)	90299	90309	447	478	31	7%
3	Colindale Avenue	Between Pasteur Close and Booth Road (EB)	90299	90024	463	459	-4	-1%
4	Colindale Avenue	Between Pasteur Close and Booth Road (WB)	90024	90299	470	487	17	4%
5	Booth Road	Booth Road (NB)	90024	90022	440	411	-29	-7%
6	Booth Road	Booth Road (SB)	90022	90024	250	197	-53	-21%
7	Graham Park Way	Between Lanacre Avenue and Great Strand (EB)	90033	90027	577	570	-7	-1%
8	Graham Park Way	Between Lanacre Avenue and Great Strand (WB)	90027	90033	598	621	23	4%
9	Graham Park Way	Between Great Strand and RAF Hendon (NB)	90027	90323	435	429	-6	-1%
10	Graham Park Way	Between Great Strand and RAF Hendon (SB)	90323	90027	323	345	22	7%
11	Graham Park Way	Between RAF Hendon and Avion Crescent (NB)	90323	90026	437	430	-7	-2%
12	Graham Park Way	Between RAF Hendon and Avion Crescent (SB)	90026	90323	330	352	22	7%
13	Graham Park Way	Between Avion Crescent and Avion Crescent (NB)	90026	90025	437	430	-7	-2%
14	Graham Park Way	Between Avion Crescent and Avion Crescent (SB)	90025	90026	330	352	22	7%
15	Graham Park Way	Between Graham Park Way and Longmead (NB)	90025	90042	437	430	-7	-2%
16	Graham Park Way	Between Graham Park Way and Longmead (SB)	90042	90025	330	352	22	7%
17	Graham Park Way	Between Longmead and Clayton Field (NB)	90042	90038	261	255	-6	-2%
18	Graham Park Way	Between Longmead and Clayton Field (NB)	90038	90042	80	102	22	28%
19	Graham Park Way	Between Clayton Field and Roundabout (NB)	90038	72106	342	335	-7	-2%
20	Graham Park Way	Between Clayton Field and Roundabout (NB)	72106	90038	252	274	22	9%
21	Lanacre Avenue	Between Graham Park Way and Near Acre (NB)	90033	90034	30	30	0	0%
22	Lanacre Avenue	Between Graham Park Way and Near Acre (NB)	90034	90033	134	157	23	17%
23	Lanacre Avenue	Between Hemswell and Near Acre (EB)	90035	90033	134	157	23	17%
24	Lanacre Avenue	Between Hemswell and Near Acre (VB)	90034	90035	30	30	0	0%
25	Lanacre Avenue	Between Kenley Avenue and Henswell (EB)	90034	90035	80	51	-29	-36%
26	Lanacre Avenue	Between Kenley Avenue and Henswell (WB)	90035	90046	147	95	-52	-35%
27	Lanacre Avenue	Between Blundell Road and Kenley Avenue (EB)	90033	90046	55	56	-52	2%
28	Lanacre Avenue	Between Blundell Road and Kenley Avenue (WB)	90046	90037	227	205	-22	-10%
29	Montrose Avenue	Between Playfield Road and The Greenway (EB)	90046	90037	313	321	8	3%
30	Montrose Avenue	Between Playfield Road and The Greenway (WB)	90003	90065	380	378	-2	-1%
31	Montrose Avenue	Between The Greenway and Gervase Road (EB)	90227	90003	279	281	2	1%
32		Between The Greenway and Gervase Road (EB)	90022	90227	381	379	-2	-1%
33	Montrose Avenue		90022	90315	653	653	0	0%
	Colindeep Lane	Colindeep Lane (EB)			651	640		
34	Colindeep Lane	Colindeep Lane (WB)	90315	90337			-11	-2% 0%
35	Colindeep Lane	Colindeep Lane (EB)	90315	90335	653	653	0	
36	Colindeep Lane	Colindeep Lane (WB)	90335	90315	651	640	-11	-2%
37	Colindeep Lane	Colindeep Lane (EB)	90335	95722	802	803	1	0%
38	Colindeep Lane	Colindeep Lane (WB)	95721	90335	768	759	-9 57	-1%
39	Annesley Avenue	Annesley Avenue (NB)	90309	90310	3	60	57	1900%
40	Annesley Avenue	Annesley Avenue (SB)	90310	90309	0	0	0	#DIV/0!
41	Annesley Avenue	Annesley Avenue (EB)	90312	90313	11	#N/A	#N/A	#N/A
42	Annesley Avenue	Annesley Avenue (WB)	90313	90312	15	51	36	240%
43	Edgware Road	Between Carlisle Road and Holmstall Avenue (NB)	95175	70002	753	754	1	0%
44	Edgware Road	Between Carlisle Road and Holmstall Avenue (SB)	70002	95175	961	966	5	1%
45	Edgware Road	Between Capitol Way and Carlisle Road (NB)	95172	95175	747	750	3	0%
46	Edgware Road	Between Capitol Way and Carlisle Road (SB)	95175	95172	932	940	8	1%
47	Edgware Road	Between The Greenway and Capitol Way (NB)	90290	95172	761	768	7	1%
48	Edgware Road	Between The Greenway and Capitol Way (SB)	95172	90290	929	930	1	0%
49	Edgware Road	Between Annesley Avenue and The Greenway (NB)	90312	90290	778	785	7	1%
50	Edgware Road	Between Annesley Avenue and The Greenway (SB)	90290	90312	899	916	17	2%
51	Edgware Road	Between Grove Park and Annesley Avenue (NB)	95063	90312	773	761	-12	-2%
52	Edgware Road	Between Grove Park and Annesley Avenue (SB)	90312	95063	897	954	57	6%

Table C.2 Comparison of Original Base Model Flows and the Modified Model (with network changes) for the Evening Peak Hour

Site	Location	Direction	ANODE	BNODE	ORIGINAL BASE	WITH CHANGES	Difference	% Difference
1	Colindale Avenue	Between Annesley Avenue and Pasteur Close (EB)	90309	90299	480	478	-2	0%
2	Colindale Avenue	Between Annesley Avenue and Pasteur Close (WB)	90299	90309	445	436	-9	-2%
3	Colindale Avenue	Between Pasteur Close and Booth Road (EB)	90299	90024	601	554	-47	-8%
4	Colindale Avenue	Between Pasteur Close and Booth Road (WB)	90024	90299	504	451	-53	-11%
5	Booth Road	Booth Road (NB)	90024	90022	635	602	-33	-5%
6	Booth Road	Booth Road (SB)	90022	90024	349	224	-125	-36%
7	Graham Park Way	Between Lanacre Avenue and Great Strand (EB)	90033	90027	715	715	0	0%
8	Graham Park Way	Between Lanacre Avenue and Great Strand (WB)	90027	90033	527	582	55	10%
9	Graham Park Way	Between Great Strand and RAF Hendon (NB)	90027	90323	592	592	0	0%
10	Graham Park Way	Between Great Strand and RAF Hendon (SB)	90323	90027	436	490	54	12%
11	Graham Park Way	Between RAF Hendon and Avion Crescent (NB)	90323	90026	632	632	0	0%
12	Graham Park Way	Between RAF Hendon and Avion Crescent (SB)	90026	90323	465	519	54	12%
13	Graham Park Way	Between Avion Crescent and Avion Crescent (NB)	90026	90025	632	632	0	0%
14	Graham Park Way	Between Avion Crescent and Avion Crescent (SB)	90025	90026	465	519	54	12%
15	Graham Park Way	Between Graham Park Way and Longmead (NB)	90025	90042	632	632	0	0%
16	Graham Park Way	Between Graham Park Way and Longmead (SB)	90042	90025	465	519	54	12%
17	Graham Park Way	Between Longmead and Clayton Field (NB)	90042	90038	152	156	4	3%
18	Graham Park Way	Between Longmead and Clayton Field (SB)	90038	90042	85	139	54	64%
19	Graham Park Way	Between Clayton Field and Roundabout (NB)	90038	72106	486	489	3	1%
20	Graham Park Way	Between Clayton Field and Roundabout (SB)	72106	90038	286	344	58	20%
21	Lanacre Avenue	Between Graham Park Way and Near Acre (NB)	90033	90034	47	47	0	0%
22	Lanacre Avenue	Between Graham Park Way and Near Acre (SB)	90034	90033	26	46	20	77%
23	Lanacre Avenue	Between Hemswell and Near Acre (EB)	90035	90034	26	46	20	77%
24	Lanacre Avenue	Between Hemswell and Near Acre (WB)	90034	90035	47	47	0	0%
25	Lanacre Avenue	Between Kenley Avenue and Henswell (EB	90046	90035	19	40	21	111%
26	Lanacre Avenue	Between Kenley Avenue and Henswell (WB)	90035	90046	42	42	0	0%
27	Lanacre Avenue	Between Blundell Road and Kenley Avenue (EB)	90037	90046	15	30	15	100%
28	Lanacre Avenue	Between Blundell Road and Kenley Avenue (WB)	90046	90037	66	60	-6	-9%
29	Montrose Avenue	Between Playfield Road and The Greenway (EB)	90065	90227	380	404	24	6%
30	Montrose Avenue	Between Playfield Road and The Greenway (WB)	90227	90065	503	522	19	4%
31	Montrose Avenue	Between The Greenway and Gervase Road (EB)	90227	90022	354	378	24	7%
32	Montrose Avenue	Between The Greenway and Gervase Road (VB)	90022	90227	508	526	18	4%
33	Colindeep Lane	Colindeep Lane (EB)	90337	90315	532	551	19	4%
34	Colindeep Lane	Colindeep Lane (WB)	90315	90337	686	688	2	0%
35	Colindeep Lane	Colindeep Lane (WB)  Colindeep Lane (EB)	90315	90335	532	551	19	4%
	-		90335		686	688	2	0%
36 37	Colindeep Lane Colindeep Lane	Colindeep Lane (WB) Colindeep Lane (EB)	90335	90315 95722	689	705	16	2%
	-		95721	90335	875	877	2	2% 0%
38 39	Colindeep Lane	Colindeep Lane (WB)	90309	90335	62	180	118	190%
	Annesley Avenue	Annesley Avenue (NB)	90309		98	0	-98	-100%
40	Annesley Avenue	Annesley Avenue (SB)		90309	98 85	#N/A	-98 #N/A	-100% #N/A
41 42	Annesley Avenue	Annesley Avenue (EB)	90312	90313	134	#N/A 252		#N/A 88%
	Annesley Avenue	Annesley Avenue (WB)	90313	90312			118	
43	Edgware Road	Between Carlisle Road and Holmstall Avenue (NB)	95175	70002	900	922	22	2%
44	Edgware Road	Between Carlisle Road and Holmstall Avenue (SB)	70002	95175	851	897	46	5%
45	Edgware Road	Between Capitol Way and Carlisle Road (NB)	95172	95175	899	924	25	3%
46	Edgware Road	Between Capitol Way and Carlisle Road (SB)	95175	95172	822	873	51	6%
47	Edgware Road	Between The Greenway and Capitol Way (NB)	90290	95172	1108	1137	29	3%
48	Edgware Road	Between The Greenway and Capitol Way (SB)	95172	90290	848	892	44	5%
49	Edgware Road	Between Annesley Avenue and The Greenway (NB)	90312	90290	1130	1159	29	3%
50	Edgware Road	Between Annesley Avenue and The Greenway (SB)	90290	90312	812	865	53	7%
51	Edgware Road	Between Grove Park and Annesley Avenue (NB)	95063	90312	1126	1076	-50	-4%
52	Edgware Road	Between Grove Park and Annesley Avenue (SB)	90312	95063	858	1043	185	22%

A-Node	B-Node	C-Node	Description	Observed Flow	Modelled Flow (HYDER)	Difference	GEH	DMRR G	uidelines	Modelled Flow (CB WITH CHANGES)	Difference	GEH	DMRR G	uidelines
71.11040	D .touc	0 11000	2 decinption	Flows (PCUs)	Flows (PCUs)	(PCUs)	Value	GEH	Flows	Flows (PCUs)	(PCUs)	Value	GEH	Flows
72041	75069	95780	A411 Barnet Lane - A5183 High Street (s)	247	268	21	1.29	Pass	Pass	267	20	1.25	Pass	Pass
72041	75069	75060	A411 Barnet Lane - A5183 High Street (n)	21	18	-3	0.63	Pass	Pass	18	-3	0.68	Pass	Pass
72041	75069	75068	A411 Barnet Lane - A411 Watford Road	523	545	22	0.96	Pass	Pass	546	23	0.99	Pass	Pass
95780	75069	72041	A5183 High Street (s) - A411 Barnet Lane	142	37	-105	11.04			34	-108	11.51		
95780	75069	75060	A5183 High Street (s) - A5183 High Street (n)	298	305	7	0.43	Pass	Pass	245	-53	3.22	Pass	Pass
95780	75069	75068	A5183 High Street (s) - A411 Watford Road	38	0	-38	8.72		Pass	0	-38	8.72		Pass
75060	75069	72041	A5183 High Street (n) - A411 Barnet Lane	28	34	6	1.06	Pass	Pass	33	5	0.91	Pass	Pass
75060	75069	95780	A5183 High Street (n) - A5183 High Street (s)	420	445	25	1.20	Pass	Pass	413	-7	0.34	Pass	Pass
75068	75069	72041	A411 Watford Road - A411 Barnet Lane	480	536	56	2.49	Pass	Pass	532	52	2.31	Pass	Pass
75068	75069	95780	A411 Watford Road - A5183 High Street (s)	72	0	-72	12.00		Pass	0	-72	12.00		Pass
75068	75069	75060	A411 Watford Road - A5183 High Street (n)	259	286	27	1.64	Pass	Pass	311	52	3.08	Pass	Pass
71001	72043	72050	A41 Watford Bypass - A41 Edgeware Way	557	553	-4	0.17	Pass	Pass	558	1	0.04	Pass	Pass
71001	72043	95780	A41 Watford Bypass - A5183 Elstree Hill South	108	108	0	0.01	Pass	Pass	108	0	0.00	Pass	Pass
71001	72043	95446	A41 Watford Bypass - A5 Brockley Hill	159	169	10	0.75	Pass	Pass	168	9	0.70	Pass	Pass
72049	72043	71001	A41 Edgeware Way - A41 Watford Bypass	365	347	-18	0.94	Pass	Pass	342	-23	1.22	Pass	Pass
72049	72043		A41 Edgware Way - A5183 Elstree Hill South	217	192	-25	1.73	Pass	Pass	191	-26	1.82	Pass	Pass
72049	72043		A41 Edgware Way - A5 Brockley Hill	194	0	-194	19.67			0	-194	19.70		
95780	72043	71001	A5183 Elstree Hill South - A41 Watford Bypass	370	396	26	1.33	Pass	Pass	419	49	2.47	Pass	Pass
95780	72043	72050	A5183 Elstree Hill South - A41 Edgware Way	70	189	119	10.44			189	119	10.46		
95780	72043	95446	A5183 Elstree Hill South - A5 Brockley Hill	228	347	119	7.03			348	120	7.07		
95446	72043	71001	A5 Brockley Hill - A41 Watford Bypass	434	428	-6	0.31	Pass	Pass	428	-6	0.29	Pass	Pass
95446	72043	72050	A5 Brockley Hill - A41 Edgware Way	86	0	-86	13.11		Pass	0	-86	13.11		Pass
95446	72043	95780	A5 Brockley Hill - A5183 Elstree Hill South	390	395	5	0.27	Pass	Pass	396	6	0.30	Pass	Pass
72075	72069	72049	A410 Spur Road - A41 Edgware Way (n)	468	446	-22	1.02	Pass	Pass	457	-11	0.51	Pass	Pass
72075	72069	72076	A410 Spur Road - A41 Edgware Way (s)	707	673	-34	1.30	Pass	Pass	669	-38	1.45	Pass	Pass
72075	72069		A410 Spur Road - Green Lane	43	36	-7	1.04	Pass	Pass	35	-8	1.28	Pass	Pass
72229	72069		A41 Edgware Way (n) - A410 Spur Road	635	605	-30	1.19	Pass	Pass	608	-27	1.08	Pass	Pass
72229	72069	72076	A41 Edgware Way (n) - A41 Edgware Way (s)	817	874	57	1.95	Pass	Pass	871	54	1.86	Pass	Pass
72229	72069	95285	A41 Edgware Way (n) - Green Lane	111	117	6	0.58	Pass	Pass	118	7	0.65	Pass	Pass
72265	72069	72049	A41 Edgware Way (s) - A41 Edgware Way (n)	755	730	-25	0.90	Pass	Pass	718	-37	1.36	Pass	Pass
72265	72069		A41 Edgware Way (s) - A410 Spur Road	588	448	-140	6.15			450	-138	6.06		
72265	72069	95285	A41 Edgware Way (s) - Green Lane	29	26	-3	0.51	Pass	Pass	26	-3	0.57	Pass	Pass
95285	72069	72049	Green Lane - A41 Edgware Way (n)	82	83	1	0.10	Pass	Pass	83	1	0.11	Pass	Pass
95285	72069	72075	Green Lane - A410 Spur Road	81	43	-38	4.81	Pass	Pass	43	-38	4.83	Pass	Pass
95285	72069	72076	Green Lane - A41 Edgware Way (s)	58	57	-1	0.18	Pass	Pass	57	-1	0.13	Pass	Pass
72069	72075	95264	A410 Spur Road - A410 London Road	663	718	55	2.09	Pass	Pass	715	52	1.98	Pass	Pass
72069	72075	95273	A410 Spur Road - A5 Stonegrove	317	295	-22	1.28	Pass	Pass	303	-14	0.80	Pass	Pass
72069	72075	95446	A410 Spur Road - A5 Brockley Hill	60	83	23	2.77	Pass	Pass	83	23	2.72	Pass	Pass
95264	72075	72069	A410 London Road - A410 Spur Road	781	741	-40	1.45	Pass	Pass	740	-41	1.49	Pass	Pass
95264	72075	95273	A410 London Road - A5 Stonegrove	116	125	9	0.80	Pass	Pass	119	3	0.28	Pass	Pass
95264	72075	95446	A410 London Road - A5 Brockley Hill	120	117	-3	0.31	Pass	Pass	117	-3	0.28	Pass	Pass
95273	72075	72069	A5 Stonegrove - A410 Spur Road	470	369	-101	4.93	Pass		369	-101	4.93	Pass	
95273	72075	95264	A5 Stonegrove - A410 London Road	159	120	-40	3.35	Pass	Pass	119	-40	3.39	Pass	Pass
95273	72075	95446	A5 Stonegrove - A5 Brockley Hill	324	369	45	2.39	Pass	Pass	364	40	2.16	Pass	Pass
95446	72075	72069	A5 Brockley Hill - A410 Spur Road	66	52	-14	1.84	Pass	Pass	51	-15	1.96	Pass	Pass
95446	72075	95264	A5 Brockley Hill - A410 London Road	135	173	38	3.03	Pass	Pass	169	34	2.76	Pass	Pass
95446	72075	95273	A5 Brockley Hill - A5 Stonegrove	347	374	27	1.41	Pass	Pass	378	31	1.63	Pass	Pass
71011	71010	71022	A410 The Broadway - A4140 Marsh Lane	274	217	-57	3.64	Pass	Pass	222	-52	3.30	Pass	Pass
71011	71010	95264	A410 The Broadway - A410 London Road	605	589	-16	0.63	Pass	Pass	577	-28	1.15	Pass	Pass
71011	71010	95738	A410 The Broadway - Dennis Lane	54	0	-54	10.39	1	Pass	0	-54	10.39		Pass
71022	71010	71011	A4140 Marsh Lane - A410 The Broadway	290	77	-213	15.72			70	-220	16.40		لـــــــا
71022	71010	95264	A4140 Marsh Lane - A410 London Road	261	239	-22	1.37	Pass	Pass	250	-11	0.69	Pass	Pass
71022	71010	95738	A4140 Marsh Lane - Dennis Lane	237	294	57	3.52	Pass	Pass	301	64	3.90	Pass	Pass
95264	71010	71011	A410 London Road - A410 The Broadway	615	593	-22	0.88	Pass	Pass	593	-22	0.90	Pass	Pass
95264	71010	71022	A410 London Road - A4140 Marsh Lane	284	292	8	0.50	Pass	Pass	288	4	0.24	Pass	Pass
95264	71010	95738	A410 London Road - Dennis Lane	41	39	-2	0.25	Pass	Pass	39	-2	0.32	Pass	Pass
95738	71010	71011	Dennis Lane - A410 The Broadway	22	0	-22	6.62		Pass	0	-22	6.63		Pass
95738	71010	71022	Dennis Lane - A4140 Marsh Lane	155	152	-3	0.21	Pass	Pass	145	-10	0.82	Pass	Pass

Table D.1 Overall Area Comparison of Observed Flows, Modelled Flows and Modified Model Flows (with network changes) for Morning Peak Hour

05700	74040	05004	ID : 1 A4401 1 D 1	00			0.54	-	-	00		0.44	-	
95738 70016	71010	95264 70210	Dennis Lane - A410 London Road	22	20	-2	0.54	Pass	Pass	20 114	-2	0.44	Pass	Pass
	70010		A4140 Fryent Way - The Mall	104	103	-1	0.09	Pass	Pass		10	0.96	Pass	Pass
70016 70016	70010 70010	71070 95686	A4140 Fryent Way - A4006 Kenton Road A4140 Fryent Way - A4140 Honeypot Lane	229 315	226 312	-3 -3	0.20	Pass Pass	Pass Pass	228 311	-1 -4	0.07	Pass Pass	Pass Pass
70016	70010	95688	A4140 Fryent Way - A4140 Honeypot Lane A4140 Fryent Way - A4006 Kingsbury Road	171	162	-3 -9	0.18	Pass	Pass	162	-4	0.23	Pass	Pass
70010	70010	70016	The Mall - A4140 Fryent Way	303	279	-24	1.39	Pass	Pass	278	-25	1.47	Pass	Pass
70210	70010	71070	The Mall - A4006 Kenton Road	16	2	-14	4.54	Pass	Pass	5	-25 -11	3.39	Pass	Pass
70210	70010	95686	The Mall - A4140 Honeypot Lane	300	278	-14	1.32	Pass	Pass	276	-24	1.41	Pass	Pass
70210	70010	95688	The Mall - A4006 Kingsbury Road	118	115	-3	0.25	Pass	Pass	118	-24	0.00	Pass	Pass
71070	70010	70016	A4006 Kenton Road - A4140 Fryent Way	299	343	-3 44	2.46	Pass	Pass	350	51	2.83	Pass	Pass
71070	70010	70210	A4006 Kenton Road - The Mall	161	0	-161	17.94	F 033	rass	0	-161	17.94	F 033	F 433
71070	70010	95686	A4006 Kenton Road - A4140 Honeypot Lane	58	65	7	0.84	Pass	Pass	58	0	0.00	Pass	Pass
71070	70010	95688	A4006 Kenton Road - A4006 Kingsbury Road	378	375	-3	0.15	Pass	Pass	382	4	0.00	Pass	Pass
95686	70010	70016	A4140 Honeypot Lane - A4140 Fryent Way	642	635	-7	0.13	Pass	Pass	607	-35	1.40	Pass	Pass
95686	70010	70210	A4140 Honeypot Lane - The Mall	155	131	-24	1.98	Pass	Pass	131	-24	2.01	Pass	Pass
95686	70010	71070	A4140 Honeypot Lane - A4006 Kenton Road	84	84	0	0.01	Pass	Pass	79	-5	0.55	Pass	Pass
95686	70010	95688	A4140 Honeypot Lane - A4006 Kingsbury Road	81	76	-5	0.61	Pass	Pass	72	-9	1.03	Pass	Pass
95688	70010	70016	A4006 Kingsbury Road - A4140 Fryent Way	75	70	-5	0.53	Pass	Pass	69	-6	0.71	Pass	Pass
95688	70010	70210	A4006 Kingsbury Road - The Mall	135	128	-7	0.61	Pass	Pass	129	-6	0.52	Pass	Pass
95688	70010	71070	A4006 Kingsbury Road - A4006 Kenton Road	357	337	-20	1.07	Pass	Pass	337	-20	1.07	Pass	Pass
95688	70010	95686	A4006 Kingsbury Road - A4140 Honeypot Lane	52	45	-7	1.03	Pass	Pass	48	-4	0.57	Pass	Pass
70014	70010	95594	A4006 Kingsbury Road (e) - B454 Church Lane	255	224	-31	1.99	Pass	Pass	223	-32	2.07	Pass	Pass
70014	70012	95764	A4006 Kingsbury Road (e) - A4006 Kingsbury Road (w)	467	443	-24	1.10	Pass	Pass	423	-44	2.07	Pass	Pass
95594	70012	70014	B454 Church Lane - A4006 Kingsbury Road (e)	250	213	-37	2.40	Pass	Pass	212	-38	2.50	Pass	Pass
95594	70012	95764	B454 Church Lane - A4006 Kingsbury Road (w)	290	284	-6	0.33	Pass	Pass	286	-4	0.24	Pass	Pass
95764	70012	70014	A4006 Kingsbury Road (w) - A4006 Kingsbury Road (e)	698	671	-27	1.05	Pass	Pass	681	-17	0.65	Pass	Pass
95764	70012	95594	A4006 Kingsbury Road (w) - P4500 Kingsbury Road (c)	378	388	10	0.49	Pass	Pass	380	2	0.10	Pass	Pass
90358	72173	95163	A5 The Hyde (n) - A4006 Kingsbury Road	268	259	-9	0.54	Pass	Pass	236	-32	2.02	Pass	Pass
90358	72173	95169	A5 The Hyde (n) - A5 The Hyde (s)	669	641	-28	1.09	Pass	Pass	647	-22	0.86	Pass	Pass
95163	72173	90358	A4006 Kingsbury Road - A5 The Hyde (n)	175	167	-8	0.61	Pass	Pass	162	-13	1.00	Pass	Pass
95163	72173	95169	A4006 Kingsbury Road - A5 The Hyde (n)	429	376	-53	2.66	Pass	Pass	386	-43	2.13	Pass	Pass
95169	72173	90358	A5 The Hyde (s) - A5 The Hyde (n)	594	544	-50	2.08	Pass	Pass	541	-53	2.22	Pass	Pass
95169	72173	95163	A5 The Hyde (s) - A4006 Kingsbury Road	324	277	-47	2.73	Pass	Pass	278	-46	2.65	Pass	Pass
72176	72169	72259	A41 Watford Way (s) - A504 Station Road	29	0	-29	7.62	1 433	Pass	0	-29	7.62	1 433	Pass
72176	72169	90368	A41 Watford Way (s) - A504 The Burroughs	180	141	-39	3.07	Pass	Pass	141	-39	3.08	Pass	Pass
72176	72169	72164	A41 Watford Way (s) - A41 Watford Way (n)	1689	1661	-28	0.69	Pass	Pass	1668	-21	0.51	Pass	Pass
72259	72169	72176	A504 Station Road - A41 Watford Way (s)	64	31	-33	4.82	Pass	Pass	36	-28	3.96	Pass	Pass
72259	72169	90368	A504 Station Road - A504 The Burroughs	275	263	-12	0.75	Pass	Pass	260	-15	0.92	Pass	Pass
72259	72169	72164	A504 Station Road - A41 Watford Way (n)	161	191	30	2.27	Pass	Pass	194	33	2.48	Pass	Pass
90368	72169	72176	A504 The Burroughs - A41 Watford Way (s)	146	95	-51	4.64	Pass	Pass	96	-50	4.55	Pass	Pass
90368	72169	72259	A504 The Burroughs - A504 Station Road	254	252	-2	0.12	Pass	Pass	251	-3	0.19	Pass	Pass
90368	72169	72164	A504 The Burroughs - A41 Watford Way (n)	333	331	-2	0.09	Pass	Pass	329	-4	0.22	Pass	Pass
95720	72169	72176	A41 Watford Way (n) - A41 Watford Way (s)	1892	1850	-42	0.97	Pass	Pass	1800	-92	2.14	Pass	Pass
95720	72169	72259	A41 Watford Way (n) - A504 Station Road	241	154	-87	6.17	1 400	Pass	145	-96	6.91	1 400	Pass
95720	72169	90368	A41 Watford Way (n) - A504 The Burroughs	267	247	-20	1.23	Pass	Pass	249	-18	1.12	Pass	Pass
72149	72154	72162	A5 Edgware Road (n) - A5 Edgware Road (s)	843	797	-46	1.62	Pass	Pass	827	-16	0.55	Pass	Pass
72149	72154	90337	A5 Edgware Road (n) - A5150 Colindeep Lane	424	447	23	1.12	Pass	Pass	443	19	0.91	Pass	Pass
72149	72154	95739	A5 Edgware Road (n) - Windover Lane	27	32	5	0.89	Pass	Pass	0	-27	7.35		Pass
72162	72154	72149		821	749	-72	2.57	Pass	Pass	746	-75	2.68	Pass	Pass
72162	72154	90337	A5 Edgware Road (s) - A5150 Colindeep Lane	194	178	-16	1.18	Pass	Pass	182	-12	0.88	Pass	Pass
72162	72154	95739	A5 Edgware Road (s) - Windover Lane	59	56	-3	0.34	Pass	Pass	56	-3	0.40	Pass	Pass
90337	72154	72149	A5150 Colindeep Lane - A5 Edgware Road (n)	381	388	7	0.38	Pass	Pass	383	2	0.10	Pass	Pass
90337	72154	72162	A5150 Colindeep Lane - A5 Edgware Road (s)	125	128	3	0.27	Pass	Pass	126	1	0.09	Pass	Pass
90337	72154	95739	A5150 Colindeep Lane - Windover Lane	26	26	0	0.09	Pass	Pass	24	-2	0.40	Pass	Pass
95739	72154	72149	Windover Lane - A5 Edgware Road (n)	13	0	-13	5.10		Pass	0	-13	5.10		Pass
95739	72154	72162	Windover Lane - A5 Edgware Road (s)	5	7	2	0.67	Pass	Pass	7	2	0.82	Pass	Pass
95739	72154	90337	Windover Lane - A5150 Colindeep Lane	1	6	5	2.56	Pass	Pass	6	5	2.67	Pass	Pass
72154	72149	90309	A5 Edgware Road (s) - A5 Edgware Road (n)	353	390	37	1.92	Pass	Pass	393	40	2.07	Pass	Pass
72154	72149	95063	A5 Edgware Road (s) - A5 Edgware Road (n)	796	747	-49	1.75	Pass	Pass	736	-60	2.17	Pass	Pass
90309	72149	72154	Colindale Avenue - A5 Edgware Road (s)	446	444	-2	0.09	Pass	Pass	428	-18	0.86	Pass	Pass
95063	72149	72154	A5 Edgware Road (n) - A5 Edgware Road (s)	886	836	-50	1.71	Pass	Pass	843	-43	1.46	Pass	Pass
95063	72149	90309	A5 Edgware Road (n) - A5 Edgware Road (n)	170	121	-49	4.09	Pass	Pass	137	-33	2.66	Pass	Pass
90024	72141	90033	Colindale Avenue - Grahame Park Way	289	315	26	1.50	Pass	Pass	314	25	1.44	Pass	Pass
90024	72141	90049	Colindale Avenue - Eagle Drive	14	45	31	5.72		Pass	46	32	5.84		Pass
90024	72141	90320	Colindale Avenue - Aerodrome Road	252	254	2	0.13	Pass	Pass	293	41	2.48	Pass	Pass
90033	72141	90024	Grahame Park Way - Colindale Avenue	440	419	-21	1.03	Pass	Pass	510	70	3.21	Pass	Pass
90033	72141	90049	Grahame Park Way - Eagle Drive	22	24	2	0.52	Pass	Pass	23	1	0.21	Pass	Pass
90033	72141	90320	Grahame Park Way - Aerodrome Road	272	288	16	0.93	Pass	Pass	243	-29	1.81	Pass	Pass
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Table D.1 Overall Area Comparison of Observed Flows, Modelled Flows and Modified Model Flows (with network changes) for Morning Peak Hour

90049	72141	00024	Eagle Drive - Colindale Avenue	38	48	10	1.46	Pass	Pass	48	10	1.52	Pass	Pass
90049	72141	90033	Eagle Drive - Golindale Avende  Eagle Drive - Grahame Park Way	30	28	-2	0.34	Pass	Pass	28	-2	0.37	Pass	Pass
90049	72141	90320	Eagle Drive - Aerodrome Road	38	41	3	0.44	Pass	Pass	41	3	0.48	Pass	Pass
90320	72141	90024	Aerodrome Road - Colindale Avenue	251	344	93	5.38	F 055	Pass	338	87	5.07	r ass	Pass
90320	72141	90024		242	262	20	1.25	D	Pass	256	14	0.89	Pass	
			Aerodrome Road - Grahame Park Way					Pass						Pass
90320	72141	90049	Aerodrome Road - Eagle Drive	5	5	0	0.01	Pass	Pass	5	0	0.00	Pass	Pass
72102	72104	72106	Bunns Lane (n) - Bunns Lane (s)	851	793	-58	2.01	Pass	Pass	797	-54	1.88	Pass	Pass
72102	72104	90018	Bunns Lane (n) - Woodcroft Avenue	81	64	-17	1.97	Pass	Pass	63	-18	2.12	Pass	Pass
72106	72104	72102	Bunns Lane (s) - Bunns Lane (n)	556	425	-131	5.92			430	-126	5.67		
72106	72104	90018	Bunns Lane (s) - Woodcroft Avenue	254	253	-1	0.09	Pass	Pass	234	-20	1.28	Pass	Pass
90018	72104	72102	Woodcroft Avenue - Bunns Lane (n)	112	149	37	3.22	Pass	Pass	135	23	2.07	Pass	Pass
90018	72104	72106	Woodcroft Avenue - Bunns Lane (s)	191	150	-41	3.10	Pass	Pass	160	-31	2.34	Pass	Pass
72267	72122	90011	Watling Avenue (s) - Cressingham Road	23	21	-2	0.53	Pass	Pass	21	-2	0.43	Pass	Pass
72267	72122	90085	Watling Avenue (s) - Watling Avenue (n)	46	0	-46	9.59		Pass	0	-46	9.59		Pass
72267	72122	95403	Watling Avenue (s) - Montrose Avenue	116	76	-40	4.10	Pass	Pass	74	-42	4.31	Pass	Pass
90011	72122	72267	Cressingham Road - Watling Avenue (s)	17	14	-3	0.81	Pass	Pass	14	-3	0.76	Pass	Pass
90011	72122	90085	Cressingham Road - Watling Avenue (n)	80	74	-6	0.65	Pass	Pass	68	-12	1.39	Pass	Pass
90011	72122	95403	Cressingham Road - Montrose Avenue	10	8	-2	0.80	Pass	Pass	8	-2	0.67	Pass	Pass
90085	72122	72267	Watling Avenue (n) - Watling Avenue (s)	47	35	-12	1.89	Pass	Pass	17	-30	5.30	1 433	Pass
90085	72122	90011	Watting Avenue (n) - Cressingham Road	87	85	-12	0.22	Pass	Pass	85	-2	0.22	Pass	Pass
90085	72122	95403	Watling Avenue (n) - Cressingham Road Watling Avenue (n) - Montrose Avenue	160	163	3	0.22	Pass	Pass	165	5	0.22	Pass	Pass
95403	72122	72267	Montrose Avenue - Watling Avenue (s)	193	181	-12	0.91	Pass	Pass	181	-12	0.88	Pass	Pass
95403	72122	90011	Montrose Avenue - Cressingham Road		7	0	0.02	Pass	Pass	7	0	0.00	Pass	Pass
95403	72122	90085	Montrose Avenue - Watling Avenue (n)	297	269	-28	1.69	Pass	Pass	268	-29	1.73	Pass	Pass
70001	72136	95232	Stag Lane - A5 Burnt Oak Broadway (s)	70	119	49	5.01		Pass	124	54	5.48		Pass
70001	72136	95728	Stag Lane - A5 Burnt Oak Broadway (n)	265	245	-20	1.25	Pass	Pass	247	-18	1.13	Pass	Pass
72136	95728	90055	A5 Burnt Oak Broadway (s) - Watling Avenue	223	197	-26	1.82	Pass	Pass	199	-24	1.65	Pass	Pass
72136	95728	95219	A5 Burnt Oak Broadway (s) - A5 Burnt Oak Broadway (n)	612	536	-76	3.18	Pass	Pass	534	-78	3.26	Pass	Pass
90055	95728	72136	Watling Avenue - A5 Burnt Oak Broadway (s)	283	209	-74	4.73	Pass	Pass	200	-83	5.34		Pass
90055	95728	95219	Watling Avenue - A5 Burnt Oak Broadway (n)	98	132	34	3.15	Pass	Pass	131	33	3.08	Pass	Pass
95219	95728	72136	A5 Burnt Oak Broadway (n) - A5 Burnt Oak Broadway (s)	666	604	-62	2.48	Pass	Pass	609	-57	2.26	Pass	Pass
95219	95728	90055	A5 Burnt Oak Broadway (n) - Watling Avenue	122	93	-29	2.77	Pass	Pass	92	-30	2.90	Pass	Pass
95232	72136	70001	A5 Burnt Oak Broadway (s) - Stag Lane	36	45	9	1.34	Pass	Pass	41	5	0.81	Pass	Pass
95232	72136	95728	A5 Burnt Oak Broadway (s) - A5 Burnt Oak Broadway (n)	570	487	-83	3.59	Pass	Pass	486	-84	3.66	Pass	Pass
95728	72136	70001	A5 Burnt Oak Broadway (n) - Stag Lane	246	215	-31	2.02	Pass	Pass	211	-35	2.32	Pass	Pass
95728	72136	95232	A5 Burnt Oak Broadway (n) - Otag Earle  A5 Burnt Oak Broadway (n) - A5 Burnt Oak Broadway (s)	703	597	-106	4.16	Pass	1 433	598	-105	4.12	Pass	Pass
71156	72118	72128	Camrose Avenue - A5 Burnt Oak Broadway	32	25	-7	1.25	Pass	Pass	24	-103	1.51	Pass	Pass
		90105				-17								
71156	72118		Camrose Avenue - A5 High Street	122	105		1.56	Pass	Pass	103	-19	1.79 0.44	Pass	Pass
71156	72118	90124	Camrose Avenue - A5109 Deansbrook Road	427	428	1	0.06	Pass	Pass	418	-9		Pass	Pass
72128	72118	71156	A5 Burnt Oak Broadway - Camrose Avenue	32	19	-13	2.50	Pass	Pass	19	-13	2.57	Pass	Pass
72128	72118	90105	A5 Burnt Oak Broadway - A5 High Street	646	588	-58	2.34	Pass	Pass	586	-60	2.42	Pass	Pass
72128	72118	90124	A5 Burnt Oak Broadway - A5109 Deansbrook Road	153	88	-65	5.92		Pass	87	-66	6.02		Pass
90105	72118	71156	A5 High Street - Camrose Avenue	120	99	-21	2.00	Pass	Pass	97	-23	2.21	Pass	Pass
90105	72118	72128	A5 High Street - A5 Burnt Oak Broadway	625	544	-81	3.35	Pass	Pass	548	-77	3.18	Pass	Pass
90105	72118	90124	A5 High Street - A5109 Deansbrook Road	131	167	36	2.96	Pass	Pass	164	33	2.72	Pass	Pass
90124	72118	71156	A5109 Deansbrook Road - Camrose Avenue	377	376	-1	0.06	Pass	Pass	374	-3	0.15	Pass	Pass
90124	72118	72128	A5109 Deansbrook Road - A5 Burnt Oak Broadway	107	102	-5	0.53	Pass	Pass	101	-6	0.59	Pass	Pass
90124	72118	90105	A5109 Deansbrook Road - A5 High Street	126	112	-14	1.31	Pass	Pass	112	-14	1.28	Pass	Pass
90105	72105	95282	A5 High Street (s) - Whitchurch Lane	202	147	-55	4.16	Pass	Pass	148	-54	4.08	Pass	Pass
90105	72105	95286	A5 High Street (s) - A5100 Station Road	166	156	-10	0.79	Pass	Pass	153	-13	1.03	Pass	Pass
90105	72105	95293	A5 High Street (s) - A5 High Street (n)	580	540	-40	1.68	Pass	Pass	540	-40	1.69	Pass	Pass
95282	72105	90105	Whitchurch Lane - A5 High Street (s)	176	141	-35	2.81	Pass	Pass	143	-33	2.61	Pass	Pass
95282	72105	95286	Whitchurch Lane - A5100 Station Road	281	246	-35	2.14	Pass	Pass	242	-39	2.41	Pass	Pass
95282	72105	95293		170	175		0.38			175				
95282	72105	90105	Whitchurch Lane - A5 High Street (n) A5100 Station Road - A5 High Street (s)	184	133	-51	4.05	Pass Pass	Pass Pass	175	-52	0.38 4.14	Pass Pass	Pass Pass
95286	72105	95282	A5100 Station Road - Whitchurch Lane	347	372	25	1.31	Pass	Pass	371	24	1.27	Pass	Pass
95293	72105	90105	A5 High Street (n) - A5 High Street (s)	781	784	3	0.10	Pass	Pass	782	1 1	0.04	Pass	Pass
95293	72105	95286	A5 High Street (n) - A5100 Station Road	63	50	-13	1.77	Pass	Pass	54	-9	1.18	Pass	Pass
95308	72085	95316	A5100 Hale Lane (w) - A5109 Selvage Lane	47	42	-5	0.69	Pass	Pass	42	-5	0.75	Pass	Pass
95308	72085	99972	A5100 Hale Lane (w) - A5100 Hale Lane (e)	406	376	-30	1.52	Pass	Pass	376	-30	1.52	Pass	Pass
95308	72085	99973	A5100 Hale Lane (w) - A5109 Deans Lane	231	223	-8	0.53	Pass	Pass	222	-9	0.60	Pass	Pass
95316	72085	95308	A5109 Selvage Lane - A5100 Hale Lane (w)	53	81	28	3.37	Pass	Pass	80	27	3.31	Pass	Pass
95316	72085	99972	A5109 Selvage Lane - A5100 Hale Lane (e)	114	81	-33	3.30	Pass	Pass	82	-32	3.23	Pass	Pass
95316	72085	99973	A5109 Selvage Lane - A5109 Deans Lane	461	461	0	0.01	Pass	Pass	463	2	0.09	Pass	Pass
99972	72085	95308	A5100 Hale Lane (e) - A5100 Hale Lane (w)	284	255	-29	1.75	Pass	Pass	250	-34	2.08	Pass	Pass
99972	72085	95316	A5100 Hale Lane (e) - A5109 Selvage Lane	59	118	59	6.25		Pass	117	58	6.18		Pass
99972	72085	99973	A5100 Hale Lane (e) - A5109 Deans Lane	67	15	-52	8.20		Pass	15	-52	8.12		Pass
99973	72085	95308	A5100 Flate Earle (e) - A5100 Bearls Earle A5109 Deans Lane - A5100 Hale Lane (w)	193	175	-18	1.31	Pass	Pass	178	-15	1.10	Pass	Pass
	12003	30000	no 100 Deans Laite - A0 100 Fiale Laite (w)	150	113	-10	1.01	газэ	газэ	170	-13	1.10	газэ	1 000

Table D.1 Overall Area Comparison of Observed Flows, Modelled Flows and Modified Model Flows (with network changes) for Morning Peak Hour

99973	72085	95316	A5109 Deans Lane - A5109 Selvage Lane	315	412	97	5.08		Pass	407	92	4.84	Pass	Pass
99973	72085		A5109 Deans Lane - A5100 Hale Lane (e)	52	16	-36	6.22		Pass	16	-36	6.17		Pass
72073	95754		Apex Corner Roundabout turning into A41 Edgware Way	1342	1191	-151	4.25	Pass	Pass	1188	-154	4.33	Pass	Pass
72073	95754		Apex Corner Roundabout not turning into A41 Edgware Way	2493	2496	3	0.07	Pass	Pass	2494	1	0.02	Pass	Pass
95756	95757	95758	Apex Corner Roundabout turning into A1 Barnet Way	3556	3526	-30	0.50	Pass	Pass	3528	-28	0.47	Pass	Pass
95756	95757	95759	Apex Corner Roundabout not turning into A1 Barnet Way	990	954	-36	1.14	Pass	Pass	948	-42	1.35	Pass	Pass
72070	72280	95763	Apex Corner Roundabout turning into A1 Barnet Bypass	1608	1572	-36	0.91	Pass	Pass	1573	-35	0.88	Pass	Pass
95759	95760	95762	Apex Corner Roundabout not turning into A1 Barnet Bypass	2098	2009	-89	1.97	Pass	Pass	2005	-93	2.05	Pass	Pass
95762	72073	72239	Apex Corner Roundabout turning into A5019 Selvage Lane	1034	1001	-33	1.05	Pass	Pass	1004	-30	0.94	Pass	Pass
95762	72073	95754	Apex Corner Roundabout not turning into A5019 Selvage Lane	3236	3005	-231	4.14	Pass	Pass	3005	-231	4.14	Pass	Pass
72037	95747	72010	Stirling Corner Roundabout turning into A1 Barnet Bypass	2292	2262	-30	0.63	Pass	Pass	2260	-32	0.67	Pass	Pass
72037	95747			1146	1119	-27	0.80	Pass	Pass	1117	-29	0.86	Pass	Pass
75067	72037		Stirling Corner Roundabout turning into Stirling Way	149	139	-10	0.85	Pass	Pass	138	-11	0.92	Pass	Pass
75067	72037	95747	Stirling Corner Roundabout not turning into Stirling Way	3217	3156	-61	1.08	Pass	Pass	3152	-65	1.15	Pass	Pass
95747	95750	95748	Stirling Corner Roundabout not turning into A411 Barnet Road	2850	2726	-124	2.35	Pass	Pass	2727	-123	2.33	Pass	Pass
95747	95750	95751	Stirling Corner Roundabout turning into A411 Barnet Road	662	620	-42	1.64	Pass	Pass	619	-43	1.70	Pass	Pass
95748	95752	95749	Stirling Corner Roundabout not turning into A1 Barnet Way	774	787	13	0.45	Pass	Pass	787	13	0.47	Pass	Pass
95748	95752	95753	Stirling Corner Roundabout turning into A1 Barnet Way	2708	2633	-75	1.45	Pass	Pass	2635	-73	1.41	Pass	Pass
95749	75067	72037	Stirling Corner Roundabout not turning into A411 Barnet Lane	2571	2532	-39	0.77	Pass	Pass	2531	-40	0.79	Pass	Pass
95749	75067		Stirling Corner Roundabout turning into A411 Barnet Lane	821	837	16	0.57	Pass	Pass	841	20	0.69	Pass	Pass
70002	90023	90065	A5 Edgware Road - Montrose Avenue	215	201	-14	0.97	Pass	Pass	203	-12	0.83	Pass	Pass
70002	90023		A5 Edgware Road - A5 Burnt Oak Broadway	568	514	-54	2.34	Pass	Pass	509	-59	2.54	Pass	Pass
90065	90023	70002	Montrose Avenue - A5 Edgware Road	413	382	-31	1.55	Pass	Pass	380	-33	1.66	Pass	Pass
90065	90023	95232	Montrose Avenue - A5 Burnt Oak Broadway	33	22	-11	2.16	Pass	Pass	22	-11	2.10	Pass	Pass
95232	90023	70002	A5 Burnt Oak Broadway - A5 Edgware Road	664	606	-58	2.31	Pass	Pass	601	-63	2.51	Pass	Pass
95232	90023	90065	A5 Burnt Oak Broadway - Montrose Avenue	111	114	3	0.25	Pass	Pass	120	9	0.84	Pass	Pass

A-Node	B-Node	C-Node	Description	Observed Flow	Modelled Flow (HYDER)	Difference	GEH	DMRB G	uidelines	Modelled Flow (CB WITH CHANGES)	Difference	GEH	DMRB G	uidelines
			·	Flows (PCUs)	Flows (PCUs)	(PCUs)	Value	GEH	Flows	Flows (PCUs)	(PCUs)	Value	GEH	Flows
72041	75069	95780	A411 Barnet Lane - A5183 High Street (s)	166	155	-11	0.85	Pass	Pass	155	-11	0.87	Pass	Pass
72041	75069	75060	A411 Barnet Lane - A5183 High Street (n)	20	20	0	0.00	Pass	Pass	20	0	0.00	Pass	Pass
72041	75069	75068	A411 Barnet Lane - A411 Watford Road	533	532	-1	0.02	Pass	Pass	532	-1	0.04	Pass	Pass
95780	75069	72041	A5183 High Street (s) - A411 Barnet Lane	144	78	-66	6.29		Pass	53	-91	9.17		Pass
95780	75069	75060	A5183 High Street (s) - A5183 High Street (n)	251	218	-33	2.18	Pass	Pass	162	-89	6.19		Pass
95780	75069	75068	A5183 High Street (s) - A411 Watford Road	11	0	-11	4.69	Pass	Pass	0	-11	4.69	Pass	Pass
75060	75069	72041	A5183 High Street (n) - A411 Barnet Lane	41	37	-4	0.62	Pass	Pass	34	-7	1.14	Pass	Pass
75060	75069	95780	A5183 High Street (n) - A5183 High Street (s)	420	429	9	0.45	Pass	Pass	382	-38	1.90	Pass	Pass
75068	75069	72041	A411 Watford Road - A411 Barnet Lane	603	558	-45	1.87	Pass	Pass	561	-42	1.74	Pass	Pass
75068	75069	95780	A411 Watford Road - A5183 High Street (s)	36	0	-36	8.49		Pass	0	-36	8.49		Pass
75068	75069	75060	A411 Watford Road - A5183 High Street (n)	219	329	110	6.64			360	141	8.29		
71001	72043	72050	A41 Watford Bypass - A41 Egeware Way	297	314	17	0.97	Pass	Pass	314	17	0.97	Pass	Pass
71001	72043	95780	A41 Watford Bypass - A5183 Elstree Hill South	27	28	1	0.17	Pass	Pass	28	1	0.19	Pass	Pass
71001	72043	95446	A41 Watford Bypass - A5 Brockley Hill	267	263	-4	0.24	Pass	Pass	270	3	0.18	Pass	Pass
72049	72043	71001	A41 Egeware Way - A41 Watford Bypass	332	315	-17	0.97	Pass	Pass	314	-18	1.00	Pass	Pass
72049	72043	95780	A41 Egeware Way - A5183 Elstree Hill South	135	120	-15	1.31	Pass	Pass	120	-15	1.33	Pass	Pass
72049	72043	95446	A41 Egeware Way - A5 Brockley Hill	89	0	-89	13.33		Pass	0	-89	13.34		Pass
95780	72043	71001	A5183 Elstree Hill South - A41 Watford Bypass	247	312	65	3.88	Pass	Pass	357	110	6.33		
95780	72043	72050	A5183 Elstree Hill South - A41 Egeware Way	183	192	9	0.63	Pass	Pass	196	13	0.94	Pass	Pass
95780	72043	95446	A5183 Elstree Hill South - A5 Brockley Hill	447	437	-10	0.48	Pass	Pass	436	-11	0.52	Pass	Pass
95446	72043	71001	A5 Brockley Hill - A41 Watford Bypass	301	275	-26	1.54	Pass	Pass	274	-27	1.59	Pass	Pass
95446	72043	72050	A5 Brockley Hill - A41 Egeware Way	81	0	-81	12.73		Pass	0	-81	12.73		Pass
95446	72043	95780	A5 Brockley Hill - A5183 Elstree Hill South	366	365	-1	0.06	Pass	Pass	365	-1	0.05	Pass	Pass
72075	72069	72049	A410 Spur Road - A41 Edgware Way (n)	460	411	-49	2.37	Pass	Pass	406	-54	2.60	Pass	Pass
72075	72069	72076	A410 Spur Road - A41 Edgware Way (s)	711	696	-15	0.58	Pass	Pass	696	-15	0.57	Pass	Pass
72075	72069	95285	A410 Spur Road - Green Lane	43	43	0	0.06	Pass	Pass	43	0	0.00	Pass	Pass
72229	72069	72075	A41 Edgware Way (n) - A410 Spur Road	474	459	-15	0.69	Pass	Pass	460	-14	0.65	Pass	Pass
72229	72069	72076	A41 Edgware Way (n) - A41 Edgware Way (s)	718	720	2	0.07	Pass	Pass	722	4	0.15	Pass	Pass
72229	72069	95285	A41 Edgware Way (n) - Green Lane	98	97	-1	0.06	Pass	Pass	97	-1	0.10	Pass	Pass
72265	72069	72049	A41 Edgware Way (s) - A41 Edgware Way (n)	733	710	-23	0.84	Pass	Pass	717	-16	0.59	Pass	Pass
72265	72069	72075	A41 Edgware Way (s) - A410 Spur Road	669	596	-73	2.92	Pass	Pass	594	-75	2.98	Pass	Pass
72265	72069	95285	A41 Edgware Way (s) - Green Lane	32	32	0	0.02	Pass	Pass	32	0	0.00	Pass	Pass
95285	72069	72049	Green Lane - A41 Edgware Way (n)	34	30	-4	0.71	Pass	Pass	30	-4	0.71	Pass	Pass
95285	72069	72075	Green Lane - A410 Spur Road	36	21	-15	2.81	Pass	Pass	21	-15	2.81	Pass	Pass
95285	72069	72076	Green Lane - A41 Edgware Way (s)	41	22	-19	3.38	Pass	Pass	22	-19	3.39	Pass	Pass
72069	72075	95264	A410 Spur Road - A410 London Road	702	672	-30	1.13	Pass	Pass	676	-26	0.99	Pass	Pass
72069	72075	95273	A410 Spur Road - A5 Stonegrove	290	282	-8	0.46	Pass	Pass	278	-12	0.71	Pass	Pass
72069	72075	95446	A410 Spur Road - A5 Brockley Hill	62	121	59	6.19		Pass	121	59	6.17		Pass
95264	72075	72069	A410 London Road - A410 Spur Road	803	755	-49	1.74	Pass	Pass	718	-85	3.08	Pass	Pass
95264	72075	95273	A410 London Road - A5 Stonegrove	161	131	-30	2.48	Pass	Pass	131	-30	2.48	Pass	Pass
95264	72075	95446	A410 London Road - A5 Brockley Hill	113	88	-25	2.49	Pass	Pass	83	-30	3.03	Pass	Pass
95273	72075	72069	A5 Stonegrove - A410 Spur Road	423	342	-81	4.12	Pass	Pass	339	-84	4.30	Pass	Pass
95273	72075	95264	A5 Stonegrove - A410 London Road	157	144	-13	1.06	Pass	Pass	139	-18	1.48	Pass	Pass
95273	72075	95446	A5 Stonegrove - A5 Brockley Hill	342	413	71	3.65	Pass	Pass	409	67	3.46	Pass	Pass
95446	72075	72069	A5 Brockley Hill - A410 Spur Road	103	87	-16	1.64	Pass	Pass	87	-16	1.64	Pass	Pass
95446	72075	95264	A5 Brockley Hill - A410 London Road	115	126	11	1.03	Pass	Pass	127	12	1.09	Pass	Pass
95446	72075	95273	A5 Brockley Hill - A5 Stonegrove	282	274	-8	0.47	Pass	Pass	271	-11	0.66	Pass	Pass
71011	71010	71022	A410 The Broadway - A4140 Marsh Lane	233	233	0	0.01	Pass	Pass	231	-2	0.13	Pass	Pass
71011	71010	95264	A410 The Broadway - A410 London Road	680	625	-55	2.14	Pass	Pass	624	-56	2.19	Pass	Pass
71011	71010	95738	A410 The Broadway - Dennis Lane	44	0	-44	9.38		Pass	0	-44	9.38		Pass
71022	71010	71011	A4140 Marsh Lane - A410 The Broadway	258	233	-25	1.57	Pass	Pass	243	-15	0.95	Pass	Pass
71022	71010	95264	A4140 Marsh Lane - A410 London Road	294	265	-29	1.72	Pass	Pass	263	-31	1.86	Pass	Pass
71022	71010	95738	A4140 Marsh Lane - Dennis Lane	155	160	5	0.43	Pass	Pass	157	2	0.16	Pass	Pass
95264	71010	71011	A410 London Road - A410 The Broadway	672	636	-36	1.40	Pass	Pass	642	-30	1.17	Pass	Pass
95264	71010	71022	A410 London Road - A4140 Marsh Lane	307	316	9	0.52	Pass	Pass	307	0	0.00	Pass	Pass
95264	71010	95738	A410 London Road - Dennis Lane	38	39	1	0.10	Pass	Pass	39	1	0.16	Pass	Pass
95738	71010	71011	Dennis Lane - A410 The Broadway	36	0	-36	8.49	. 400	Pass	0	-36	8.49		Pass
95738	71010	71022	Dennis Lane - A4140 Marsh Lane	186	191	5	0.34	Pass	Pass	191	5	0.36	Pass	Pass
95738	71010	95264	Dennis Lane - A410 London Road	29	28	-1	0.11	Pass	Pass	28	-1	0.19	Pass	Pass
70016	70010	70210	A4140 Fryent Way - The Mall	83	76	-7	0.74	Pass	Pass	74	-9	1.02	Pass	Pass
70016	70010	71070	A4140 Fryent Way - A4006 Kenton Road	486	481	-5	0.24	Pass	Pass	468	-18	0.82	Pass	Pass
70016	70010	95686	A4140 Fryent Way - A4140 Honeypot Lane	366	379	13	0.66	Pass	Pass	369	3	0.16	Pass	Pass
70016	70010	95688	A4140 Fryent Way - A4006 Kingsbury Road	170	164	-6	0.48	Pass	Pass	157	-13	1.02	Pass	Pass
70210	70010		The Mall - A4140 Fryent Way	120	107	-13	1.25	Pass	Pass	98	-22	2.11	Pass	Pass
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70040	70040	71070	The Mall - A4006 Kenton Road	23	2	04	5.88		Pass	2	n4	5.94		Pass
70210 70210	70010 70010	95686		215	198	-21 -17	1.15	D		194	-21 -21	1.47	Pass	
		95688	The Mall - A4140 Honeypot Lane	56		0		Pass	Pass	66		1.47		Pass
70210 71070	70010 70010	70016	The Mall - A4006 Kingsbury Road A4006 Kenton Road - A4140 Fryent Way	190	56 211	21	0.02 1.51	Pass Pass	Pass Pass	199	10 9	0.65	Pass Pass	Pass Pass
71070	70010	70010	A4006 Kenton Road - The Mall	146		-146	17.09	F455	rass	0	-146	17.09	rass	rass
71070	70010	95686	A4006 Kenton Road - A4140 Honeypot Lane	83	0 86	3	0.31	Pass	Pass	85	2	0.22	Pass	Pass
71070	70010	95688	A4006 Kenton Road - A4140 Honeypot Lane A4006 Kenton Road - A4006 Kingsbury Road	195	220	25	1.74	Pass	Pass	236	41	2.79	Pass	Pass
95686	70010	70016	A4140 Honeypot Lane - A4140 Fryent Way	532	503	-29	1.74	Pass	Pass	508	-24	1.05	Pass	Pass
95686	70010	70010	A4140 Honeypot Lane - The Mall	157	268	111	7.61	F455	rass	263	106	7.31	Fd55	F455
95686	70010	71070	A4140 Honeypot Lane - A4006 Kenton Road	154	0	-154	17.55			0	-154	17.55		
95686	70010	95688	A4140 Honeypot Lane - A4006 Kingsbury Road	134	125	-134	0.77	Pass	Pass	122	-12	1.06	Pass	Pass
95688	70010	70016	A4006 Kingsbury Road - A4140 Fryent Way	68	86	18	2.01	Pass	Pass	73	5	0.60	Pass	Pass
95688	70010	70210	A4006 Kingsbury Road - The Mall	149	145	-4	0.35	Pass	Pass	146	-3	0.00	Pass	Pass
95688	70010	71070	A4006 Kingsbury Road - A4006 Kenton Road	348	333	-15	0.83	Pass	Pass	331	-17	0.23	Pass	Pass
95688	70010	95686	A4006 Kingsbury Road - A4140 Honeypot Lane	207	241	34	2.25	Pass	Pass	244	37	2.46	Pass	Pass
70014	70010	95594	A4006 Kingsbury Road (e) - B454 Church Lane	209	165	-44	3.18	Pass	Pass	179	-30	2.15	Pass	Pass
70014	70012	95764	A4006 Kingsbury Road (e) - A4006 Kingsbury Road (w)	510	510	0	0.02	Pass	Pass	508	-2	0.09	Pass	Pass
95594	70012	70014	B454 Church Lane - A4006 Kingsbury Road (e)	253	213	-40	2.62	Pass	Pass	221	-32	2.08	Pass	Pass
95594	70012	95764	B454 Church Lane - A4006 Kingsbury Road (w)	390	397	7	0.34	Pass	Pass	395	5	0.25	Pass	Pass
95764	70012	70014	A4006 Kingsbury Road (w) - A4006 Kingsbury Road (e)	508	522	14	0.60	Pass	Pass	538	30	1.31	Pass	Pass
95764	70012	95594	A4006 Kingsbury Road (w) - B454 Church Lane	298	280	-18	1.05	Pass	Pass	278	-20	1.18	Pass	Pass
90358	72173	95163	A5 The Hyde (n) - A4006 Kingsbury Road	192	143	-49	3.82	Pass	Pass	141	-51	3.95	Pass	Pass
90358	72173	95169	A5 The Hyde (n) - A5 The Hyde (s)	645	597	-48	1.93	Pass	Pass	611	-34	1.36	Pass	Pass
95163	72173	90358	A4006 Kingsbury Road - A5 The Hyde (n)	197	176	-21	1.51	Pass	Pass	185	-12	0.87	Pass	Pass
95163	72173	95169	A4006 Kingsbury Road - A5 The Hyde (s)	360	331	-29	1.53	Pass	Pass	334	-26	1.40	Pass	Pass
95169	72173	90358	A5 The Hyde (s) - A5 The Hyde (n)	786	721	-65	2.35	Pass	Pass	714	-72	2.63	Pass	Pass
95169	72173	95163	A5 The Hyde (s) - A4006 Kingsbury Road	428	418	-10	0.47	Pass	Pass	422	-6	0.29	Pass	Pass
72176	72169	72259	A41 Watford Way (s) - A504 Station Road	12	0	-12	4.90	Pass	Pass	0	-12	4.90	Pass	Pass
72176	72169	90368	A41 Watford Way (s) - A504 The Burroughs	163	171	8	0.65	Pass	Pass	168	5	0.39	Pass	Pass
72176	72169	72164	A41 Watford Way (s) - A41 Watford Way (n)	2339	2272	-67	1.40	Pass	Pass	2277	-62	1.29	Pass	Pass
72259	72169	72176	A504 Station Road - A41 Watford Way (s)	39	33	-6	1.01	Pass	Pass	30	-9	1.53	Pass	Pass
72259	72169	90368	A504 Station Road - A504 The Burroughs	236	197	-39	2.64	Pass	Pass	213	-23	1.54	Pass	Pass
72259	72169	72164	A504 Station Road - A41 Watford Way (n)	292	428	136	7.15			439	147	7.69		
90368	72169	72176	A504 The Burroughs - A41 Watford Way (s)	120	117	-3	0.30	Pass	Pass	81	-39	3.89	Pass	Pass
90368	72169	72259	A504 The Burroughs - A504 Station Road	220	167	-53	3.80	Pass	Pass	181	-39	2.75	Pass	Pass
90368	72169	72164	A504 The Burroughs - A41 Watford Way (n)	364	332	-32	1.71	Pass	Pass	319	-45	2.44	Pass	Pass
95720	72169	72176	A41 Watford Way (n) - A41 Watford Way (s)	1683	1618	-65	1.59	Pass	Pass	1626	-57	1.40	Pass	Pass
95720	72169	72259	A41 Watford Way (n) - A504 Station Road	151	167	16	1.25	Pass	Pass	171	20	1.58	Pass	Pass
95720	72169	90368	A41 Watford Way (n) - A504 The Burroughs	248	236	-12	0.75	Pass	Pass	250	2	0.13	Pass	Pass
72149	72154	72162	A5 Edgware Road (n) - A5 Edgware Road (s)	829	762	-67	2.36	Pass	Pass	762	-67	2.38	Pass	Pass
72149	72154	90337	A5 Edgware Road (n) - A5150 Colindeep Lane	356	344	-12	0.67	Pass	Pass	352	-4	0.21	Pass	Pass
72149	72154	95739	A5 Edgware Road (n) - Windover Lane	22	22	-1	0.11	Pass	Pass	0	-22	6.63		Pass
72162	72154	72149	A5 Edgware Road (s) - A5 Edgware Road (n)	843	842	-1	0.02	Pass	Pass	843	0	0.00	Pass	Pass
72162	72154	90337	A5 Edgware Road (s) - A5150 Colindeep Lane	152	135	-17	1.46	Pass	Pass	142	-10	0.82	Pass	Pass
72162	72154	95739	A5 Edgware Road (s) - Windover Lane	26	25	-1	0.14	Pass	Pass	25	-1	0.20	Pass	Pass
90337	72154	72149	A5150 Colindeep Lane - A5 Edgware Road (n)	445	417	-28	1.34	Pass	Pass	413	-32	1.54	Pass	Pass
90337	72154	72162	A5150 Colindeep Lane - A5 Edgware Road (s)	188	177	-11	0.83	Pass	Pass	180	-8	0.59	Pass	Pass
90337	72154	95739	A5150 Colindeep Lane - Windover Lane	8	11	3	0.97	Pass	Pass	10	2	0.67	Pass	Pass
95739	72154	72149	Windover Lane - A5 Edgware Road (n)	61	0	-61	11.05		Pass	0	-61	11.05		Pass
95739	72154	72162	Windover Lane - A5 Edgware Road (s)	39	41	2	0.35	Pass	Pass	41	2	0.32	Pass	Pass
95739	72154	90337	Windover Lane - A5150 Colindeep Lane	30	39	9	1.59	Pass	Pass	39	9	1.53	Pass	Pass
72154	72149	90309	A5 Edgware Road (s) - A5 Edgware Road (n)	290	271	-19	1.11	Pass	Pass	317	27	1.55	Pass	Pass
72154	72149	95063	A5 Edgware Road (s) - A5 Edgware Road (n)	1080	988	-92	2.85	Pass	Pass	939	-141	4.44	Pass	Pass
90309	72149	72154	Colindale Avenue - A5 Edgware Road (s)	423	401	-22	1.09	Pass	Pass	355	-68	3.45	Pass	Pass
95063	72149	72154	A5 Edgware Road (n) - A5 Edgware Road (s)	795	726	-69	2.49	Pass	Pass	759	-36	1.29	Pass	Pass
95063	72149	90309	A5 Edgware Road (n) - A5 Edgware Road (n)	132	128	-4	0.35	Pass	Pass	261	129	9.20		
90024	72141	90033	Colindale Avenue - Grahame Park Way	406	398	-8	0.40	Pass	Pass	392	-14	0.70	Pass	Pass
90024	72141	90049	Colindale Avenue - Eagle Drive	19	19	0	0.04	Pass	Pass	19	0	0.00	Pass	Pass
90024	72141	90320	Colindale Avenue - Aerodrome Road	172	188	16	1.16	Pass	Pass	188	16	1.19	Pass	Pass
90033	72141	90024	Grahame Park Way - Colindale Avenue	306	331	25	1.39	Pass	Pass	408	102	5.40		
90033	72141	90049	Grahame Park Way - Eagle Drive	29	29	0	0.01	Pass	Pass	29	0	0.00	Pass	Pass
90033	72141	90320	Grahame Park Way - Aerodrome Road	196	193	-3	0.22	Pass	Pass	192	-4	0.29	Pass	Pass
90049	72141	90024	Eagle Drive - Colindale Avenue	22	22	0	0.05	Pass	Pass	22	0	0.00	Pass	Pass
90049	72141	90033	Eagle Drive - Grahame Park Way	22	23	1	0.19	Pass	Pass	23	1	0.21	Pass	Pass
90049	72141	90320	Eagle Drive - Aerodrome Road	16	16	0	0.11	Pass	Pass	16	0	0.00	Pass	Pass
90320	72141	90024	Aerodrome Road - Colindale Avenue	364	440	76	3.81	Pass	Pass	444	80	3.98	Pass	Pass
90320	72141	90033	Aerodrome Road - Grahame Park Way	338	341	3	0.15	Pass	Pass	346	8	0.43	Pass	Pass
90320	72141	90049	Aerodrome Road - Eagle Drive	18	17	-1	0.23	Pass	Pass	17	-1	0.24	Pass	Pass

72102	72104	72106	Bunns Lane (n) - Bunns Lane (s)	765	796	31	1.10	Pass	Pass	809	44	1.57	Pass	Pass
72102	72104	90018	Bunns Lane (n) - Woodcroft Avenue	133	50	-83	8.72		Pass	29	-104	11.56		
72106	72104	72102	Bunns Lane (s) - Bunns Lane (n)	749	640	-109	4.14	Pass	Pass	636	-113	4.29	Pass	Pass
72106	72104	90018	Bunns Lane (s) - Woodcroft Avenue	225	365	140	8.14			344	119	7.06		
90018	72104	72102	Woodcroft Avenue - Bunns Lane (n)	127	112	-15	1.40	Pass	Pass	114	-13	1.18	Pass	Pass
90018	72104	72106	Woodcroft Avenue - Bunns Lane (s)	172	191	19	1.42	Pass	Pass	201	29	2.12	Pass	Pass
72267	72122	90011	Watling Avenue (s) - Cressingham Road	9	10	1	0.24	Pass	Pass	10	1	0.32	Pass	Pass
72267	72122	90085	Watling Avenue (s) - Watling Avenue (n)	64	0	-64	11.31		Pass	0	-64	11.31		Pass
72267	72122	95403	Watling Avenue (s) - Montrose Avenue	133	110	-23	2.05	Pass	Pass	111	-22	1.99	Pass	Pass
90011	72122	72267	Cressingham Road - Watling Avenue (s)	7	5	-2	0.77	Pass	Pass	5	-2	0.82	Pass	Pass
90011	72122	90085	Cressingham Road - Watting Avenue (n)	45	47	2	0.33	Pass	Pass	51	6	0.87	Pass	Pass
90011	72122	95403	Cressingham Road - Montrose Avenue	10	9	-1	0.36	Pass	Pass	9	-1	0.32	Pass	Pass
90085	72122	72267	Watling Avenue (n) - Watling Avenue (s)	45	40	-5	0.81	Pass	Pass	29	-16	2.63	Pass	Pass
90085	72122	90011	Watling Avenue (n) - Cressingham Road	81	87	6	0.67	Pass	Pass	85	4	0.44	Pass	Pass
90085	72122	95403	Watling Avenue (n) - Montrose Avenue	240	234	-6	0.42	Pass	Pass	235	-5	0.32	Pass	Pass
95403	72122	72267	Montrose Avenue - Watling Avenue (s)	160	122	-38	3.16	Pass	Pass	120	-40	3.38	Pass	Pass
95403	72122	90011	Montrose Avenue - Cressingham Road	9	27	18	4.27	Pass	Pass	29	20	4.59	Pass	Pass
95403	72122	90085	Montrose Avenue - Watling Avenue (n)	206	201	-5	0.36	Pass	Pass	187	-19	1.36	Pass	Pass
70001	72136	95232	Stag Lane - A5 Burnt Oak Broadway (s)	53	65	12	1.57	Pass	Pass	68	15	1.93	Pass	Pass
70001	72136	95728	Stag Lane - A5 Burnt Oak Broadway (n)	243	206	-37	2.49	Pass	Pass	207	-36	2.40	Pass	Pass
72136	95728	90055	A5 Burnt Oak Broadway (s) - Watling Avenue	217	173	-44	3.16	Pass	Pass	174	-43	3.08	Pass	Pass
72136	95728	95219	A5 Burnt Oak Broadway (s) - A5 Burnt Oak Broadway (n)	723	673	-50	1.90	Pass	Pass	671	-52	1.97	Pass	Pass
90055	95728	72136	Watling Avenue - A5 Burnt Oak Broadway (s)	238	178	-60	4.13	Pass	Pass	175	-63	4.38	Pass	Pass
90055	95728	95219	Watling Avenue - A5 Burnt Oak Broadway (n)	107	114	7	0.69	Pass	Pass	114	7	0.67	Pass	Pass
95219	95728	72136	A5 Burnt Oak Broadway (n) - A5 Burnt Oak Broadway (s)	315	608	293	13.65			639	324	14.83		
95219	95728	90055	A5 Burnt Oak Broadway (n) - Watling Avenue	275	125	-150	10.60			107	-168	12.16		
95232	72136	70001	A5 Burnt Oak Broadway (s) - Stag Lane	57	45	-12	1.68	Pass	Pass	44	-13	1.83	Pass	Pass
95232	72136	95728	A5 Burnt Oak Broadway (s) - A5 Burnt Oak Broadway (n)	696	640	-56	2.17	Pass	Pass	639	-57	2.21	Pass	Pass
95728	72136	70001	A5 Burnt Oak Broadway (n) - Stag Lane	246	235	-11	0.70	Pass	Pass	239	-7	0.45	Pass	Pass
95728	72136	95232	A5 Burnt Oak Broadway (n) - A5 Burnt Oak Broadway (s)	703	551	-152	6.05			575	-128	5.06		Pass
71156	72118	72128	Camrose Avenue - A5 Burnt Oak Broadway	29	33	4	0.65	Pass	Pass	29	0	0.00	Pass	Pass
71156	72118	90105	Camrose Avenue - A5 High Street	137	138	1	0.06	Pass	Pass	140	3	0.25	Pass	Pass
71156	72118	90124	Camrose Avenue - A5109 Deansbrook Road	408	405	-3	0.14	Pass	Pass	403	-5	0.25	Pass	Pass
72128	72118	71156	A5 Burnt Oak Broadway - Camrose Avenue	38	19	-19	3.48	Pass	Pass	20	-18	3.34	Pass	Pass
72128	72118	90105	A5 Burnt Oak Broadway - A5 High Street	687	627	-60	2.33	Pass	Pass	611	-76	2.98	Pass	Pass
72128	72118	90124	A5 Burnt Oak Broadway - A5109 Deansbrook Road	145	92	-53	4.82	Pass	Pass	92	-53	4.87	Pass	Pass
90105	72118	71156	A5 High Street - Camrose Avenue	146	99	-47	4.27	Pass	Pass	92	-54	4.95	Pass	Pass
90105	72118	72128	A5 High Street - A5 Burnt Oak Broadway	590	500	-90	3.86	Pass	Pass	488	-102	4.39	Pass	
90105	72118	90124		140	144	4	0.34	Pass	Pass	124	-16	1.39	Pass	Pass
90124	72118	71156	A5109 Deansbrook Road - Camrose Avenue	483	522	39	1.76	Pass	Pass	527	44	1.96	Pass	Pass
90124	72118	72128	A5109 Deansbrook Road - A5 Burnt Oak Broadway	138	127	-11	0.95	Pass	Pass	129	-9	0.78	Pass	Pass
90124	72118	90105	A5109 Deansbrook Road - A5 High Street	144	167	23	1.81	Pass	Pass	165	21	1.69	Pass	Pass
90105	72105	95282	A5 High Street (s) - Whitchurch Lane	361	294	-67	3.72	Pass	Pass	292	-69	3.82	Pass	Pass
90105	72105	95286	A5 High Street (s) - A5100 Station Road	215	218	3	0.17	Pass	Pass	222	7	0.47	Pass	Pass
90105	72105	95293	A5 High Street (s) - A5 High Street (n)	659	657	-2	0.09	Pass	Pass	655	-4	0.16	Pass	Pass
95282	72105	90105	Whitchurch Lane - A5 High Street (s)	133	94	-39	3.63	Pass	Pass	94	-39	3.66	Pass	Pass
95282	72105	95286	Whitchurch Lane - A5100 Station Road	219	236	17	1.10	Pass	Pass	238	19	1.26	Pass	Pass
95282	72105	95293	Whitchurch Lane - A5 High Street (n)	159	150	-9	0.74	Pass	Pass	149	-10	0.81	Pass	Pass
95286	72105	90105	A5100 Station Road - A5 High Street (s)	333	284	-49	2.79	Pass	Pass	285	-48	2.73	Pass	Pass
95286	72105	95282	A5100 Station Road - Whitchurch Lane	381	386	5	0.25	Pass	Pass	384	3	0.15	Pass	Pass
95293	72105	90105	A5 High Street (n) - A5 High Street (s)	602	560	-42	1.74	Pass	Pass	559	-43	1.78	Pass	Pass
95293	72105	95286	A5 High Street (n) - A5100 Station Road	72	58	-14	1.78	Pass	Pass	56	-16	2.00	Pass	Pass
95308	72085	95316	A5100 Hale Lane (w) - A5109 Selvage Lane	52	48	-4	0.50	Pass	Pass	48	-4	0.57	Pass	Pass
95308	72085	99972	A5100 Hale Lane (w) - A5100 Hale Lane (e)	319	272	-47	2.75	Pass	Pass	270	-49	2.86	Pass	Pass
95308	72085	99973	A5100 Hale Lane (w) - A5109 Deans Lane	194	216	22	1.52	Pass	Pass	219	25	1.74	Pass	Pass
95316	72085	95308	A5109 Selvage Lane - A5100 Hale Lane (w)	65	54	-11	1.45	Pass	Pass	54	-11	1.43	Pass	Pass
							1.86	Pass	Pass	166	23	1.85	Pass	Pass
95316	72085	99972	A5109 Selvage Lane - A5100 Hale Lane (e)	143	166	23								
95316	72085 72085	99972 99973	A5109 Selvage Lane - A5109 Deans Lane	477	483	6	0.27	Pass	Pass	485	8	0.36	Pass	Pass
95316 99972	72085 72085 72085	99972 99973 95308	A5109 Selvage Lane - A5109 Deans Lane A5100 Hale Lane (e) - A5100 Hale Lane (w)	477 455	483 509	6 54	0.27 2.46		Pass Pass	513	8 58	0.36 2.64	Pass Pass	Pass
95316 99972 99972	72085 72085 72085 72085	99972 99973 95308 95316	A5109 Selvage Lane - A5109 Deans Lane A5100 Hale Lane (e) - A5100 Hale Lane (w) A5100 Hale Lane (e) - A5109 Selvage Lane	477 455 75	483 509 0	6 54 -75	0.27 2.46 12.22	Pass	Pass Pass Pass	513 0	8 58 -75	0.36 2.64 12.25		Pass Pass
95316 99972 99972 99972	72085 72085 72085 72085 72085	99972 99973 95308 95316 99973	A5109 Selvage Lane - A5109 Deans Lane A5100 Hale Lane (e) - A5100 Hale Lane (w) A5100 Hale Lane (e) - A5109 Selvage Lane A5100 Hale Lane (e) - A5109 Deans Lane	477 455 75 92	483 509 0 15	6 54 -75 -77	0.27 2.46 12.22 10.54	Pass Pass	Pass Pass Pass Pass	513 0 15	8 58 -75 -77	0.36 2.64 12.25 10.53	Pass	Pass Pass Pass
95316 99972 99972 99972 99973	72085 72085 72085 72085 72085 72085 72085	99972 99973 95308 95316 99973 95308	A5109 Selvage Lane - A5109 Deans Lane A5100 Hale Lane (e) - A5100 Hale Lane (w) A5100 Hale Lane (e) - A5109 Selvage Lane A5100 Hale Lane (e) - A5109 Selvage Lane A5100 Hale Lane (e) - A5109 Deans Lane A5109 Deans Lane - A5100 Hale Lane (w)	477 455 75 92 243	483 509 0 15 215	6 54 -75 -77 -28	0.27 2.46 12.22 10.54 1.85	Pass Pass Pass	Pass Pass Pass Pass Pass Pass	513 0 15 213	8 58 -75 -77 -30	0.36 2.64 12.25 10.53 1.99	Pass Pass	Pass Pass Pass Pass
95316 99972 99972 99972 99973 99973	72085 72085 72085 72085 72085 72085 72085 72085	99972 99973 95308 95316 99973 95308 95316	A5109 Selvage Lane - A5109 Deans Lane A5100 Hale Lane (e) - A5100 Hale Lane (w) A5100 Hale Lane (e) - A5109 Selvage Lane A5100 Hale Lane (e) - A5109 Selvage Lane A5100 Hale Lane (e) - A5109 Deans Lane A5109 Deans Lane - A5100 Hale Lane (w) A5109 Deans Lane - A5100 Selvage Lane	477 455 75 92 243 267	483 509 0 15 215 339	6 54 -75 -77 -28 72	0.27 2.46 12.22 10.54 1.85 4.12	Pass Pass	Pass Pass Pass Pass Pass Pass Pass	513 0 15 213 340	8 58 -75 -77 -30 73	0.36 2.64 12.25 10.53 1.99 4.19	Pass	Pass Pass Pass Pass Pass Pass
95316 99972 99972 99972 99973 99973	72085 72085 72085 72085 72085 72085 72085 72085 72085	99972 99973 95308 95316 99973 95308 95316 99972	A5109 Selvage Lane - A5109 Deans Lane A5100 Hale Lane (e) - A5100 Hale Lane (w) A5100 Hale Lane (e) - A5100 Selvage Lane A5100 Hale Lane (e) - A5109 Selvage Lane A5100 Deans Lane - A5100 Hale Lane (w) A5109 Deans Lane - A5100 Hale Lane (w) A5109 Deans Lane - A5100 Hale Lane (e)	477 455 75 92 243 267 77	483 509 0 15 215 339	6 54 -75 -77 -28 72 -66	0.27 2.46 12.22 10.54 1.85 4.12 9.86	Pass Pass Pass Pass Pass	Pass Pass Pass Pass Pass Pass Pass Pass	513 0 15 213 340	8 58 -75 -77 -30 73 -66	0.36 2.64 12.25 10.53 1.99 4.19 9.95	Pass Pass Pass	Pass Pass Pass Pass Pass Pass Pass
95316 99972 99972 99972 99973 99973 99973 72073	72085 72085 72085 72085 72085 72085 72085 72085 72085 72085 95754	99972 99973 95308 95316 99973 95308 95316 99972 95755	A5109 Selvage Lane - A5109 Deans Lane A5100 Hale Lane (e) - A5100 Hale Lane (w) A5100 Hale Lane (e) - A5109 Selvage Lane A5100 Hale Lane (e) - A5109 Selvage Lane A5100 Hale Lane (e) - A5109 Deans Lane A5109 Deans Lane - A5100 Hale Lane (w) A5109 Deans Lane - A5100 Selvage Lane A5109 Deans Lane - A5100 Hale Lane (e) A5109 Deans Lane - A5100 Hale Lane (e) A500 Deans Lane - A5100 Hale Lane (e)	477 455 75 92 243 267 77 1610	483 509 0 15 215 339 11 1450	6 54 -75 -77 -28 72 -66 -160	0.27 2.46 12.22 10.54 1.85 4.12 9.86 4.09	Pass Pass Pass Pass Pass Pass	Pass Pass Pass Pass Pass Pass Pass Pass	513 0 15 213 340 11 1450	8 58 -75 -77 -30 73 -66 -160	0.36 2.64 12.25 10.53 1.99 4.19 9.95 4.09	Pass Pass Pass Pass	Pass Pass Pass Pass Pass Pass Pass Pass
95316 99972 99972 99972 99973 99973 99973 72073 72073	72085 72085 72085 72085 72085 72085 72085 72085 72085 72085 95754	99972 99973 95308 95316 99973 95308 95316 99972 95755 95756	A5109 Selvage Lane - A5109 Deans Lane A5100 Hale Lane (e) - A5100 Hale Lane (w) A5100 Hale Lane (e) - A5109 Selvage Lane A5100 Hale Lane (e) - A5109 Selvage Lane A5100 Hale Lane (e) - A5109 Deans Lane A5109 Deans Lane - A5100 Hale Lane (w) A5109 Deans Lane - A5100 Selvage Lane A5109 Deans Lane - A5100 Hale Lane (e) Apex Corner Roundabout turning into A41 Edgware Way Apex Corner Roundabout not turning into A41 Edgware Way	477 455 75 92 243 267 77 1610 2813	483 509 0 15 215 339 11 1450 2723	6 54 -75 -77 -28 -72 -66 -160 -90	0.27 2.46 12.22 10.54 1.85 4.12 9.86 4.09 1.71	Pass Pass Pass Pass Pass	Pass Pass Pass Pass Pass Pass Pass Pass	513 0 15 213 340 11 1450 2723	8 58 -75 -77 -30 73 -66 -160 -90	0.36 2.64 12.25 10.53 1.99 4.19 9.95 4.09 1.71	Pass Pass Pass Pass Pass	Pass Pass Pass Pass Pass Pass Pass Pass
95316 99972 99972 99972 99973 99973 99973 72073	72085 72085 72085 72085 72085 72085 72085 72085 72085 72085 95754	99972 99973 95308 95316 99973 95308 95316 99972 95755	A5109 Selvage Lane - A5109 Deans Lane A5100 Hale Lane (e) - A5100 Hale Lane (w) A5100 Hale Lane (e) - A5109 Selvage Lane A5100 Hale Lane (e) - A5109 Selvage Lane A5100 Hale Lane (e) - A5109 Deans Lane A5109 Deans Lane - A5100 Hale Lane (w) A5109 Deans Lane - A5100 Selvage Lane A5109 Deans Lane - A5100 Hale Lane (e) A5109 Deans Lane - A5100 Hale Lane (e) A500 Deans Lane - A5100 Hale Lane (e)	477 455 75 92 243 267 77 1610	483 509 0 15 215 339 11 1450	6 54 -75 -77 -28 72 -66 -160	0.27 2.46 12.22 10.54 1.85 4.12 9.86 4.09	Pass Pass Pass Pass Pass Pass	Pass Pass Pass Pass Pass Pass Pass Pass	513 0 15 213 340 11 1450	8 58 -75 -77 -30 73 -66 -160	0.36 2.64 12.25 10.53 1.99 4.19 9.95 4.09	Pass Pass Pass Pass	Pass Pass Pass Pass Pass Pass Pass Pass

Table D.2 Overall Area Comparison of Observed Flows, Modelled Flows and Modified Model Flows (with network changes) for Evening Peak Hour

72070	72280	95763	Apex Corner Roundabout turning into A1 Barnet Bypass	1126	1168	42	1.24	Pass	Pass	1169	43	1.27	Pass	Pass
95759	95760	95762	Apex Corner Roundabout not turning into A1 Barnet Bypass	1960	1934	-26	0.59	Pass	Pass	1936	-24	0.54	Pass	Pass
95762	72073	72239	Apex Corner Roundabout turning into A5019 Selvage Lane	883	817	-66	2.27	Pass	Pass	819	-64	2.19	Pass	Pass
95762	72073		Apex Corner Roundabout not turning into A5019 Selvage Lane	3891	3716	-175	2.84	Pass	Pass	3716	-175	2.84	Pass	Pass
72037	95747	72010	Stirling Corner Roundabout turning into A1 Barnet Bypass	2671	2656	-15	0.29	Pass	Pass	2655	-16	0.31	Pass	Pass
72037	95747	95750	Stirling Corner Roundabout not turning into A1 Barnet Bypass	1093	1061	-32	0.99	Pass	Pass	1063	-30	0.91	Pass	Pass
75067	72037	95740	Stirling Corner Roundabout turning into Stirling Way	69	74	5	0.59	Pass	Pass	75	6	0.71	Pass	Pass
75067	72037	95747	Stirling Corner Roundabout not turning into Stirling Way	3622	3575	-47	0.78	Pass	Pass	3577	-45	0.75	Pass	Pass
95747	95750	95748	Stirling Corner Roundabout not turning into A411 Barnet Road	2643	2607	-36	0.70	Pass	Pass	2612	-31	0.60	Pass	Pass
95747	95750	95751	Stirling Corner Roundabout turning into A411 Barnet Road	676	621	-55	2.15	Pass	Pass	618	-58	2.28	Pass	Pass
95748	95752	95749	Stirling Corner Roundabout not turning into A1 Barnet Way	877	873	-4	0.13	Pass	Pass	873	-4	0.14	Pass	Pass
95748	95752	95753	Stirling Corner Roundabout turning into A1 Barnet Way	2553	2529	-24	0.48	Pass	Pass	2531	-22	0.44	Pass	Pass
95749	75067		Stirling Corner Roundabout not turning into A411 Barnet Lane	2675	2655	-20	0.39	Pass	Pass	2657	-18	0.35	Pass	Pass
95749	75067		Stirling Corner Roundabout turning into A411 Barnet Lane	1108	1092	-16	0.47	Pass	Pass	1092	-16	0.48	Pass	Pass
70002	90023		A5 Edgware Road - Montrose Avenue	327	310	-17	0.95	Pass	Pass	333	6	0.33	Pass	Pass
70002	90023		A5 Edgware Road - A5 Burnt Oak Broadway	715	643	-72	2.77	Pass	Pass	640	-75	2.88	Pass	Pass
90065	90023	70002	Montrose Avenue - A5 Edgware Road	407	427	20	0.97	Pass	Pass	439	32	1.56	Pass	Pass
90065	90023		Montrose Avenue - A5 Burnt Oak Broadway	55	79	24	2.93	Pass	Pass	82	27	3.26	Pass	Pass
95232	90023		A5 Burnt Oak Broadway - A5 Edgware Road	619	546	-73	3.01	Pass	Pass	572	-47	1.93	Pass	Pass
95232	90023	90065	A5 Burnt Oak Broadway - Montrose Avenue	92	88	-4	0.40	Pass	Pass	86	-6	0.64	Pass	Pass

Site	Location	Turning Movement	ANODE	BNODE	C NODE		WITH CHANGES		% Differe
1		Edgware Road N LT Colindale Avenue Edgware Road N Straight Edgware Road S	95063 95063	72149 72149	90309 72154	121 836	137 843	16 7	13% 1%
		Colindale Avenue LT Edgware Road S	90003	72149	72154	836 440	843 428	-12	-3%
		Edgware Road S Straight Edgware Road N	72154	72149	95063	747	736	-11	-1%
		Edgware Road S RT Colindale Avenue	72154	72149	90309	390	393	3	1%
2	Annesley Avenue/Edgware Road	Edgware Road N Straight Edgware Road S	90290 90290	90312	95063	894	916	22	2%
		Edgware Road N LT Annesley Avenue Annesley Avenue RT Edgware Road N	90290	90312 90312	90313 90290	5 11	#N/A 24	#N/A 13	#N/A 118%
		Annesley Avenue LT Edgware Road N	90313	90312	95063	4	37	33	825%
		Edgware Road S Straight Edgware Road N	95063	90312	90290	767	761	-6	-1%
		Edgware Road S RT Annesley Avenue	95063	90312	90313	5	#N/A	#N/A	#N/A
3	Montrose Avenue/Edgware Road	Edgware Road N Straight Edgware Road S Edgware Road N LT Montrose Avenue	95232 95232	90023 90023	70002 90065	606 114	601 120	-5 6	-1% 5%
		Montrose Avenue LT Edgware Road S	95232	90023	70002	382	380	-2	-1%
		Montrose Avenue RT Edgware Road N	90065	90023	95232	22	22	0	0%
		Edgware Road S Straight Edgware Road N	70002	90023	95232	514	509	-5	-1%
		Edgware Road S RT Montrose Avenue	70002	90023	90065	201	203	2	1%
4		Booth Road N Straight Booth Road S Booth Road N LT Montrose Avenue E	90072 90072	90022 90022	90024 90070	115 2	79 2	-36 0	-31% 0%
		Booth Road N.R.T. Montrose Avenue W.	90072	90022	90070	45	87	42	93%
		Montrose Avenue E RT Booth Road N	90070	90022	90072	10	28	18	180%
		Montrose Avenue E Straight Montrose Avenue W	90070	90022	90227	270	237	-33	-12%
		Montrose Avenue E LT Booth Road S	90070	90022	90024	80	66	-14	-18%
		Booth Road S RT Montrose Avenue E Booth Road S Straight Booth Road N	90024 90024	90022 90022	90070 90072	97 277	86 271	-11 -6	-11%
		Booth Road S Straight Booth Road in Booth Road S LT Montrose Avenue W	90024	90022	90072	65	55	-6 -10	-2% -15%
		Montrose Avenue W LT Booth Road N	90024	90022	90072	29	31	2	7%
		Montrose Avenue W Straight Montrose Avenue E	90227	90022	90070	194	197	3	2%
		Montrose Avenue W RT Booth Road S	90227	90022	90024	56	53	-3	-5%
5	Montrose Avenue/Lanacre Avenue	Montrose Avenue W Straight Montrose Avenue E Montrose Avenue W RT Lanacre Avenue	90070 90070	90037 90037	90021 90046	243	233	-10	-4% 0%
		Montrose Avenue W RT Lanacre Avenue Montrose Avenue E Straight Montrose Avenue W	90070 90021	90037 90037	90046 90070	44 168	44 148	0 -20	0% -129
		Montrose Avenue E Straight Montrose Avenue W  Montrose Avenue E I T I anacre Avenue	90021	90037	90070	108	148	-20 0	-129
		Lanacre Avenue LT Montrose Avenue W	90021	90037	90070	156	149	-7	-4%
		Lanacre Avenue RT Montrose Avenue E	90046	90037	90021	71	57	-14	-209
6		Woodcroft Avenue LT Bunns Lane N	90018	72104	72102	149	135	-14	-9%
		Woodcroft Avenue RT Bunns Lane S	90018	72104	72106	150	160	10	7%
		Bunns Lane N Straight Bunns Lane S Bunns Lane N RT Woodcroft Avenue	72102 72102	72104 72104	72106 90018	793 64	797 63	4 -1	1% -2%
		Bunns Lane S Straight Bunns Lane N	72102	72104	72102	425	430	5	1%
		Bunns Lane S LT Woodcroft Avenue	72106	72104	90018	253	234	-19	-8%
7		Bunns Lane N Straight Grahame Park Way	72104	72106	90038	159	162	3	2%
		Bunns Lane N LT Bunns Lane S	72104	72106	95329	785	795	10	1%
		Bunns Lane S LT Grahame Park Way	95329	72106	90038	93	112	19	20%
		Bunns Lane S RT Bunns Lane N Grahame Park Way Straight Bunns Lane N	95329 90038	72106 72106	72104 72104	520 158	512 153	-8 -5	-2% -3%
		Grahame Park Way RT Bunns Lane S	90038	72106	95329	185	182	-3	-2%
8	Watford Way/Aerodrome Road/Greyhound Hil	Aerodrome Road LT Watford Way N	90333	72146	95734	28	24	-4	-149
		Aerodrome Road Straight Greyhound Hill	90333	72146	90364	312	316	4	1%
		Aerodrome Road RT Watford Way S	90333	72146	95720	100	96	-4	-4%
		Watford Way N RT Aerodrome Road Watford Way N Straight Watford Way S	95351 95351	72146 72146	90333 95720	14 1600	16 1602	2 2	14%
		Watford Way N LT Greyhound Hill	95351	72146	90364	292	290	-2	-1%
		Greyhound Hill RT Watford Way N	90364	72146	95734	83	85	2	2%
		Greyhound Hill Straight Aerodrome Road	90364	72146	90333	273	267	-6	-2%
		Greyhound Hill LT Watford Way S	90364	72146	95720	0	0	0_	#DIV/
		Watford Way S LT Aerodrome Road	95725 95725	72146 72146	90333 95734	341	334 1345	-7 23	-2% 2%
		Watford Way S Straight Watford Way N Watford Way S RT Greyhound Hill	95725 95725	72146	90364	1322 2	1345	23	2% 0%
q	Colindeep Lane/The Hyde	The Hyde N LT Colindeep Lane E	72149	72154	90337	447	443	-4	-1%
		The Hyde N Straight The Hyde S	72149	72154	72162	797	827	30	4%
		The Hyde N RT Colindeep Lane W	72149	72154	95739	32	0	-32	-1009
		Colindeep Lane E RT The Hyde N	90337	72154	72149	388	383	-5	-1%
		Colindeep Lane E Straight Colindeep Lane W Colindeep Lane E LT The Hyde S	90337 90337	72154 72154	95739 72162	26 128	24 126	-2 -2	-8% -2%
		Colindeep Lane E LT The Hyde S The Hyde S RT Colindeep Lane E	90337 72162	72154 72154	72162 90337	128 178	126 182	-2 4	-2% 2%
		The Hyde S Straight The Hyde N	72162	72154	72149	749	746	-3	0%
		The Hyde S LT Colindeep Lane W	72162	72154	95739	56	56	0	0%
		Colindeep Lane W LT The Hyde N	95739	72154	72149	0	0	0	#DIV/
		Colindeep Lane W Straight Colindeep Lane W Colindeep Lane W RT The Hyde S	95739 95739	72154 72154	90337 72162	6	6	0	0% 0%
10		Lanacre Avenue LT Graham Park Way E	90034	90033	90027	1	1	0	0%
10		Lanacre Avenue RT Graham Park Way W	90034	90033	72141	133	156	23	17%
	,			90033			1		0%
		Graham Park Way E RT Lanacre Avenue	90027		90034	1		0	
	, , , , , , , , , ,	Graham Park Way E RT Lanacre Avenue Graham Park Way E Straight Graham Park Way W	90027	90033	72141	597	620	23	4%
	, , , , , , , , , ,	Graham Park Way E RT Lanacre Avenue Graham Park Way E Straight Graham Park Way W Graham Park Way W LT Lanacre Avenue	90027 72141	90033 90033	72141 90034	597 29	620 29	23 0	4% 0%
11		Graham Park Way E RT Lanacre Avenue Graham Park Way E Straight Graham Park Way W Graham Park Way W LT Lanacre Avenue Graham Park Way W Straight Graham Park Way E	90027 72141 72141	90033 90033 90033	72141 90034 90027	597 29 576	620 29 569	23 0 -7	4% 0% -1%
11	Aerodrome Road/Graham Park Way/Colindale Avenue	Graham Park Way E RT Lanacre Avenue Graham Park Way E Straight Graham Park Way W Graham Park Way W LT Lanacre Avenue Graham Park Way W Straight Graham Park Way E	90027 72141	90033 90033	72141 90034	597 29	620 29	23 0	4% 0%
11	Aerodrome Road/Graham Park Way/Colindale Avenus	Graham Park Way E RT Lanacre Avenue Graham Park Way E Straight Graham Park Way W Graham Park Way W LT Lanacre Avenue Graham Park Way W Straight Graham Park Way E Colindale Avenue LT Raven Close	90027 72141 72141 90024	90033 90033 90033 72141	72141 90034 90027 90049 90033 90320	597 29 576 45	620 29 569 46	23 0 -7	4% 0% -1% 2% 0%
11	Aerodrome Road/Graham Park Way/Colindale Avenue	Graham Park Way E RT Lanacre Avenue Graham Park Way E Straight Graham Park Way W Graham Park Way W LT Lanacre Avenue Graham Park Way W Straight Graham Park Way E Colindale Avenue LT Raven Close Colindale Avenue Straight Graham Park Way Colindale Avenue RT Aerodrome Road Raven Close LT Graham Park Way	90027 72141 72141 90024 90024 90024 90049	90033 90033 90033 72141 72141 72141 72141	72141 90034 90027 90049 90033 90320 90033	597 29 576 45 315 254 28	620 29 569 46 314 293 28	23 0 -7 1 -1 39 0	4% 0% -1% 2% 0% 15% 0%
11	Aerodrome Road/Graham Park Way/Colindale Avenus	Graham Park Way E RT Lanacre Avenue Graham Park Way E Straight Graham Park Way W Graham Park Way W LT Lanacre Avenue Graham Park Way W LT Lanacre Avenue Graham Park Way W Straight Graham Park Way E Colindale Avenue LT Raven Close Colindale Avenue Straight Graham Park Way Colindale Avenue RT Aerodrome Road Raven Close LT Graham Park Way Raven Close Straight Aerodrome Road	90027 72141 72141 90024 90024 90024 90049 90049	90033 90033 90033 72141 72141 72141 72141 72141	72141 90034 90027 90049 90033 90320 90033 90320	597 29 576 45 315 254 28 41	620 29 569 46 314 293 28 41	23 0 -7 1 -1 39 0	4% 0% -1% 2% 0% 15% 0%
11	Aerodrome Roadi/Graham Park Way/Collindale Avenus	Graham Park Way E RT Lanacre Avenue Graham Park Way E Straight Graham Park Way W Graham Park Way W LT Lanacre Avenue Graham Park Way W LT Lanacre Avenue Graham Park Way W Straight Graham Park Way E Colindade Avenue LT Raven Close Colindade Avenue Straight Graham Park Way Colindade Avenue RT Aerodrome Road Raven Close LT Graham Park Way Raven Close Straight Aerodrome Road Raven Close Straight Aerodrome Road Raven Close Strolondade Avenue	90027 72141 72141 90024 90024 90024 90049 90049 90049	90033 90033 90033 72141 72141 72141 72141 72141 72141	72141 90034 90027 90049 90033 90320 90033 90320 90024	597 29 576 45 315 254 28 41 48	620 29 569 46 314 293 28 41 48	23 0 -7 1 -1 39 0 0	4% 0% -1% 2% 0% 15% 0% 0%
11	Aerodrome Road/Graham Park Way/Colindale Avenus	Graham Park Way E RT Lanacre Avenue Graham Park Way E RT Lanacre Avenue Graham Park Way W LT Lanacre Avenue Graham Park Way W LT Lanacre Avenue Graham Park Way W Straight Graham Park Way E Colindate Avenue LT Raven Close Colindate Avenue Straight Graham Park Way Raven Close Straight Graham Park Way Raven Close Straight Aerodrome Road Raven Close RT Colindate Avenue Graham Park Way Graham Park Way LT Aerodrome Road	90027 72141 72141 90024 90024 90024 90049 90049 90049 90033	90033 90033 90033 72141 72141 72141 72141 72141 72141 72141	72141 90034 90027 90049 90033 90320 90033 90320 90024 90024	597 29 576 45 315 254 28 41 48 288	620 29 569 46 314 293 28 41 48 243	23 0 -7 1 -1 39 0 0 0	4% 0% -1% 2% 0% 15% 0% 0% -169
11	Aerodrome Road/Graham Park Way/Colindale Avenue	Graham Park Way E RT Lanacre Avenue Graham Park Way E Straight Graham Park Way W Graham Park Way W LT Lanacre Avenue Graham Park Way W LT Lanacre Avenue Graham Park Way W Straight Graham Park Way E Colindate Avenue LT Raven Close Colindate Avenue Straight Graham Park Way Colindate Avenue RT Aerodrome Road Raven Close LT Graham Park Way Raven Close LT Graham Park Way Raven Close Straight Aerodrome Road Raven Close Strolam Park Way Raven Close Strolam Park Way Graham Park Way LT Aerodrome Road Graham Park Way LT Aerodrome Road Graham Park Way Straight Colindate Avenue	90027 72141 72141 90024 90024 90024 90049 90049 90049	90033 90033 90033 72141 72141 72141 72141 72141 72141	72141 90034 90027 90049 90033 90320 90033 90320 90024	597 29 576 45 315 254 28 41 48	620 29 569 46 314 293 28 41 48	23 0 -7 1 -1 39 0 0	4% 0% -1% 2% 0% 15% 0% 0% -169 22%
11	Aerodrome Road/Graham Park Way/Colindale Avenus	Graham Park Way E RT Lanacre Avenue Graham Park Way E RT Lanacre Avenue Graham Park Way W LT Lanacre Avenue Graham Park Way W LT Lanacre Avenue Graham Park Way W Straight Graham Park Way E Colindate Avenue LT Raven Close Colindate Avenue Straight Graham Park Way Raven Close Straight Graham Park Way Raven Close Straight Aerodrome Road Raven Close RT Colindate Avenue Graham Park Way Graham Park Way LT Aerodrome Road	90027 72141 72141 90024 90024 90049 90049 90049 90049 90033 90033	90033 90033 90033 72141 72141 72141 72141 72141 72141 72141 72141	72141 90034 90027 90049 90033 90320 90033 90320 90024 90320 90024 90029	597 29 576 45 315 254 28 41 48 288 419	620 29 569 46 314 293 28 41 48 243 510	23 0 -7 1 -1 39 0 0 0 -45	4% 0% -1% 2% 0% 15% 0% 0% -169 -22% -4%
11	Aerodrome Road/Graham Park Way/Colindale Avenus	Graham Park Way E RT Lanacre Avenue Graham Park Way E RT Lanacre Avenue Graham Park Way W LT Lanacre Avenue Graham Park Way W LT Lanacre Avenue Graham Park Way W LT Lanacre Avenue Graham Park Way W Straight Graham Park Way E Colindate Avenue LT Rawen Close Colindate Avenue Straight Graham Park Way Rawen Close L Ordanam Park Way Rawen Close Straight Aerodrome Road Rawen Close Straight Aerodrome Road Rawen Close Straight Aerodrome Road Graham Park Way Straight Canadrome Road Graham Park Way Straight Colored Graham Park Way ST Ebeven Close Aerodrome Road LT Colindate Avenue Aerodrome Road Straight Rawen Aerodrome Road Straight Rawen Graham Park Way RT Ebeven Close	90027 72141 90024 90024 90049 90049 90049 90033 90033 90033 90320	90033 90033 90033 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141	72141 90034 90027 90049 90033 90320 90033 90320 90024 90320 90024 90049	597 29 576 45 315 254 28 41 48 288 419 24 344 5	620 29 569 46 314 293 28 41 48 243 510 23 338 5	23 0 -7 1 -1 39 0 0 0 -45 91 -1 -6 0	4% 0% -1% 2% 0% 15% 0% 0% -169 22% -4% -2%
	Aerodrome Road/Graham Park Way/Colindale Avenue	Graham Park Way E RT Lanacre Avenue Graham Park Way E Straight Graham Park Way W Graham Park Way W LT Lanacre Avenue Graham Park Way W LT Lanacre Avenue Graham Park Way W Straight Graham Park Way E Colindade Avenue LT Raven Close Colindade Avenue Straight Graham Park Way Colindade Avenue Straight Graham Park Way Raven Close L Toraham Park Way Raven Close Straight Aerodrome Road Raven Close Strolande Avenue Graham Park Way LT Aerodrome Road Graham Park Way Straight Colindade Avenue Graham Park Way Straight Colindade Avenue Aerodrome Road Straight Raven Close Aerodrome Road Straight Raven Close Aerodrome Road Straight Raven Close Aerodrome Road RT Graham Park Way	90027 72141 90024 90024 90049 90049 90049 90033 90033 90033 90320 90320	90033 90033 90033 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141	72141 90034 90027 90049 90033 90320 90033 90320 90024 90024 90049 90024 90049	597 29 576 45 315 254 28 41 48 288 419 24 344 5	620 29 569 46 314 293 28 41 48 243 510 23 338 5	23 0 -7 1 -1 39 0 0 0 -45 91 -1 -6 0 0	4% 0% -1% 2% 0% 15% 0% 0% -169 22% -4% -2% 0%
11	Aerodrome Road/Graham Park Way/Colindale Avenus  Collindale Avenus/Booth Roac	Graham Park Way E RT Lanacre Avenue Graham Park Way E Straight Graham Park Way W Graham Park Way W LT Lanacre Avenue Graham Park Way W LT Lanacre Avenue Graham Park Way W Straight Graham Park Way E Colindate Avenue LT Raven Close Colindate Avenue Straight Graham Park Way Colindate Avenue Straight Graham Park Way Raven Close LT Oraham Park Way Raven Close Straight Arcordome Road Graham Park Way LT Aerodrome Road Graham Park Way LT Aerodrome Road Graham Park Way Straight Colindate Avenue Graham Park Way Straight Colindate Avenue Aerodrome Road Straight Raven Close Aerodrome Road Straight Raven Close Aerodrome Road Straight Raven Close Aerodrome Road RT Graham Park Way Colindate Avenue Aerodrome Road Graham Park Way Colindate Avenue W LT Booth Road	90027 72141 90024 90024 90029 90049 90049 90033 90033 90033 90320 90320 90320	90033 90033 90033 90033 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141	72141 90034 90027 90049 90033 90320 90033 90320 90024 90024 90049 90024 90033	597 29 576 45 315 254 41 48 288 419 24 344 5 262	620 29 569 46 314 293 28 41 48 243 510 23 338 5 5 256	23 0 -7 1 -1 39 0 0 0 -45 91 -1 -6 0 -6	4% 0% -1% 2% 0% 15% 0% 0% -169 22% -4% -2% 0% -2%
	Aerodrome Road/Graham Park Way/Colindale Avenue  Colindale Avenue/Booth Roac	Graham Park Way E RT Lanacre Avenue Graham Park Way E Straight Graham Park Way W Graham Park Way W LT Lanacre Avenue Graham Park Way W LT Lanacre Avenue Graham Park Way W Straight Graham Park Way E Colindade Avenue LT Raven Close Colindade Avenue Straight Graham Park Way Colindade Avenue Straight Graham Park Way Raven Close L Toraham Park Way Raven Close Straight Aerodrome Road Raven Close Strolande Avenue Graham Park Way LT Aerodrome Road Graham Park Way Straight Colindade Avenue Graham Park Way Straight Colindade Avenue Aerodrome Road Straight Raven Close Aerodrome Road Straight Raven Close Aerodrome Road Straight Raven Close Aerodrome Road RT Graham Park Way Colindade Avenue W LT Booth Road Colindade Avenue W LT Booth Road Colindade Avenue W Straight Colindade Avenue	90027 72141 90024 90024 90024 90049 90049 90033 90033 90033 900320 90320	90033 90033 90033 90033 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 90024	72141 90034 90027 90049 90033 90320 90024 90320 90024 90024 90049 90024 90049 90022 72141	597 29 576 45 315 254 28 41 48 288 419 24 344 5 262 4	620 299 5669 46 314 293 28 41 48 243 510 23 338 5 5 256 3	23 0 -7 1 -1 39 0 0 0 -45 91 -1 -6 0 -6	4% 0% -1% 2% 0% 15% 0% 0% -16% 22% -2% 0% -2% -2%
	Aerodrome Road/Graham Park Way/Colindale Avenus  Collindale Avenue/Booth Roac	Graham Park Way E RT Lanacre Avenue Graham Park Way E Straight Graham Park Way W Graham Park Way W LT Lanacre Avenue Graham Park Way W LT Lanacre Avenue Graham Park Way W Straight Graham Park Way E Colindate Avenue LT Raven Close Colindate Avenue Straight Graham Park Way Colindate Avenue Straight Graham Park Way Raven Close LT Oraham Park Way Raven Close Straight Arcordome Road Graham Park Way LT Aerodrome Road Graham Park Way LT Aerodrome Road Graham Park Way Straight Colindate Avenue Graham Park Way Straight Colindate Avenue Aerodrome Road Straight Raven Close Aerodrome Road Straight Raven Close Aerodrome Road Straight Raven Close Aerodrome Road RT Graham Park Way Colindate Avenue Aerodrome Road Graham Park Way Colindate Avenue W LT Booth Road	90027 72141 90024 90024 90029 90049 90049 90033 90033 90033 90320 90320 90320	90033 90033 90033 90033 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141	72141 90034 90027 90049 90033 90320 90033 90320 90024 90024 90049 90024 90033	597 29 576 45 315 254 41 48 288 419 24 344 5 262	620 29 569 46 314 293 28 41 48 243 510 23 338 5 5 256	23 0 -7 1 -1 39 0 0 0 -45 91 -1 -6 0 -6	4% 0% -1% 2% 0% 15% 0% -16% 22% -4% -2% 0%

Site	Location	Turning Movement	ANODE	BNODE		ORIGINAL BASE	WITH CHANGES	Difference	% Differenc
1	Colindale Avenue/Edgware Road	Edgware Road N LT Colindale Avenue Edgware Road N Straight Edgware Road S	95063 95063	72149 72149	90309 72154	128 726	261 759	133 33	104% 5%
		Colindale Avenue LT Edgware Road S	90309	72149	72154	401	355	-46	-11%
		Edgware Road S Straight Edgware Road N Edgware Road S RT Colindale Avenue	72154 72154	72149 72149	95063 90309	988 271	939 317	-49 46	-5% 17%
2	Annesley Avenue/Edgware Road	Edgware Road S RT Collindate Avertus  Edgware Road N Straight Edgware Road S	90290	90312	95063	773	865	92	12%
	·	Edgware Road N LT Annesley Avenue	90290	90312	90313	38	#N/A	#N/A	#N/A
		Annesley Avenue RT Edgware Road N Annesley Avenue LT Edgware Road S	90313 90313	90312 90312	90290 95063	50 84	83 179	33 95	66% 113%
		Edgware Road S Straight Edgware Road N	95063	90312	90290	1080	1076	-4	0%
3		Edgware Road S RT Annesley Avenue	95063	90312	90313	47	#N/A	#N/A	#N/A
3	Montrose Avenue/Edgware Road	Edgware Road N Straight Edgware Road S Edgware Road N LT Montrose Avenue	95232 95232	90023 90023	70002 90065	546 88	572 86	26 -2	5% -2%
		Montrose Avenue LT Edgware Road S	90065	90023	70002	427	439	12	3%
		Montrose Avenue RT Edgware Road N Edgware Road S Straight Edgware Road N	90065	90023	95232 95232	79 643	82 640	3 -3	4% 0%
		Edgware Road S Straight Edgware Road N Edgware Road S RT Montrose Avenue	70002 70002	90023 90023	90065	310	333	-3 23	7%
4		Booth Road N Straight Booth Road S	90072	90022	90024	168	80	-88	-52%
		Booth Road N LT Montrose Avenue E Booth Road N RT Montrose Avenue W	90072 90072	90022 90022	90070 90227	0 59	0 112	0 53	#DIV/0! 90%
		Montrose Avenue E RT Booth Road N	90070	90022	90072	0	11	11	#DIV/0!
		Montrose Avenue E Straight Montrose Avenue W	90070	90022	90227	294	270	-24	-8%
		Montrose Avenue E LT Booth Road S Booth Road S RT Montrose Avenue E	90070 90024	90022 90022	90024 90070	69 203	28 195	-41 -8	-59% -4%
		Booth Road S Straight Booth Road N	90024	90022	90072	276	262	-14	-5%
		Booth Road S LT Montrose Avenue W	90024 90227	90022	90227	156	144 31	-12 4	-8% 15%
		Montrose Avenue W LT Booth Road N Montrose Avenue W Straight Montrose Avenue E	90227	90022 90022	90072 90070	27 214	231	17	8%
		Montrose Avenue W RT Booth Road S	90227	90022	90024	112	116	4	4%
5	Montrose Avenue/Lanacre Avenue	Montrose Avenue W Straight Montrose Avenue E Montrose Avenue W RT Lanacre Avenue	90070 90070	90037 90037	90021 90046	390 13	398 13	8	2% 0%
		Montrose Avenue W RT Lanacre Avenue Montrose Avenue E Straight Montrose Avenue W	90070	90037	90046	333	275	-58	-17%
		Montrose Avenue E LT Lanacre Avenue	90021	90037	90046	2	17	15	750%
		Lanacre Avenue LT Montrose Avenue W Lanacre Avenue RT Montrose Avenue E	90046 90046	90037 90037	90070 90021	14 52	19 41	5 -11	36% -21%
6	Bunns Lane/Woodcroft Avenue	Woodcroft Avenue LT Bunns Lane N	90018	72104	72102	112	114	2	2%
		Woodcroft Avenue RT Bunns Lane S	90018	72104	72106	191	201	10	5%
		Bunns Lane N Straight Bunns Lane S Bunns Lane N RT Woodcroft Avenue	72102 72102	72104 72104	72106 90018	796 50	809 29	13 -21	2% -42%
		Bunns Lane S Straight Bunns Lane N	72106	72104	72102	640	636	-4	-1%
		Bunns Lane S LT Woodcroft Avenue	72106	72104	90018	365	344	-21	-6%
7	Bunns Lane/Grahame Park Way	Bunns Lane N Straight Grahame Park Way Bunns Lane N LT Bunns Lane S	72104 72104	72106 72106	90038 95329	179 808	206 804	27 -4	15% 0%
		Bunns Lane S LT Grahame Park Way	95329	72106	90038	107	138	31	29%
		Bunns Lane S RT Bunns Lane N	95329	72106	72104	732	707	-25	-3%
		Grahame Park Way Straight Bunns Lane N Grahame Park Way RT Bunns Lane S	90038 90038	72106 72106	72104 95329	272 214	272 217	0 3	0% 1%
8	Watford Way/Aerodrome Road/Greyhound Hill	Aerodrome Road LT Watford Way N	90333	72146	95734	0	0	0	#DIV/0!
		Aerodrome Road Straight Greyhound Hill	90333 90333	72146	90364	275	275 78	0	0% -3%
		Aerodrome Road RT Watford Way S Watford Way N RT Aerodrome Road	90333	72146 72146	95720 90333	80 77	78 82	-2 5	-3% 6%
		Watford Way N Straight Watford Way S	95351	72146	95720	1478	1477	-1	0%
		Watford Way N LT Greyhound Hill Greyhound Hill RT Watford Way N	95351 90364	72146 72146	90364 95734	96 86	93 86	-3 0	-3% 0%
		Greyhound Hill Straight Aerodrome Road	90364	72146	90333	243	243	0	0%
		Greyhound Hill LT Watford Way S	90364	72146	95720	0	0	ō	#DIV/0!
		Watford Way S LT Aerodrome Road Watford Way S Straight Watford Way N	95725 95725	72146 72146	90333 95734	347 2020	346 2023	-1 3	0% 0%
		Watford Way S Straight Watford Way N Watford Way S RT Greyhound Hill	95725	72146	90364	2020	2023	0	0%
9	Colindeep Lane/The Hyde	The Hyde N LT Colindeep Lane E	72149	72154	90337	344	352	8	2%
		The Hyde N Straight The Hyde S The Hyde N RT Colindeep Lane W	72149 72149	72154 72154	72162 95739	762 22	762 0	0 -22	0% -100%
		Colindeep Lane E RT The Hyde N	90337	72154	72149	417	413	-22 -4	-100%
		Colindeep Lane E Straight Colindeep Lane W	90337	72154	95739	11	10	-1	-9%
		Colindeep Lane E LT The Hyde S The Hyde S RT Colindeep Lane E	90337 72162	72154 72154	72162 90337	177 135	180 142	3 7	2% 5%
		The Hyde S Straight The Hyde N	72162	72154	72149	842	843	1	0%
		The Hyde S LT Colindeep Lane W	72162	72154	95739	25	25	0	0%
		Colindeep Lane W LT The Hyde N Colindeep Lane W Straight Colindeep Lane W	95739 95739	72154 72154	72149 90337	0 39	0 39	0	#DIV/0! 0%
		Colindeep Lane W RT The Hyde S	95739	72154	72162	41	41	ō	0%
10	Lanacre Avenue/Graham Park Way	Lanacre Avenue LT Graham Park Way E	90034	90033	90027	0	0	0	#DIV/0!
		Lanacre Avenue RT Graham Park Way W Graham Park Way E RT Lanacre Avenue	90034 90027	90033 90033	72141 90034	25 0	46 0	21 0	84% #DIV/0!
		Graham Park Way E Straight Graham Park Way W	90027	90033	72141	527	582	55	10%
				90033	90034	47	47	0	0% 0%
		Graham Park Way W Straight Graham Park Way F	72141				715		
11	Aerodrome Road/Graham Park Wav/Colindale Avenue	Graham Park Way W Straight Graham Park Way E	72141 72141 90024	90033 72141	90027 90049	715 19	715 19	0	0%
11	Aerodrome Road/Graham Park Way/Colindale Avenue	Graham Park Way W Straight Graham Park Way E Colindale Avenue LT Raven Close Colindale Avenue Straight Graham Park Way	72141 90024 90024	90033 72141 72141		19 398	19 392	0 -6	0% -2%
11	Aerodrome Road/Graham Park Way/Colindale Avenue	Graham Park Way W Straight Graham Park Way E Colindale Avenue LT Raven Close Colindale Avenue Straight Graham Park Way Colindale Avenue RT Aerodrome Road	72141 90024 90024 90024	90033 72141 72141 72141	90049 90033 90320	19 398 188	19 392 188	0 -6 0	0% -2% 0%
11	Aerodrome Road/Graham Park Way/Colindale Avenue	Graham Park Way W Straight Graham Park Way E Colindale Avenue LT Raven Close Colindale Avenue Straight Graham Park Way Colindale Avenue RT Aerodrome Road Raven Close LT Graham Park Way	72141 90024 90024	90033 72141 72141 72141 72141	90049	19 398 188 23	19 392 188 23	0 -6	0% -2%
11	·	Graham Park Way W Straight Graham Park Way E Colindiale Avenue LT Raven Close Colindiale Avenue LT Raven Close Colindiale Avenue Straight Graham Park Way Colindiale Avenue RT Aerodrome Road Raven Close LT Graham Park Way Raven Close Straight Aerodrome Road Raven Close RT Colindiale Avenue	72141 90024 90024 90024 90049 90049 90049	90033 72141 72141 72141 72141 72141 72141	90049 90033 90320 90033 90320 90024	19 398 188 23 16 22	19 392 188 23 16 22	0 -6 0 0 0	0% -2% 0% 0% 0%
11	·	Graham Park Way W Straight Graham Park Way E Colindale Avenue LT Raven Close Colindale Avenue Straight Graham Park Way Colindale Avenue RT Aerodrome Road Raven Close LT Graham Park Way Raven Close Straight Aerodrome Road Raven Close Straight Aerodrome Road Raven Close Straight Aerodrome Road Raven Close RT Colindale Avenue Graham Park Way LT Aerodrome Road	72141 90024 90024 90024 90049 90049 90049 90033	90033 72141 72141 72141 72141 72141 72141 72141	90049 90033 90320 90033 90320 90024 90320	19 398 188 23 16 22 193	19 392 188 23 16 22 192	0 -6 0 0 0 0 -1	0% -2% 0% 0% 0% 0% -1%
11	,	Graham Park Way W Straight Graham Park Way E Colindiale Avenue LT Raven Close Colindiale Avenue LT Raven Close Colindiale Avenue Braight Graham Park Way Colindiale Avenue RT Aerodrome Road Raven Close LT Graham Park Way Raven Close Straight Aerodrome Road Raven Close RT Colindiale Avenue Graham Park Way LT Aerodrome Road Graham Park Way LT Aerodrome Road Graham Park Way Straight Colindiale Avenue	72141 90024 90024 90024 90049 90049 90049	90033 72141 72141 72141 72141 72141 72141 72141 72141	90049 90033 90320 90033 90320 90024	19 398 188 23 16 22	19 392 188 23 16 22	0 -6 0 0 0	0% -2% 0% 0% 0% 0%
11	,	Graham Park Way W Straight Graham Park Way E Colindiale Avenue LT Raven Close Colindiale Avenue Straight Graham Park Way Colindiale Avenue RT Aerofrome Road Raven Close LT Graham Park Way Raven Close Straight Aerodrome Road Raven Close RT Colindiale Avenue Graham Park Way LT Aerodrome Road Graham Park Way Straight Colindiale Avenue Graham Park Way RT Raven Close Aerodrome Road of LT Colindiale Avenue	72141 90024 90024 90024 90049 90049 90049 90033 90033 90033	90033 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141	90049 90033 90320 90033 90320 90024 90320 90024 90049 90024	19 398 188 23 16 22 193 331 29 440	19 392 188 23 16 22 192 408 29	0 -6 0 0 0 0 -1 77 0 4	0% -2% 0% 0% 0% 0% -1% 23% 0% 1%
11	,	Graham Park Way W Straight Graham Park Way E Colindale Avenue LT Raven Close Colindale Avenue LT Raven Close Colindale Avenue RT Aerodrome Road Raven Close LT Graham Park Way Raven Close Straight Aerodrome Road Raven Close Straight Aerodrome Road Raven Close RT Colindale Avenue Graham Park Way LT Aerodrome Road Graham Park Way LT Raven Close Aerodrome Road LT Colindale Avenue Aerodrome Road LT Colindale Avenue Aerodrome Road Straight Raven Close Aerodrome Road Straight Raven Close	72141 90024 90024 90029 90049 90049 90033 90033 90033 90320 90320	90033 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141	90049 90033 90320 90033 90320 90024 90320 90024 90024 90024 90049	19 398 188 23 16 22 193 331 29 440 17	19 392 188 23 16 22 192 408 29 444	0 -6 0 0 0 0 -1 77 0 4	0% -2% 0% 0% 0% 0% -1% 23% 0% 1% 0%
		Graham Park Way W Straight Graham Park Way E Colindiale Avenue LT Raven Close Colindiale Avenue Straight Graham Park Way Colindiale Avenue RT Aerodrome Road Raven Close LT Graham Park Way Raven Close Straight Aerodrome Road Raven Close Raven Close Raven Close Raven Close Raven Rave	72141 90024 90024 90024 90049 90049 90033 90033 90033 90320 90320	90033 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141	90049 90033 90320 90033 90320 90024 90320 90024 90049 90024 90049 90033	19 398 188 23 16 22 193 331 29 440 17	19 392 188 23 16 22 192 408 29 444 17 346	0 -6 0 0 0 0 -1 77 0 4 0 5	0% -2% 0% 0% 0% 0% -1,6 23% 0% 1% 0% 1,7 1%
11	,	Graham Park Way W Straight Graham Park Way E Colindial Avenue LT Raven Close Colindiale Avenue Straight Graham Park Way Colindiale Avenue RT Aerodrome Road Raven Close LT Graham Park Way Raven Close Straight Aerodrome Road Raven Close RT Colindiale Avenue Graham Park Way LT Aerodrome Road Graham Park Way LT Aerodrome Road Graham Park Way Straight Colindiale Avenue Graham Park Way RT Raven Close Aerodrome Road LT Colindiale Avenue Aerodrome Road RT Graham Park Way Straight Colindiale Avenue Aerodrome Road RT Graham Park Way Colindiale Avenue W LT Booth Road Colindiale Avenue W Straight Colindiale Evenue W Straight Colindiale Avenue E	72141 90024 90024 90049 90049 90049 90033 90033 90033 900320 90320 90320 90320	90033 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 90024	90049 90033 90320 90033 90320 90024 90024 90024 90049 90024 90049 90033	19 398 188 23 16 22 193 331 29 440 17 341 198 402	19 392 188 23 16 22 192 408 29 444 17 346 179 375	0 -6 0 0 0 0 0 -1 77 0 4 0 5 -19 -27	0% -2% 0% 0% 0% 0% -1% -1% -1% -1% -10% -7%
		Graham Park Way W Straight Graham Park Way E Colindiale Avenue LT Raven Close Colindiale Avenue LT Raven Close Colindiale Avenue RT Aerodrome Road Raven Close LT Graham Park Way Raven Close Straight Aerodrome Road Raven Close Straight Aerodrome Road Raven Close RT Colindiale Avenue Graham Park Way LT Aerodrome Road Graham Park Way Straight Colindiale Avenue Graham Park Way Straight Colindiale Avenue Graham Park Way RT Raven Close Aerodrome Road Straight Raven Close Aerodrome Road Straight Raven Close Aerodrome Road Straight Raven Close Aerodrome Road RT Graham Park Way Colindiale Avenue W Straight Colindiale Avenue E Booth Road LT Colindiale Avenue E Booth Road LT Colindiale Avenue E Booth Road LT Colindiale Avenue E	72141 90024 90024 90049 90049 90033 90033 90320 90320 90320 90299 90299	90033 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 90024 90024	90049 90033 90320 90034 90320 90024 90024 90049 90024 90049 90033 90022 72141 72141	19 398 188 23 16 22 193 331 29 440 47 341 198 402 202	19 392 188 23 16 22 192 408 29 444 17 346 179 375	0 -6 0 0 0 0 -1 77 0 4 0 5 -19 -27	0% -2% 0% 0% 0% 0% -1% 23% 0% 1% -1% 1% -10% -10% -7% 11%
		Graham Park Way W Straight Graham Park Way E Colindial Avenue LT Raven Close Colindiale Avenue Straight Graham Park Way Colindiale Avenue RT Aerodrome Road Raven Close LT Graham Park Way Raven Close Straight Aerodrome Road Raven Close RT Colindiale Avenue Graham Park Way LT Aerodrome Road Graham Park Way LT Aerodrome Road Graham Park Way Straight Colindiale Avenue Graham Park Way RT Raven Close Aerodrome Road LT Colindiale Avenue Aerodrome Road RT Graham Park Way Straight Colindiale Avenue Aerodrome Road RT Graham Park Way Colindiale Avenue W LT Booth Road Colindiale Avenue W Straight Colindiale Evenue W Straight Colindiale Avenue E	72141 90024 90024 90049 90049 90049 90033 90033 90033 900320 90320 90320 90320	90033 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 72141 90024	90049 90033 90320 90033 90320 90024 90024 90024 90049 90024 90049 90033	19 398 188 23 16 22 193 331 29 440 17 341 198 402	19 392 188 23 16 22 192 408 29 444 17 346 179 375	0 -6 0 0 0 0 0 -1 77 0 4 0 5 -19 -27	0% -2% 0% 0% 0% 0% -1,6 23% 0% 116 0% 116 -106 -7%

## Table F.1 AM and PM Journey Times Validation

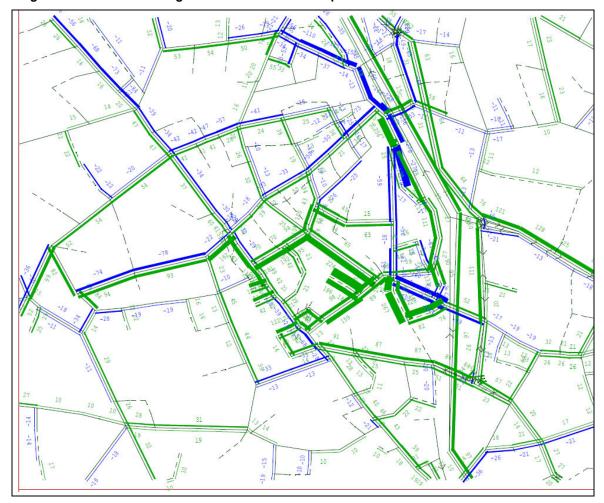
	Route	Journey Time			Mean			Hyder LPL vs. Orig. Model	Obs. vs. Orig	Model			Modified vs.Orig	Model	
AM Peak	Observed (Mean)	Modelled	Diff in Secs	% Diff	Within 15% (or 60secs if higher)	Modelled (From Hyder LPL Files)	Original Model	Diff in Secs	Diff in Secs	% Diff	Within 15% (or 60secs if higher)	MODIFIED MODEL	Diff in Secs	% Diff	Within 15% (or 60secs if higher)
Route 1 NB AM	0:14:59	0:15:37	38	4.2%	,	0:15:37	0:15:37	0	38	4%	~	0:15:35	36	4%	~
Route 1 SB AM	0:22:27	0:24:17	110	8.2%	~	0:24:17	0:24:17	0	110	8%	~	0:24:16	109	8%	~
Route 2 NB AM	0:27:54	0:28:25	31	1.8%	~	0:28:25	0:28:25	0	31	2%	~	0:28:13	19	1%	~
Route 2 SB AM	0:32:43	0:30:14	-149	-7.6%	~	0:30:10	0:30:10	0	-153	-8%	~	0:30:17	-146	-7%	~
Route 3 NB AM	0:22:20	0:19:04	-196	-14.6%	~	0:19:04	0:19:04	0	-196	-15%	~	0:19:14	-186	-14%	~
Route 3 SB AM	0:29:52	0:24:20	-332	-18.5%	×	0:24:15	0:24:15	0	-337	-19%	×	0:24:37	-315	-18%	×
Route 4 NB AM	0:23:48	0:21:14	-154	-10.8%	~	0:21:14	0:21:14	0	-154	-11%	~	0:21:16	-152	-11%	~
Route 4 SB AM	0:24:27	0:23:50	-37	-2.5%	~	0:23:50	0:23:50	0	-37	-3%	~	0:22:42	-105	-7%	~
Route 5 NB AM	0:28:03	0:27:00	-63	-3.8%	~	0:27:00	0:27:00	0	-63	-4%	~	0:26:47	-76	-5%	~
Route 5 SB AM	0:30:52	0:29:12	-100	-5.4%	~	0:29:12	0:29:12	0	-100	-5%	~	0:28:33	-139	-8%	~
Route 6 NB AM	0:13:27	0:14:43	76	9.4%	~	0:14:43	0:14:43	0	76	9%	~	0:14:45	78	10%	-
Route 6 SB AM	0:20:30	0:19:21	-69	-5.6%	~	0:19:34	0:19:34	0	-56	-5%	~	0:19:39	-51	-4%	~
Total No. of Routes	12		No. of Routes W	ithin 15%			No. of Routes Wi	thin 15%			11	No. of Re	outes Within 15%		11
Total No. of Routes	12		% of All Route W	ithin 15%	92%		% of All Routes W	ithin 15%			92%	% of All F	Routes Within 15%		92%

	Route Journey Time				Mean			Hyder LPL vs. Orig. Model	Obs. vs. Orig	Model			Modified vs.Orig	Model	
PM Peak	Observed (Mean)	Modelled	Diff in Secs	% Diff	Within 15% (or 60secs if higher)	Modelled (From Hyder LPL Files)	Original Model	Diff in Secs	Diff in Secs	% Diff	Within 15% (or 60secs if higher)	MODIFIED MODEL	Diff in Secs	% Diff	Within 15% (or 60secs if higher)
Route 1 NB PM	0:23:22	0:19:57	-205	-14.6%	~	0:19:57	0:19:57	0	-205	-15%	~	0:19:59	-203	-14%	~
Route 1 SB PM	0:16:14	0:16:39	25	2.5%	•	0:16:39	0:16:39	0	25	3%	~	0:16:39	25	3%	~
Route 2 NB PM	0:32:54	0:32:54	0	0.0%	~	0:32:54	0:32:54	0	0	0%	~	0:33:06	12	1%	~
Route 2 SB PM	0:29:04	0:30:11	67	3.9%	•	0:30:08	0:30:08	0	64	4%	~	0:30:22	78	4%	~
Route 3 NB PM	0:24:22	0:23:22	-60	-4.1%	,	0:23:22	0:23:22	0	-60	-4%	~	0:23:25	-57	-4%	~
Route 3 SB PM	0:19:24	0:21:32	127	10.9%	~	0:20:14	0:20:14	0	50	4%	~	0:20:02	38	3%	~
Route 4 NB PM	0:22:24	0:25:29	185	13.8%	•	0:25:29	0:25:29	0	185	14%	~	0:25:38	194	14%	~
Route 4 SB PM	0:21:24	0:21:42	18	1.4%	,	0:21:42	0:21:42	0	18	1%	~	0:21:13	-11	-1%	~
Route 5 NB PM	0:28:42	0:30:00	78	4.5%	~	0:30:00	0:30:00	0	78	5%	~	0:29:53	71	4%	~
Route 5 SB PM	0:22:43	0:24:43	120	8.8%	•	0:24:43	0:24:43	0	120	9%	~	0:24:30	107	8%	~
Route 6 NB PM	0:15:22	0:13:53	-89	-9.7%	~	0:13:53	0:13:53	0	-89	-10%	~	0:13:55	-87	-9%	~
Route 6 SB PM	0:13:51	0:14:11	20	2.4%	~	0:14:19	0:14:19	0	28	3%	~	0:14:21	30	4%	~
Total No. of Routes	12		No. of Routes Wi % of All Route Wi		12 100%		No. of Routes Wil % of All Routes W				12 100%		utes Within 15% utes Within 15%		12 100%



## **Appendix C- Model outputs**

Figure A 1: Do-something –do-minimum flows AM peak 2021





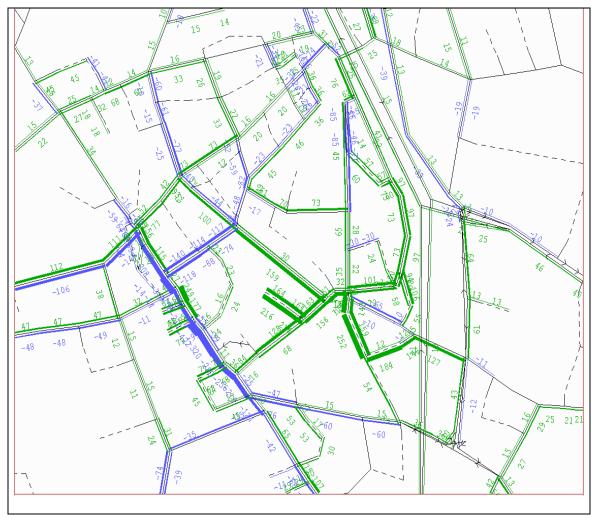


Figure A 2: Do-something –do-minimum flows PM peak 2021

Figures A3 to A9 show the junctions which have a Volume/Capacity (V/C) ratio of more than 90%, in each of the scenarios for the AM peak. Figures A9 - A15 shows the corresponding junctions for the PM peak.



Figure A 3: Base 2007 AM – V/C ratio bandwidth plot





Figure A 4: DM 2021 AM – V/C ratio bandwidth plot







Figure A5: DS 2021 (with North Montrose Link) AM – V/C ratio bandwidth plot





Figure A6: DS 2021 (with Montrose Link) AM – V/C ratio bandwidth plot



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Figure A7: DS 2021 (with North Montrose and Peel Link) AM – V/C ratio bandwidth plot





Figure A8: DS 2021 (with Montrose and Peel Link) AM – V/C ratio bandwidth plot

Figures A7 to A 12 show the junctions which have a capacity, i.e., more than 90%, in each of the scenarios for the PM peak.





Figure A9: Base 2007 PM – V/C ratio bandwidth plot



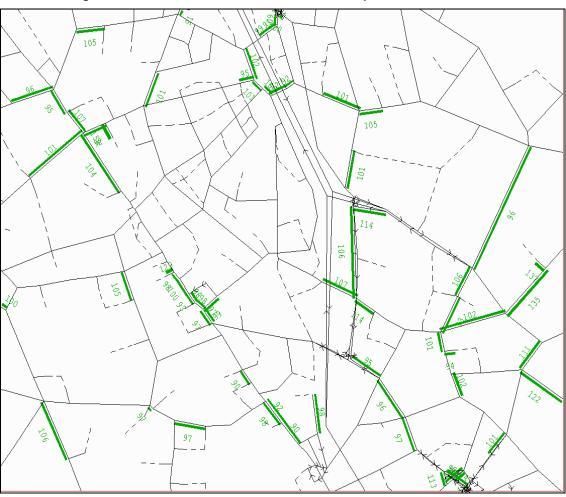


Figure A10: DM 2021 PM - V/C ratio bandwidth plot



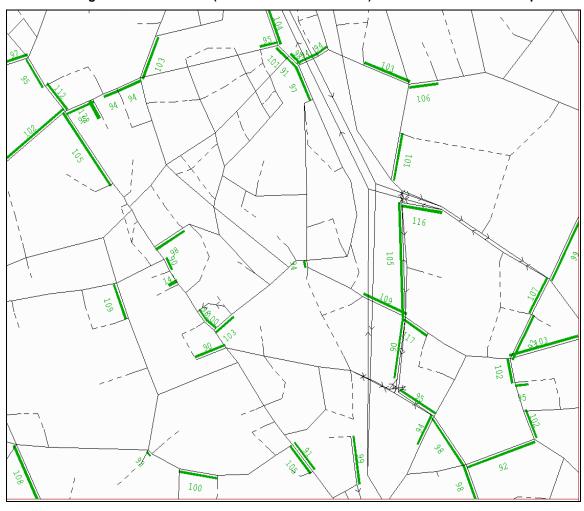


Figure A11: DS 2021 (with North Montrose Link) PM – V/C ratio bandwidth plot



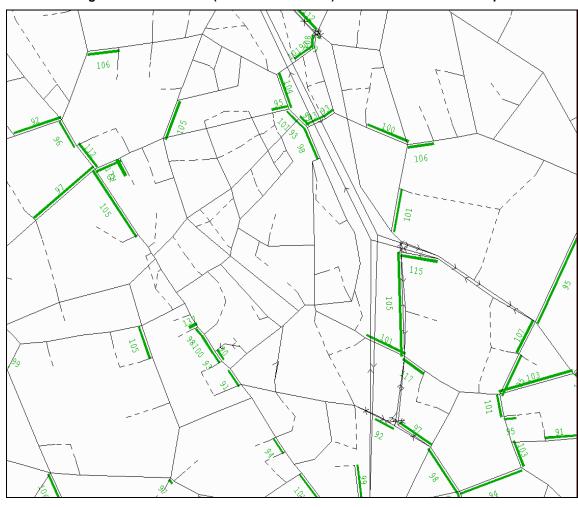


Figure A 12: DS 2021 (with Montrose Link) PM – V/C ratio bandwidth plot



Figure A 13: DS 2021 (with North Montrose and Peel Link) PM – V/C ratio bandwidth plot



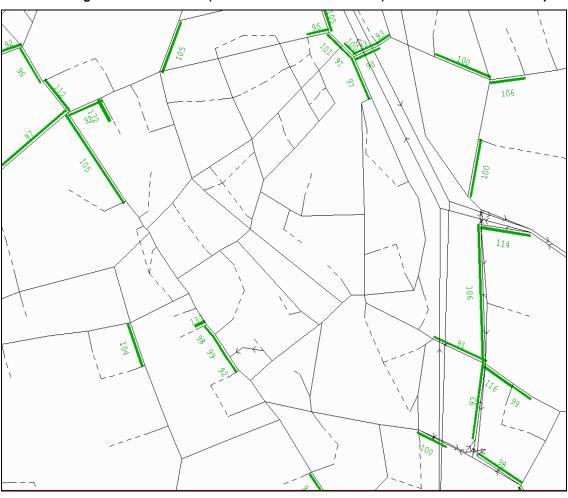


Figure A 14: DS 2021 (with Montrose and Peel Link) PM – V/C ratio bandwidth plot



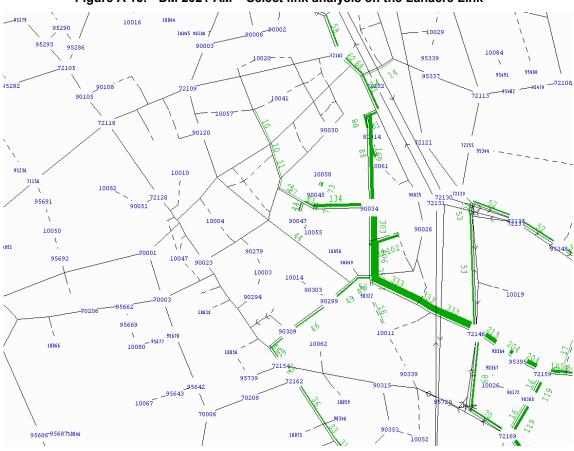


Figure A 15: DM 2021 AM – Select link analysis on the Lanacre Link



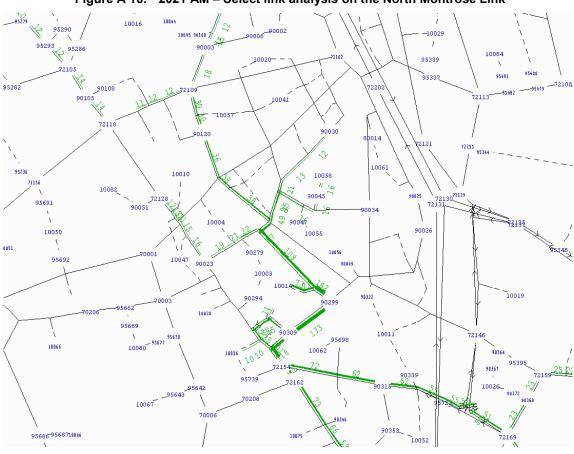


Figure A 16: 2021 AM – Select link analysis on the North Montrose Link



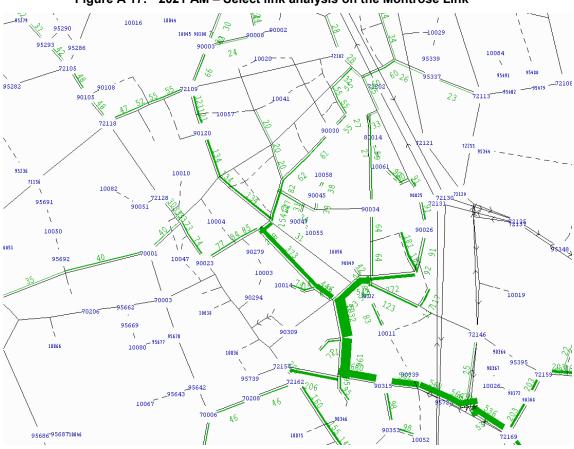


Figure A 17: 2021 AM – Select link analysis on the Montrose Link



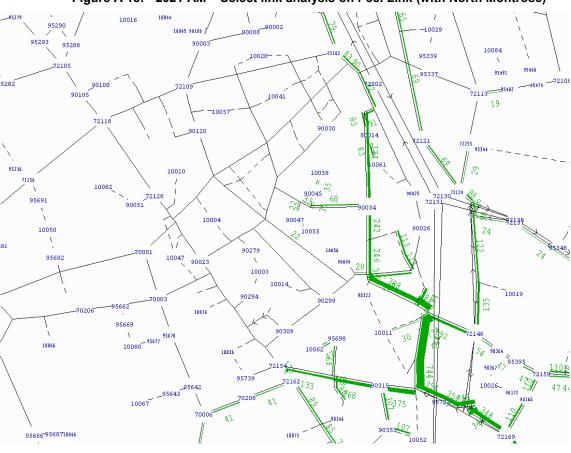


Figure A 18: 2021 AM – Select link analysis on Peel Link (with North Montrose)



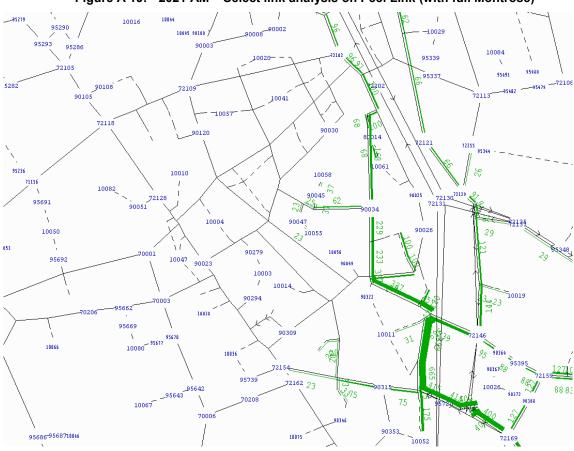


Figure A 19: 2021 AM – Select link analysis on Peel Link (with full Montrose)



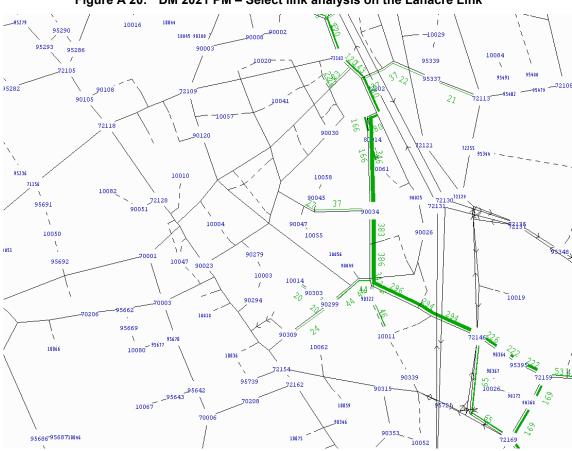


Figure A 20: DM 2021 PM – Select link analysis on the Lanacre Link



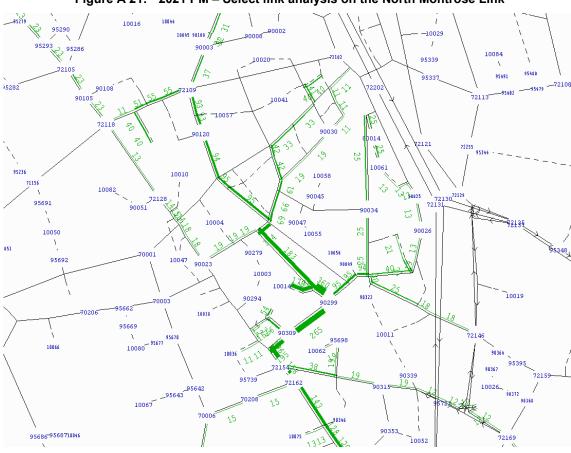


Figure A 21: 2021 PM – Select link analysis on the North Montrose Link



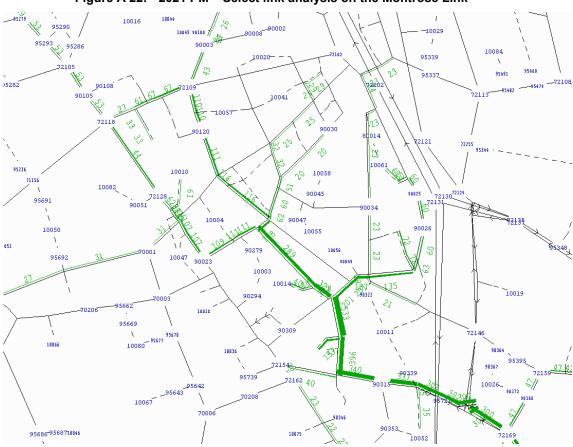


Figure A 22: 2021 PM – Select link analysis on the Montrose Link



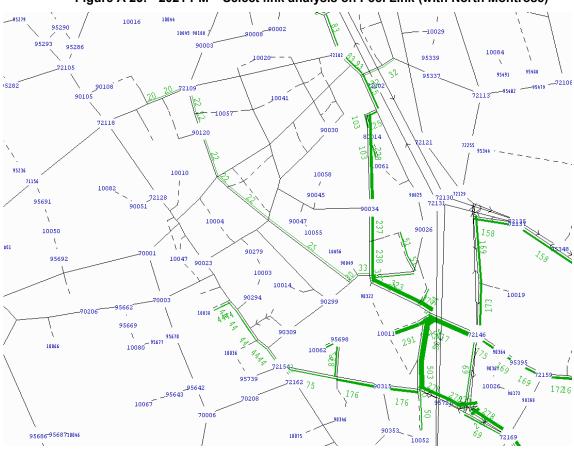


Figure A 23: 2021 PM – Select link analysis on Peel Link (with North Montrose)



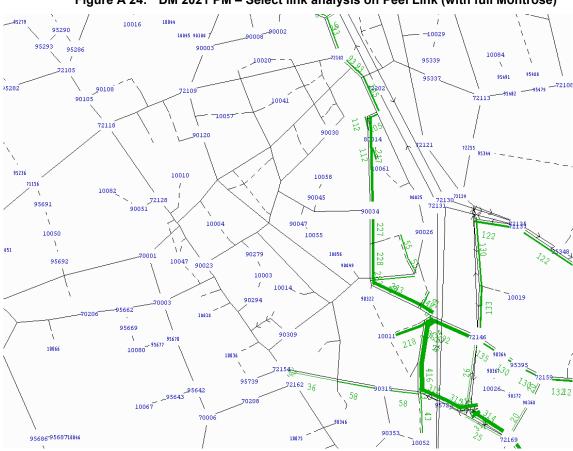


Figure A 24: DM 2021 PM – Select link analysis on Peel Link (with full Montrose)



## **Appendix D – Network statistics**

## Option descriptions

DM - do -minimum - i.e. committed development and committed network changes
South Montrose - road link via Sheaveshill Avenue between Colindeep Lane and Colindale Avenue
Full Montrose - road link between Montrose Avenue and Colindeep Lane
Option I - do-something matrix, Aerodrome Rd/A41 minor change to lane markings, tinings and introduction of signals at Montrose Avenue/A5 junction.
Option 2 - As Option 1 + Peel Access Link ( new road running between Aerodrome Road and Colindeep Lane)
Option 3 - As Option 1 + junction improvement Colindale Avenue/A5
Option 4 - As Option 1 North Montrose - new road link between Montrose Avenue and Colindale Avenue)
Option 5 - Peel Link and Colindale Avenue/A5 improvement

Table 1 : Key Network Statistics from SATURN\_Whole network \_ AM Peak

											Diff%			
		МД	South Montrose	Full Montrose	091	op2	OP3	0P4	south Mont vs DM	Full Mont vs DM	op1 vs DM	op2 vs DM	op 3vs DM	op4 vs DM
	Transient Queues (PCU.HRS.)	4723.4	4957.7	4962.4	4963.2	4963.1	4989.0	4976.1	5.0%	5.1%	5.1%	5.1%	2.6%	5.3%
	Over- Capacity Queues (PCU.HRS.)	5584.3	5811.0	5734.7	5985.4	5681.2	5907.3	5990.1	4.1%	2.7%	7.2%	1.7%	5.8%	7.3%
ain	Link Cruise Time (PCU.HRS.)	18575.3	18837.0	18841.1	18843.0	18835.1	18848.3	18832.1	1.4%	1.4%	1.4%	1.4%	1.5%	1.4%
orua	Total Travel Time ((PCU.HRS.)	28883.0	29605.7	29538.2	29791.6	29479.4	29744.6	29798.3	2.5%	2.3%	3.1%	2.1%	3.0%	3.2%
۰.	Travel Distance (PCU.KM.)	784079.0	793177.0	792831.3	794380.3	792855.0	794219.1	794175.0	1.2%	1.1%	1.3%	1.1%	1.3%	1.3%
167	Average Speed (KPH)	27.1	26.8	26.8	26.7	26.9	26.7	26.7	-1.3%	-1.1%	-1.8%	%6.0-	-1.6%	-1.8%
01	Trip Matrix	110422.0	111930	111930	111930	111930	111930	111930	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%

TABLE 2 : Key Network Statistic from SATURN\_colindale area\_AM Peak

											Diff%				
		MG	South Montrose	Full Montrose	OP1	op2	0P3	OP4	south Mont vs DM	Full Mont vs DM	op1 vs DM	op2 vs DM	op 3vs DM	op4 vs DM	
	Transient Queues (PCU.HRS.)	405.8	504.8	2'809	489.6	497.2	900.0	496.5	24.4%	25.4%	20.7%	22.5%	23.2%	22.4%	
	Over- Capacity Queues (PCU.HRS.)	158.4	128.1	112.0	280.8	64.2	236.1	274.9	-19.1%	-29.3%	77.3%	-59.5%	49.1%	73.5%	
ลเว	Link Cruise Time (PCU.HRS.)	552.5	629.9	631.6	586.3	622.8	591.0	577.6	14.0%	14.3%	6.1%	12.7%	%0.7	4.5%	
1112	Total Travel Time ((PCU.HRS.)	1116.7	1262.8	1252.3	1356.7	1184.2	1327.1	1349.0	13.1%	12.1%	21.5%	%0.9	18.8%	20.8%	
• ^ •	Travel Distance (PCU.KM.)	21878.6	24008.8	24249.3	23153.5	24159.0	23210.0	23026.2	9.7%	10.8%	5.8%	10.4%	6.1%	5.2%	
ng) O	Average Speed (KPH)	19.6	19.0	19.4	17.1	20.4	17.5	17.1	-3.0%	-1.2%	-12.9%	4.1%	-10.7%	-12.9%	
	Trip Matrix														

TABLE 1 : Key Network Statistic from SATURN\_Whole network (PM)

				TEST Runs	Runs								Diff%				
	DM	OP1e	OP2a	OP3a	OP4a	0P5r	0P5Ar	OP5Br	Full Montrose	op1e vs DM	op2a vs DM	op 3a vs DM	op4a vs DM	op5r vs DM	op5Ar vs DM	op5Brvs DM	Full Montrose vs DM
Transient Queues (PCU.HRS.)	5046.9	5351.2	5334.7	5353.9	5332.1	5331.9	5340.8	5315.2	5147.2	%0.9	2.7%	6.1%	2.7%	2.6%	5.8%	5.3%	2.0%
Over- Capacity Queues (PCU.HRS.)	7504.9	8424.8	8392.2	8466.3	8424.4	8382.1	8519.1	8342.1	8117.6	12.3%	11.8%	12.8%	12.3%	11.7%	13.5%	11.2%	8.2%
Link Cruise Time (PCU.HRS.)	19591.8	19858.4	19843.8	19851.7	19833.0	19838.8	19836.8	19847.6	19822.7	1.4%	1.3%	1.3%	1.2%	1.3%	1.3%	1.3%	-0.2%
Total Travel Time ((PCU.HRS.)	32143.6	33634.4	33570.7	33671.9	33589.5	33552.8	33696.7	33504.9	33087.5	4.6%	4.4%	4.8%	4.5%	4.4%	4.8%	4.2%	2.9%
Travel Distance (PCU.KM.)	840371.0	851379.8	851158.9	851522.2	851036.6	851025.2	851322.7	851474.5	849787.7	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.1%
Average Speed (KPH)	26.1	25.3	25.4	25.3	25.3	25.4	25.3	25.4	25.7	-3.2%	-3.0%	-3.3%	-3.1%	-3.0%	-3.4%	-2.8%	-1.8%
Trip Matrix	116206.0	117829.9	117829.9	117829.9	117829.9	117829.9	117829.9	117829.9	117829.9							1.4%	1.4%

TABLE 1: Key Network Statistic from SATURN\_colindale area (PM)

				TEST Runs	Runs								Diff%				
	MQ	0P1e	OP2a	OP3a	OP4a	OP5r	OP5Ar	OP5Br	Full Montrose	op1e vs DM	op2a vs DM	op 3a vs DM	op4a vs DM	op5r vs DM	op5Ar vs DM	op5Brvs DM	Full Montrose vs DM
Transient Queues (PCU.HRS.)	458.4	593.6	609.4	592.4	577.9	602.5	600.7	607.4	474.2	29.5%	32.9%	29.2%	26.1%	31.4%	31.0%	32.5%	3.4%
Over- Capacity Queues (PCU.HRS.)	172.8	434.4	413.2	423.7	416.3	411.3	462.7	342.9	214.4	151.4%	139.1%	145.2%	140.9%	138.0%	167.8%	98.4%	24.1%
Link Cruise Time (PCU.HRS.)	644.9	691.5	692.9	0.769	692.0	692.3	689.5	8.069	708.1	7.2%	7.4%	8.1%	7.3%	7.3%	%6.9	7.1%	%8.6
Total Travel Time ((PCU.HRS.)	1276.1	1719.5	1715.5	1713.1	1686.2	1706.1	1752.9	1641.1	1396.7	34.7%	34.4%	34.2%	32.1%	33.7%	37.4%	28.6%	9.5%
Travel Distance (PCU.KM.)	24977.3	26922.7	26981.3	27120.8	27272.7	27018.2	26937.4	26937.9	27663.8	7.8%	8.0%	8.6%	9.5%	8.2%	7.8%	7.8%	10.8%
Average Speed (KPH)	19.6	15.7	15.7	15.8	16.2	15.8	15.4	16.4	19.8	-20.0%	-19.6%	-19.1%	-17.4%	-19.1%	-21.5%	-16.1%	1.2%
Trip Matrix																	

