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## The Belvederes and Wider Area Model

### Belvederes Traffic Flow Analysis



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## Belvederes Traffic Flow Analysis

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# 1 Introduction

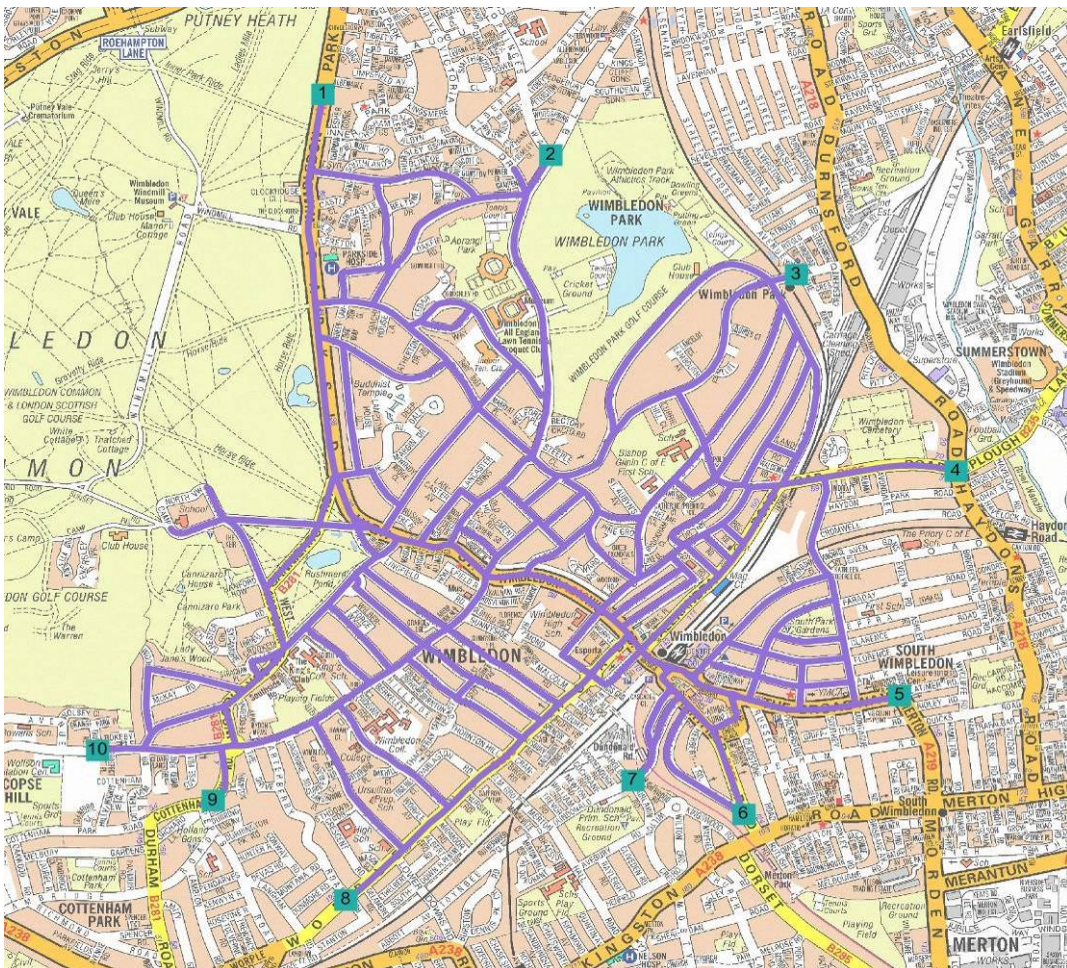
## General

- 1.1 JMP Consulting has been appointed by The London Borough of Merton to undertake flow analysis in VISUM for the Belvedere Grove and Belvedere Drive links.
- 1.2 2006 Base VISUM models were developed by JMP for the AM (07:00 – 10:00) and PM (16:00 – 19:00) peaks. The calibration and validation report for the VISUM model is covered in a separate report submitted to the LB Merton in April 2007.
- 1.3 This technical note summarises the result of a study conducted to estimate the percentages of through traffic using the Belvedere area to gain access to northeast and the southeast areas of the network, the proportion of local traffic on the selected links will also be presented.

# 2 VISUM Traffic Models

- 2.1 Figure 2.1 shows the area included in the VISUM model for The Belvederes and Wider Area of Wimbledon, together with the location of the boundary cordon points

## F2.1 VISUM Network and Cordon Points



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# 3 Link Flow Analysis

## General

- 3.1 A particular route is classified as a “Through Route“ when the corresponding trips enter the network from a cordon point (Zone) and exit the network from a different cordon point.
- 3.2 All through routes using either the Belvedere Grove link or the Belvedere Drive link were selected in the VISUM model. The respective traffic volumes and the corresponding origin – destination pairs were separately recorded for each direction.
- 3.3 The total through traffic was calculated by summing all the values for the through routes using a specific link; As part of this process total local traffic values were also obtained. The results of the analysis are summarised in tables 3.1 to 3.4.
- 3.4 The results of the flow analysis are also presented in the diagrams attached in Appendices A and B.

## Belvedere Grove Flow Analysis

### T3.1 Belvedere Grove Flow Analysis AM Peak

AM Peak (07:00 - 10:00)						
Link	Total Flow	From Zone	To Zone	Through Traffic	Proportions	
Belvedere Grove N/B	906	10	3	356	39%	
		9	2	15	2%	
		9	3	175	19%	
		8	2	14	2%	
		Total N/B Through Traffic			560	62%
Total N/B Local Traffic			346	38%		
Belvedere Grove S/B	588	2	10	5	1%	
		2	9	5	1%	
		2	8	4	1%	
		3	10	158	27%	
		3	9	47	8%	
Total S/B Through Traffic			219	37%		
Total S/B Local Traffic			369	63%		

- 3.5 Table 3.1 showed that during the AM peak, through traffic contributed to 62% of the northbound traffic on Belvedere Grove. The majority of through traffic are between Zone 10 (Copse Hill) and Zone 3 (Arthur Road).
- 3.6 The situation is reversed for the southbound movement, as 37% of the southbound traffic is through traffic and 63% is local traffic. 27% of traffic on Belvedere Grove appears to travel from Zone 3 (Arthur Road) to Zone 10 (Copse Hill).

**T3.2 Belvedere Grove Flow Analysis PM Peak**

<b>PM Peak (16:00 - 19:00)</b>						
<b>Link</b>	<b>Total Flow</b>	<b>From Zone</b>	<b>To Zone</b>	<b>Through Traffic</b>	<b>Proportions</b>	
Belvedere Grove N/B	615	10	3	214	35%	
		10	4	19	3%	
		9	3	65	11%	
		9	4	7	1%	
		8	3	1	0.2%	
Total N/B Through Traffic				306	50%	
Total N/B Local Traffic				309	50%	
Belvedere Grove S/B	825	2	9	94	11%	
		2	8	24	3%	
		3	10	388	47%	
		3	9	178	22%	
		Total S/B Through Traffic				684
Total S/B Local Traffic				141	17%	

3.7 The results in table 3.2 show that during the PM peak, the proportion of northbound through traffic and the local traffic are split evenly. Similar to the AM peak, the origin – destination pair (10 – 3) contributed to the majority of through traffic on Belvedere Grove in the northbound direction.

3.8 In the southbound direction, 83% of traffic is through traffic.



## Belvedere Drive Flow Analysis

### T3.3 Belvedere Drive Flow Analysis AM Peak

<b>AM Peak (07:00 - 10:00)</b>						
<b>Link</b>	<b>Total Flow</b>	<b>From Zone</b>	<b>To Zone</b>	<b>Through Traffic</b>	<b>Proportions</b>	
Belvedere Drive N/B	394	10	4	29	7%	
		9	4	10	3%	
		7	2	5	1%	
		6	2	2	1%	
		Total N/B Through Traffic			46	12%
Total N/B Local Traffic			348	88%		
<hr/>						
Belvedere Drive S/B	331				0%	
		Total S/B Through Traffic			0	0%
		Total S/B Local Traffic			331	100%

3.9 The results summarised in table 3.3 show that during the AM peak, the proportion of northbound through traffic is 12% on Belvedere Drive with traffic from Zone 10 (Copse Hill) to Zone 4 (Gap Road) contributing to the majority of the through traffic in the northbound direction.

3.10 There was no through traffic recorded in the southbound direction on Belvedere Drive during the AM peak.

### T3.4 Belvedere Drive Flow Analysis PM Peak

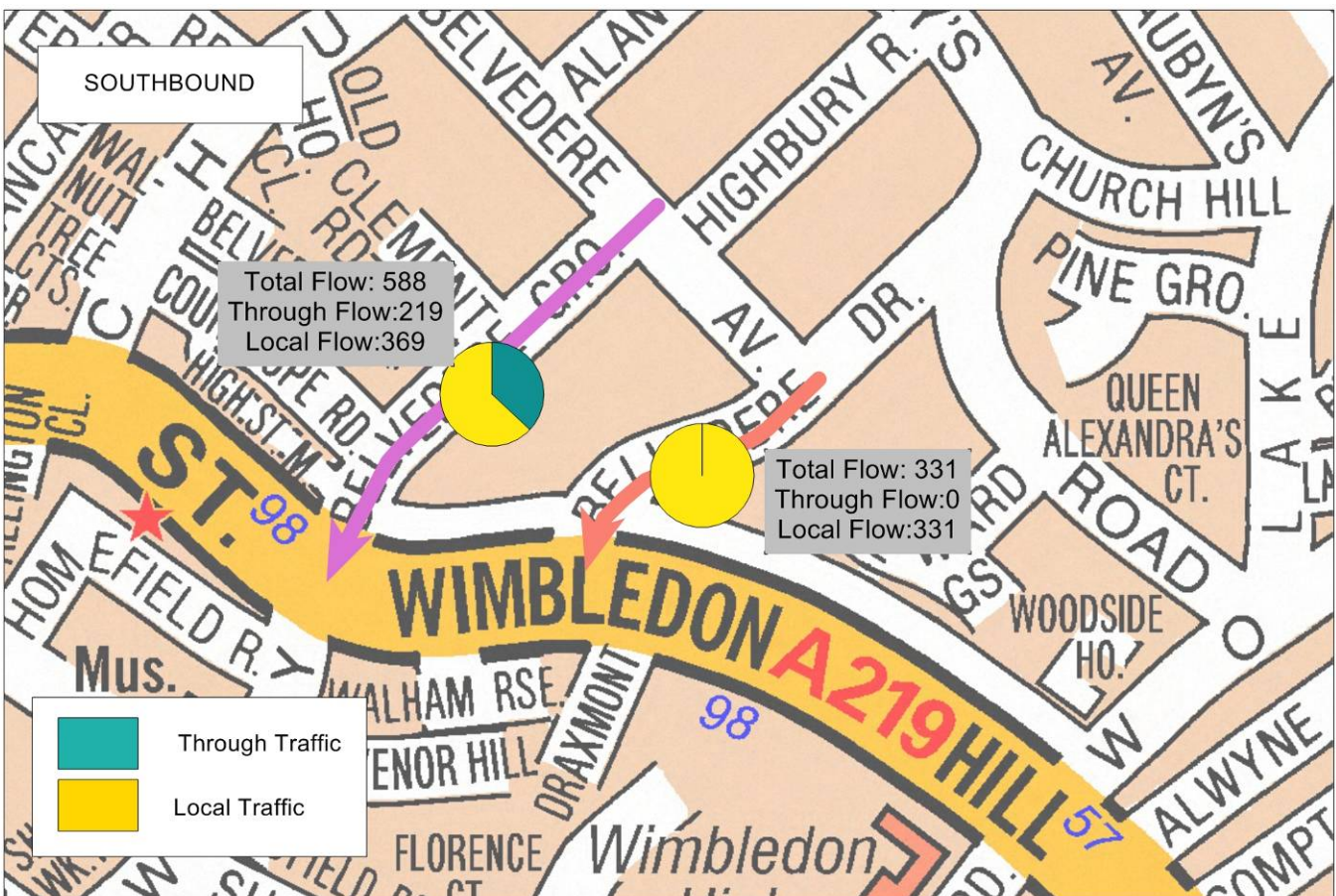
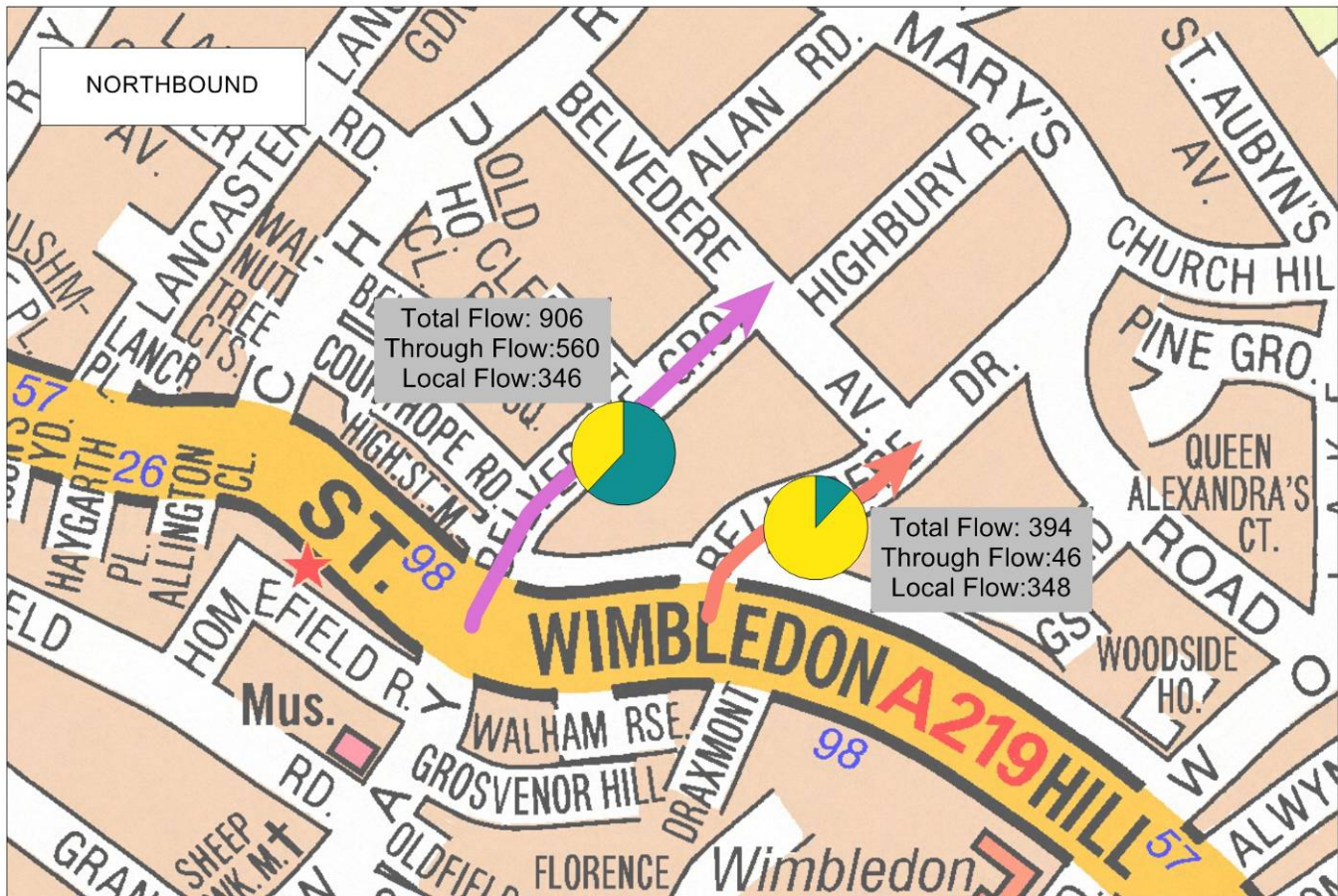
<b>PM Peak (16:00 - 19:00)</b>						
<b>Link</b>	<b>Total Flow</b>	<b>From Zone</b>	<b>To Zone</b>	<b>Through Traffic</b>	<b>Proportions</b>	
Belvedere Drive N/B	481	7	2	1	0.2%	
		6	2	1	0.2%	
		Total N/B Through Traffic			2	0.4%
Total N/B Local Traffic			479	99.6%		
<hr/>						
Belvedere Drive S/B	339				0%	
		Total S/B Through Traffic			0	0%
		Total S/B Local Traffic			339	100%

3.11 The results in table 3.4 showed that through traffic contribute to 0.4% of the overall traffic on Belvedere Drive in the northbound direction during the PM peak.

3.12 There was no through traffic recorded in the southbound direction on Belvedere Drive during the PM peak.

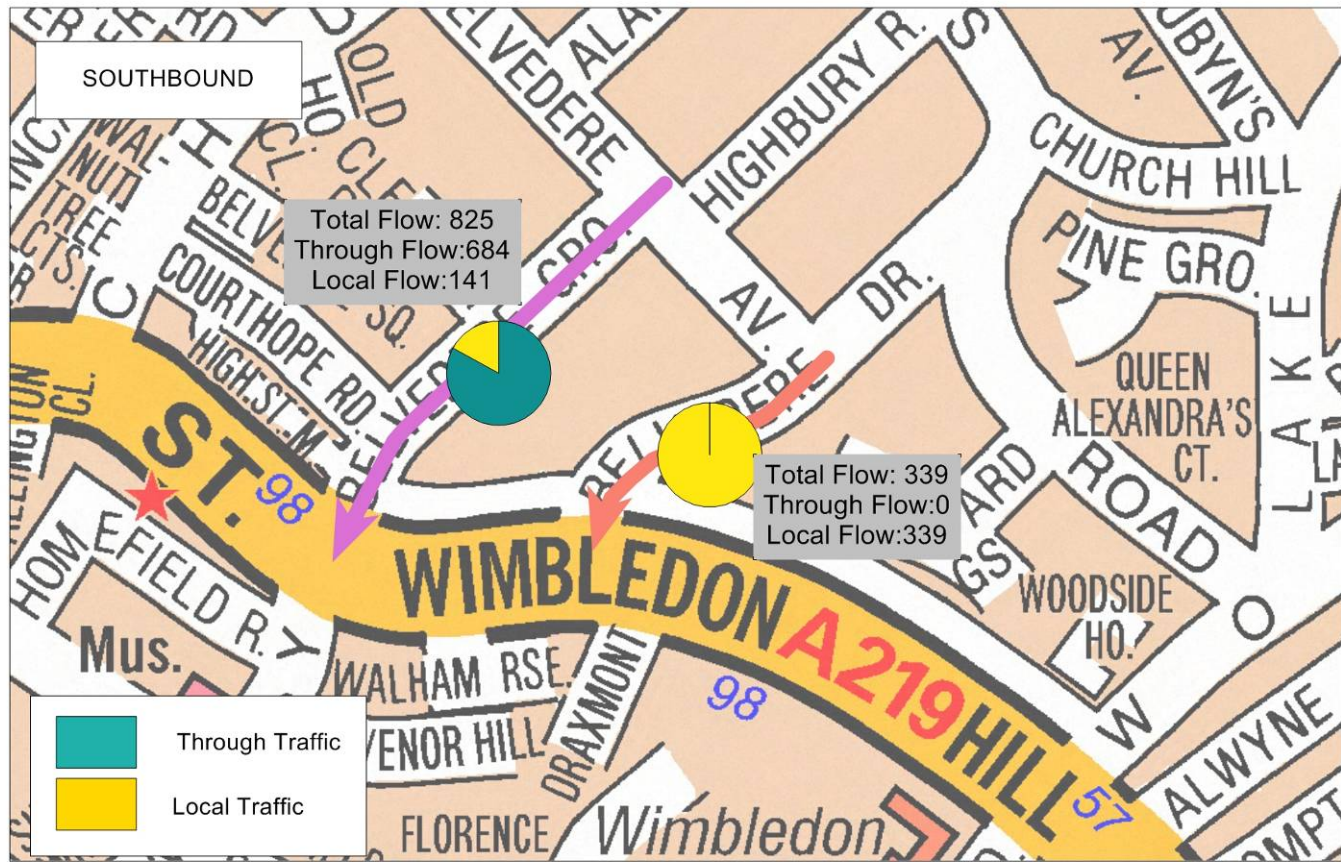
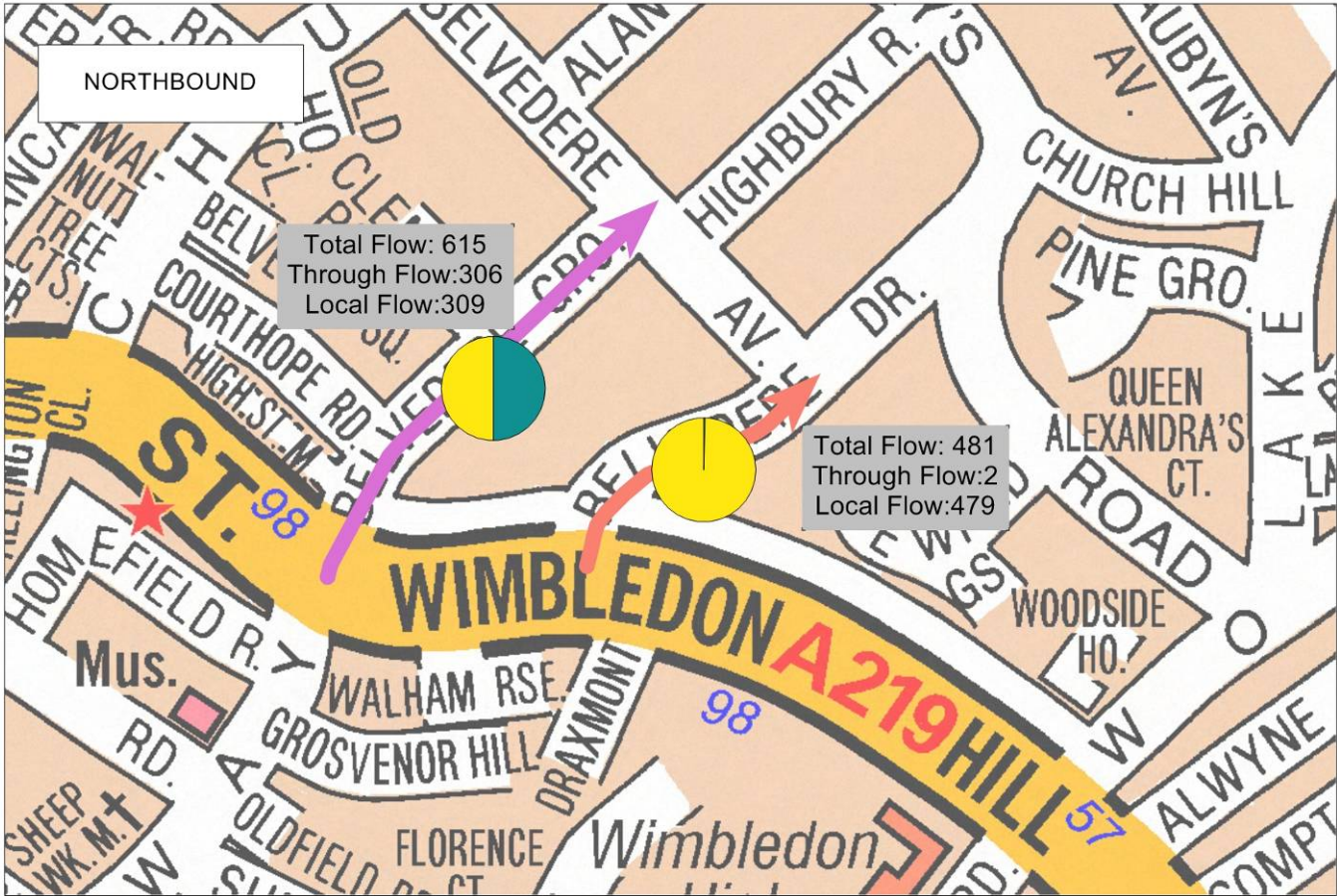
# Appendix A

## Belvederes Traffic Proportions



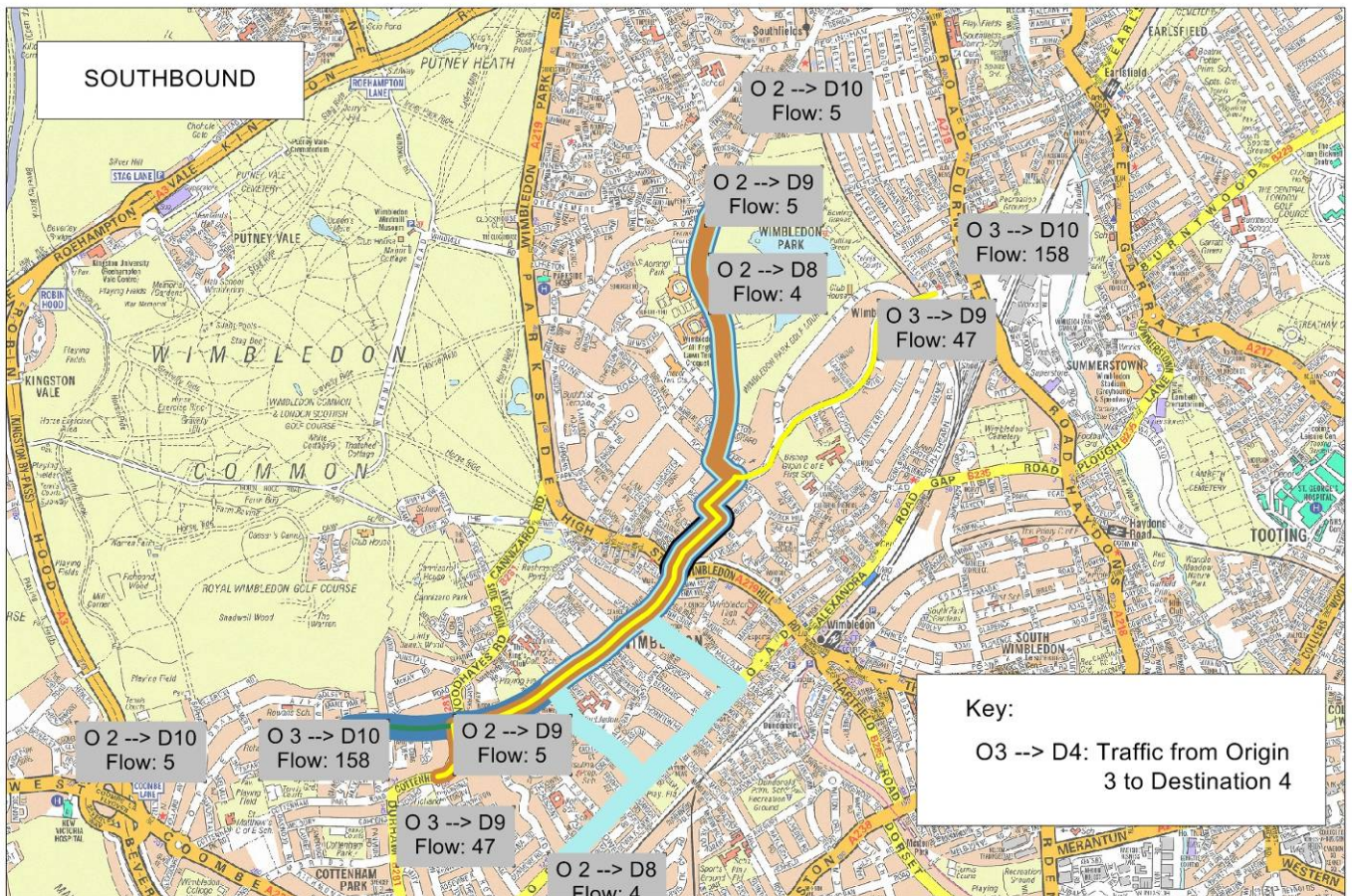
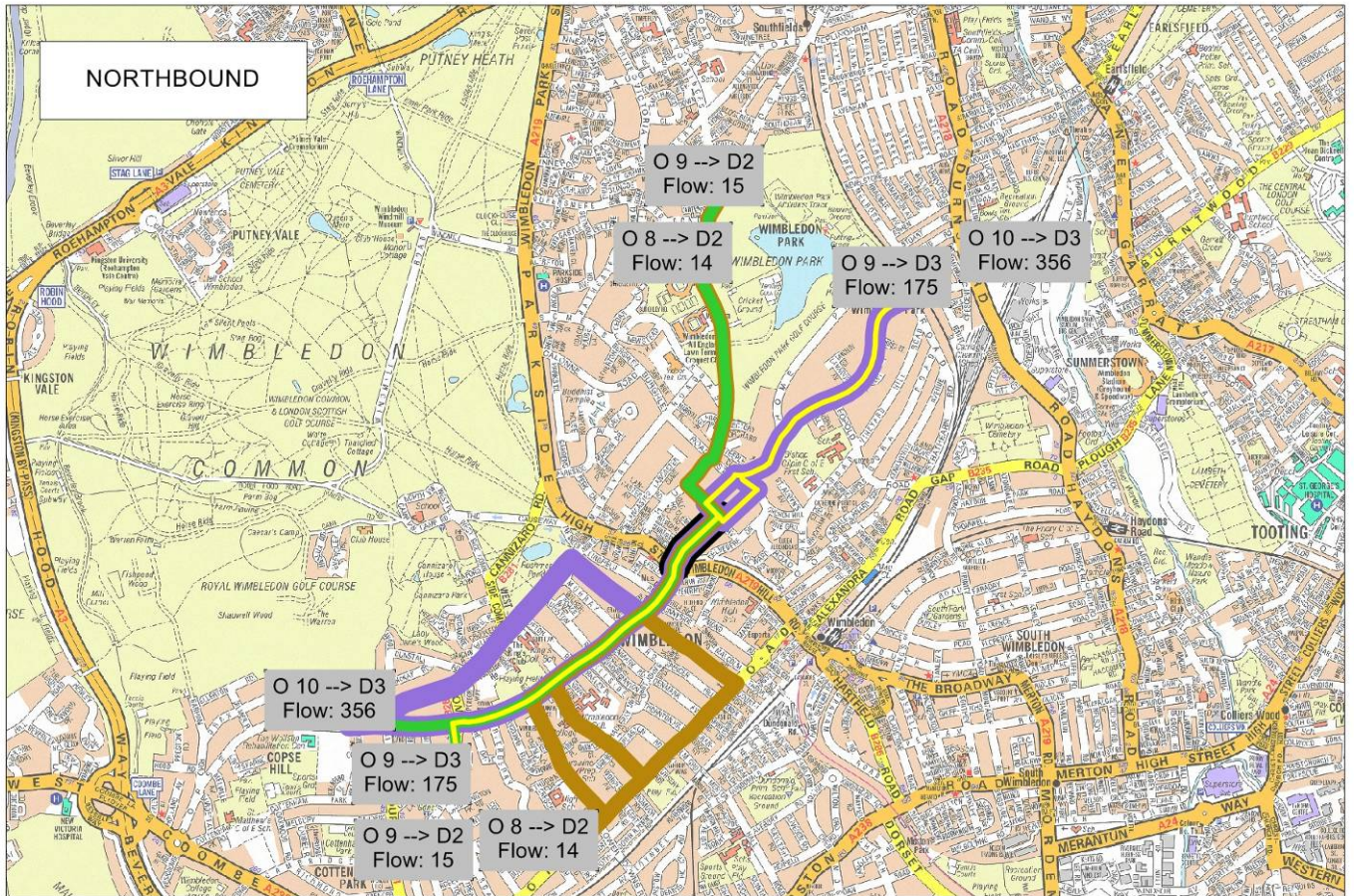
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The Belvederes  
 Traffic Proportions (AM)



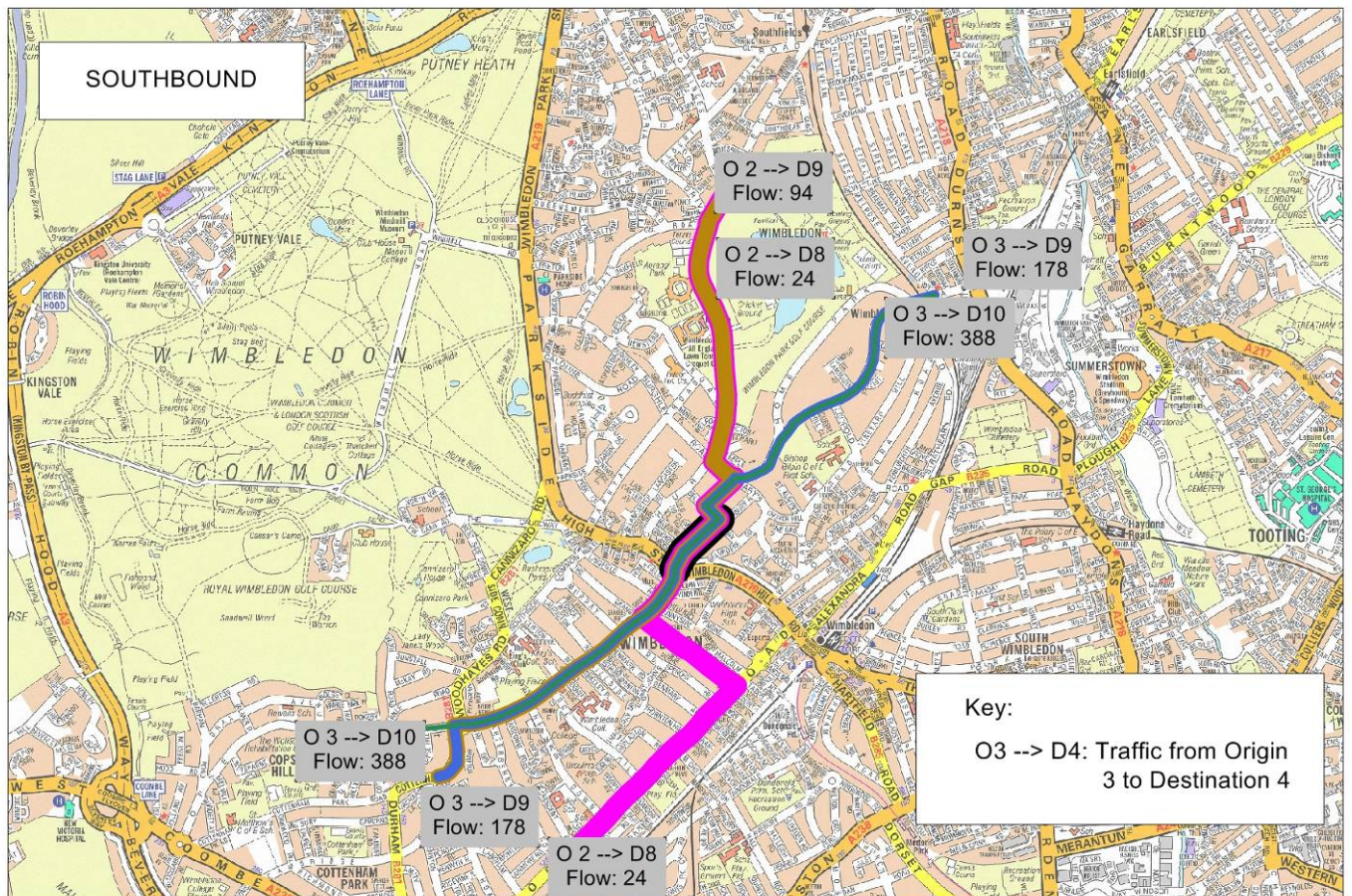
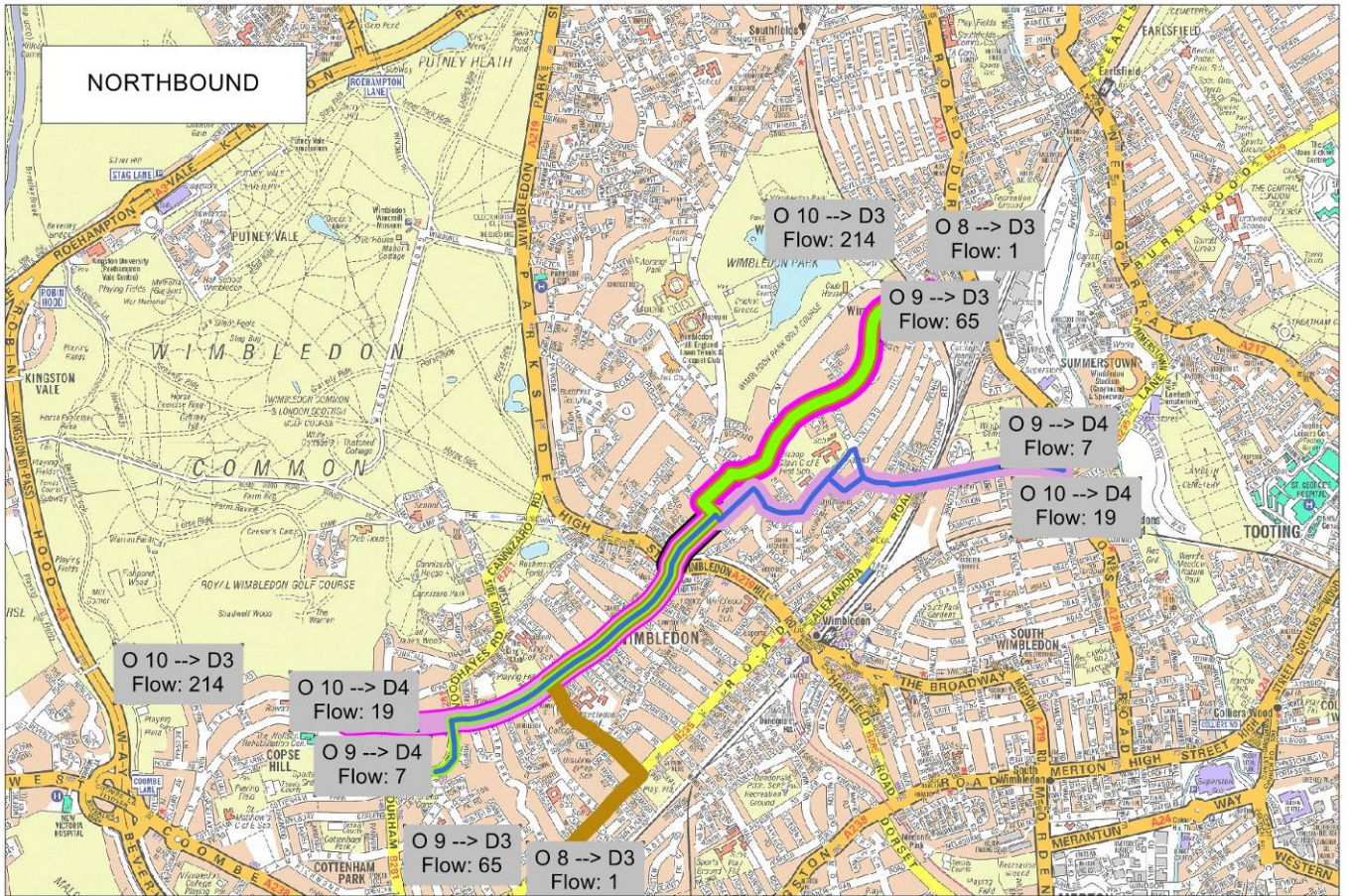
# Appendix B

## Belvederes Through Routes



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**Belvedere Grove  
through Routes  
(AM)**



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**Belvedere Grove  
through Routes  
(PM)**



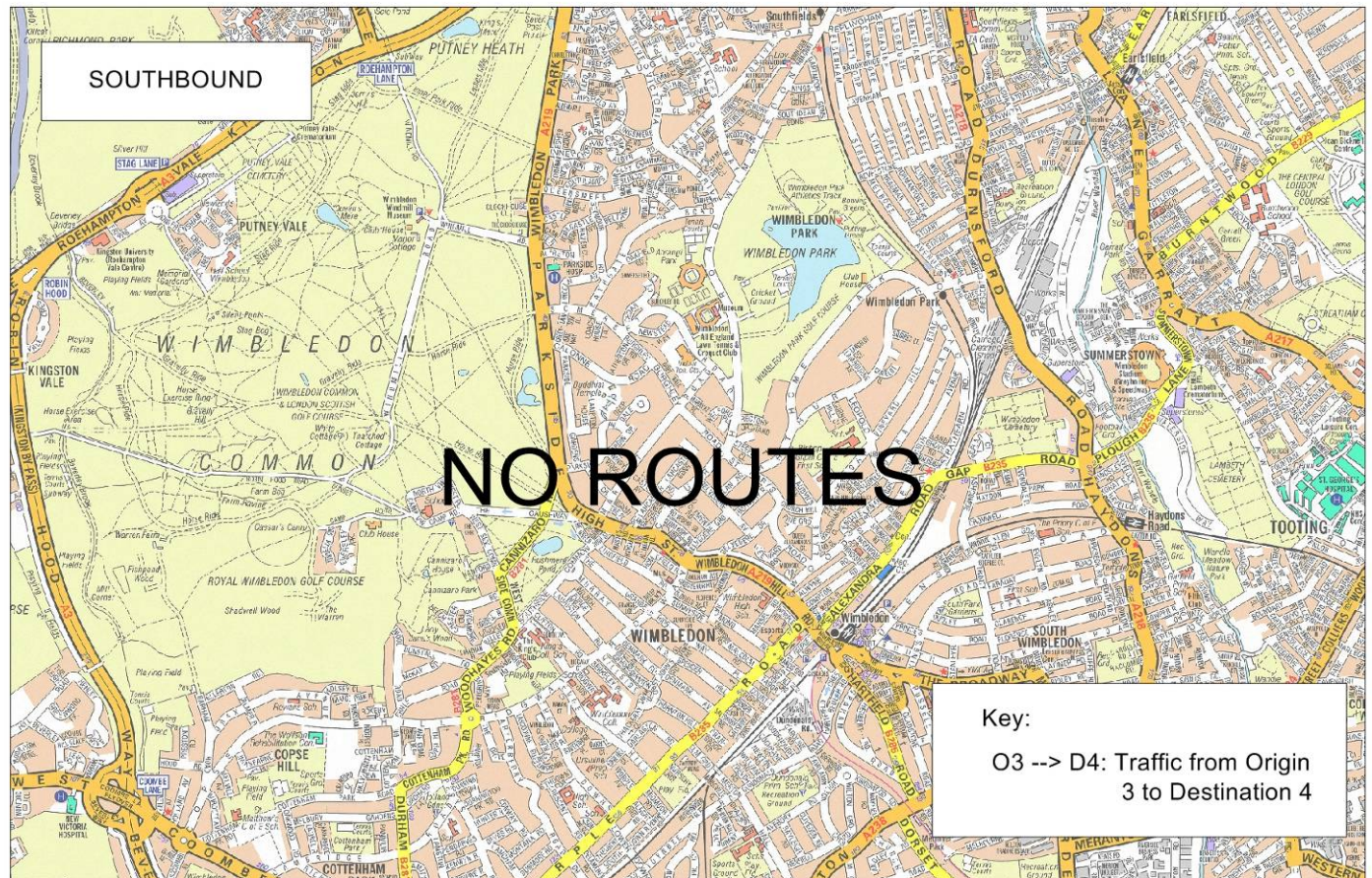
Key:  
 O3 --> D4: Traffic from Origin 3 to Destination 4



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Belvedere Drive through Routes (AM)





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**Belvedere Drive  
through Routes  
(PM)**

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