

Technical Note

Project:	Quietway 7 – Elephant & Castle to Crystal Palace	Job No:	60343287
Subject:	Initial Traffic Re-assignment Modelling – Dulwich Village		
Prepared by:	Ian Richardson	Date:	7 December 2015
Checked by:	Kit Tang	Date:	22 February 2016
Approved by:	Ian Burrows	Date:	13 June 2016

Introduction

The Quietways are low intervention routes intended to direct cyclists through low-traffic backstreets while following the existing cycling desire lines. They are focusing on less confident cyclists and those travelling at a gentler pace. The London Borough of Southwark in an effort to promote sustainable modes of transport such as walking and cycling is aiming to improve road safety for all users by reducing vehicle speeds and motorist traffic volumes along the chosen routes.

Dulwich Village/ Calton Avenue/ Turney Road signalised junction (in Dulwich) is a key junction on the Quietway 7 alignment, which runs between Elephant & Castle and Crystal Palace. This junction is currently operating at / over capacity (DoS %) and the volume of motorised traffic through this junction is considered to be high. Various intervention options to improve the traffic conditions for this junction and the Quietway alignment in Dulwich, including banned turns and road closures, are being considered and traffic modelling was undertaken to provide an early indication on the potential wider traffic re-assignment impact of these options.

What are the Quietway Objectives?

Cycling Level of Service (CLOs) Assessment Score

	Existing	Desirable
Traffic Volumes	Good CLOs 200-500 v/hr	Highest CLOs <200v/hr
Vehicle Speeds	20mph	20mph

Dulwich Village/ Calton Avenue/ Turney Road Junction

Arm	Two-Way Link Flow (vph) (2015)	
	Morning Peak Hour (0800 to 0900)	Evening Peak Hour (1700 to 1800)
Dulwich Village (N)	1110	1010
Calton Avenue	960	980
Dulwich Village (S)	1130	1110
Turney Road	550	480

Survey data provided by TfL (Mark Artist) via email (6 November 2015) ("LON287KS Dulwich junction.xlsx") - survey undertaken on Thursday 4 February 2015

Technical Note

Model Background and Considerations

An existing strategic highway model, Dulwich Production version 3.0 model, has been provided by Transport for London (TfL) for this modelling task. The base year of the model is 2012, and it is believed that the bespoke Dulwich model originated from the SoLHAM (South London Highways Assignment Model).

CONWAY AECOM has not undertaken any validation checks for the 2012 base year Dulwich model received, and it is assumed that the model provided by TfL is fit for purpose for this modelling task and for testing intervention options in the vicinity of the Quietway alignment in Dulwich.

The purpose of the modelling task is to provide an early indication of the potential re-assignment response and for early sifting of the intervention options considered. It is important to note that no junction designs have been considered for this modelling task and the modelling results presented below provide a high level overview of the re-assignment impact only.

For all intervention options modelled, it was assumed that the restrictions, such as banned turns and road closures, will apply to general motorised traffic only, and cycle and public transport (i.e. bus) trips are exempted.

Intervention Options

The modelled scenarios, their description and impacts on the Quietway route and the surrounding network are summarised in the following tables.

The modelled flow difference plots show the road links that are modelled to be affected by the intervention options both for the morning and the evening peak hour. Green bandwidths denote road links that are modelled to have greater traffic flow volumes due to the intervention option when compared to the base model; whilst blue bandwidths denote road links with reduced traffic flow volumes due to the intervention.

The modelled interventions are:

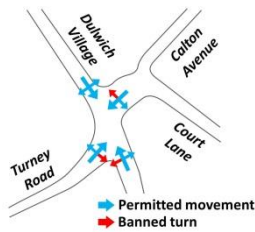
- Scenario A1 – Banned right turn from Calton Avenue Southbound, banned right turn from Turney Road Eastbound and banned left turn from Dulwich Village Northbound at the Dulwich Village / Calton Avenue / Turney Road junction
- Scenario B1 – Turney Road closure at the Dulwich Village / Calton Avenue / Turney Road junction
- Scenario B2 – One-way Eastbound on Turney Road at the Dulwich Village / Calton Avenue / Turney Road junction
- Scenario B3 – One-way Westbound on Turney Road at the Dulwich Village / Calton Avenue / Turney Road junction
- Scenario C1 – Calton Avenue closure at the Dulwich Village / Calton Avenue / Turney Road junction
- Scenario C2 – Calton Avenue and Court Lane closures at the Dulwich Village / Calton Avenue / Turney Road junction
- Scenario D1 – Turney Road closure at the Croxted Road / Turney Road junction
- Scenario E1 – Banned left turn from East Dulwich Grove Westbound at the East Dulwich Grove / Townley Road junction
- Scenario E2 – Banned right turn from Townley Road Northbound at the East Dulwich Grove / Townley Road junction
- Scenario F1 – Court Lane closure at Lordship Lane / Court Lane junction

Technical Note

Scenario ID: **A1**

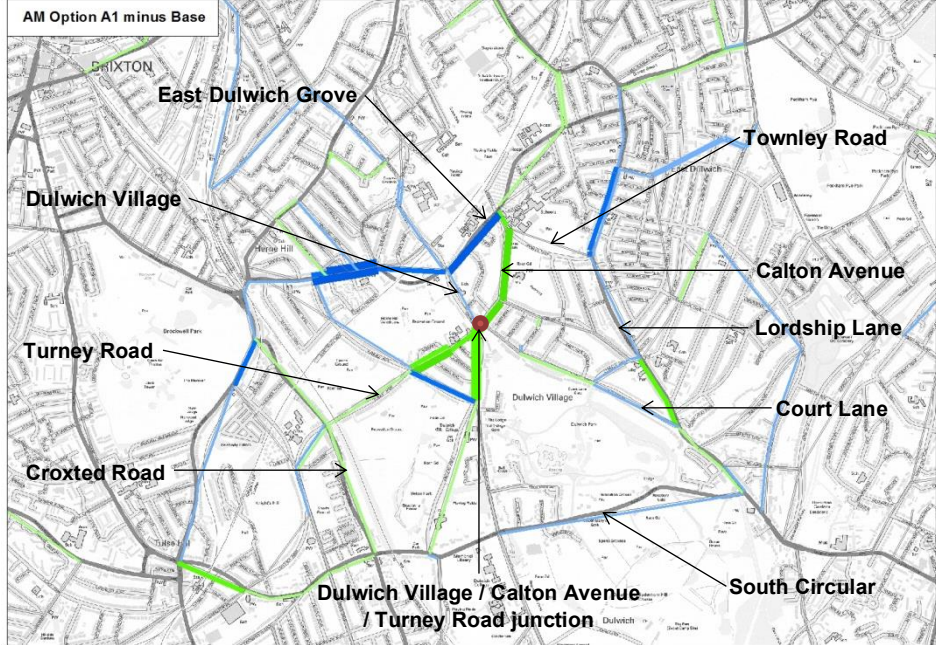
Proposal description:

Banned right turn from Calton Avenue Southbound, banned right turn from Turney Road Eastbound and banned left turn from Dulwich Village Northbound at the Dulwich Village / Calton Avenue / Turney Road junction

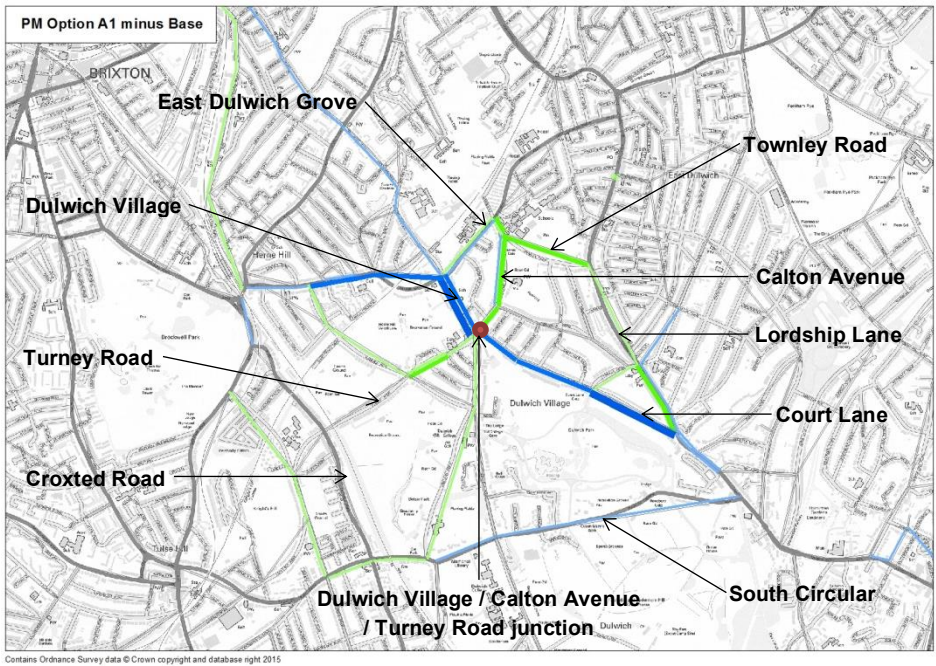


Impact:

- Moderate increase in traffic volumes along the QW7 alignment.
- Moderate increase in traffic volumes using Dulwich Village junction.



Flow Difference



Technical Note

Scenario ID: **B1**

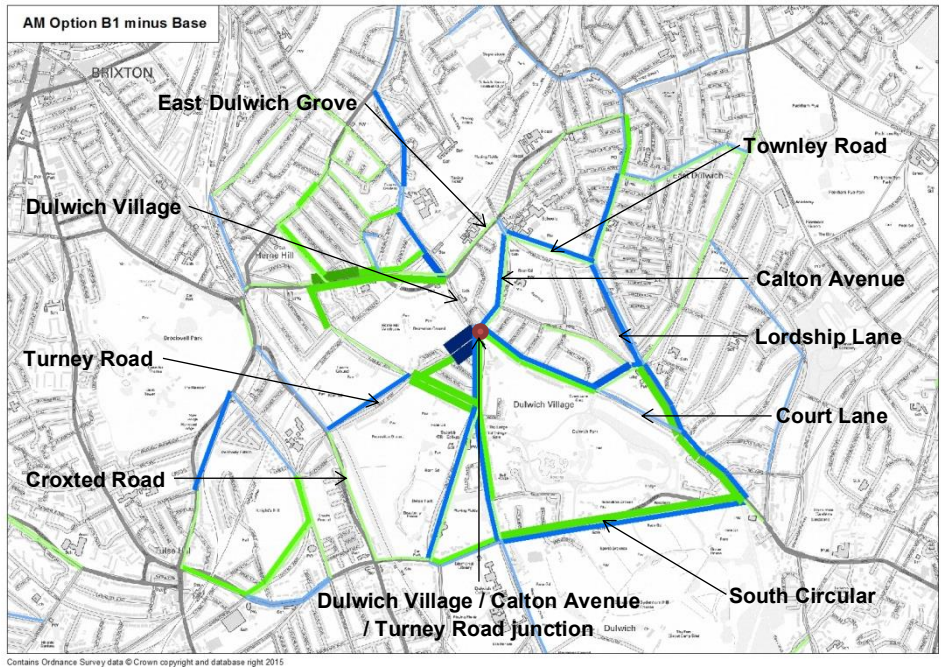
Proposal description:

Turney Road closure at the Dulwich Village / Calton Avenue / Turney Road junction

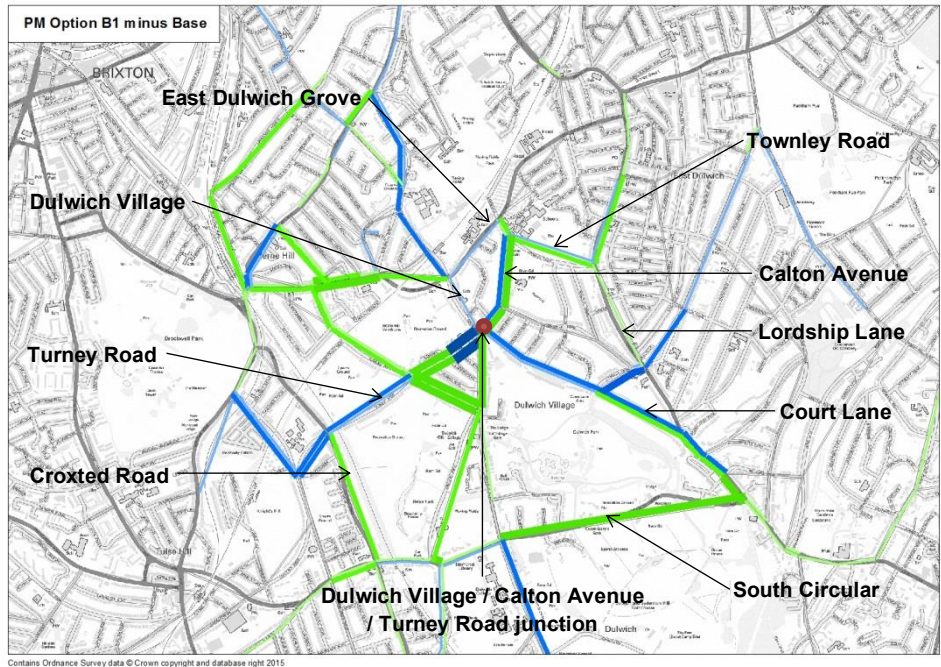


Impact:

- Slight reduction in traffic volumes along the QW7 alignment (Increase in Calton Avenue in PM Peak).
- Potential improvement to efficiency of junction due to restricted manoeuvre.
- Moderate increase in traffic volumes along Burbage Road, Half Moon Lane and South Circular Road.



Flow Difference

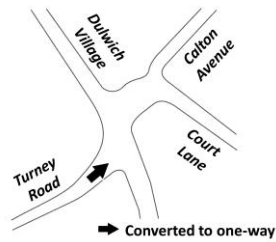


Technical Note

Scenario ID: **B2**

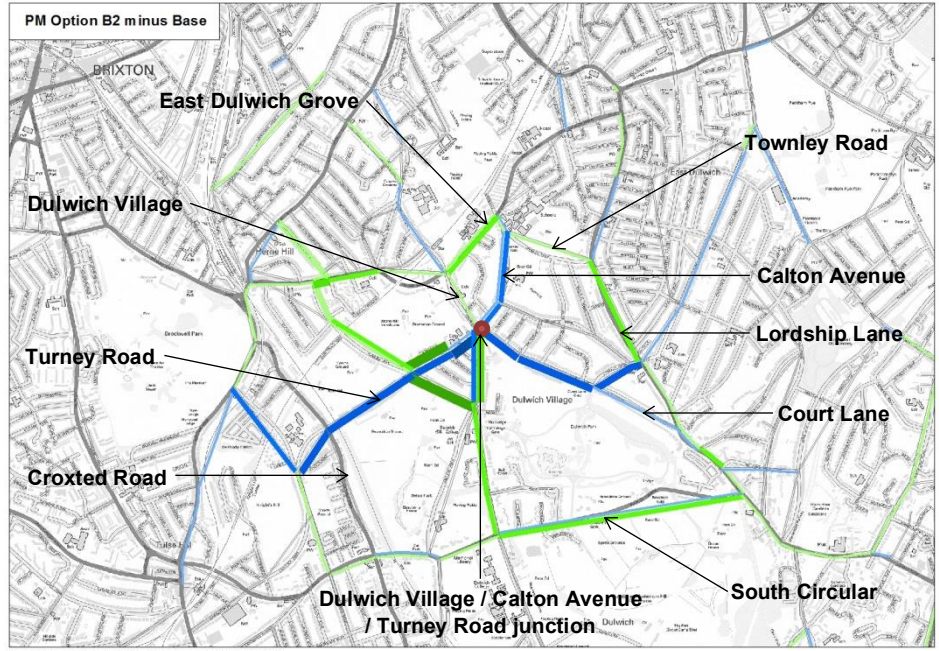
Proposal description:

One-way Eastbound on Turney Road at the Dulwich Village / Calton Avenue / Turney Road junction



Impact:

- Slight reduction in traffic volumes along the QW7 alignment.
- Moderate reduction in traffic volumes along Court Lane.
- Potential improvement to efficiency of junction due to restricted manoeuvre.
- Moderate increase in traffic volumes along Burbage Road.



Flow Difference

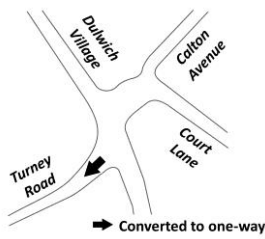


Technical Note

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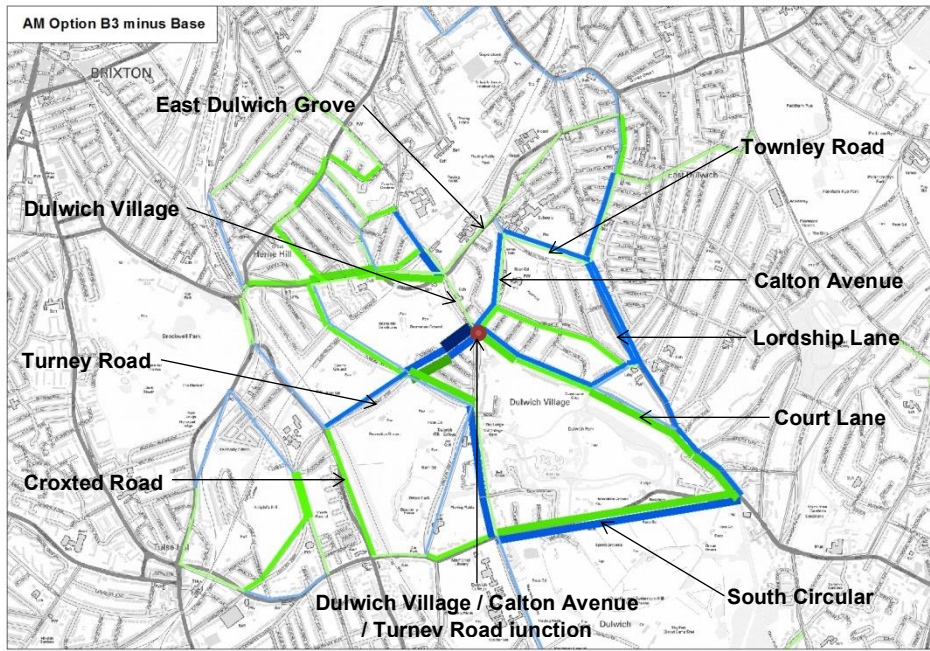
Proposal description:

One-way Westbound on Turney Road at the Dulwich Village / Calton Avenue / Turney Road junction



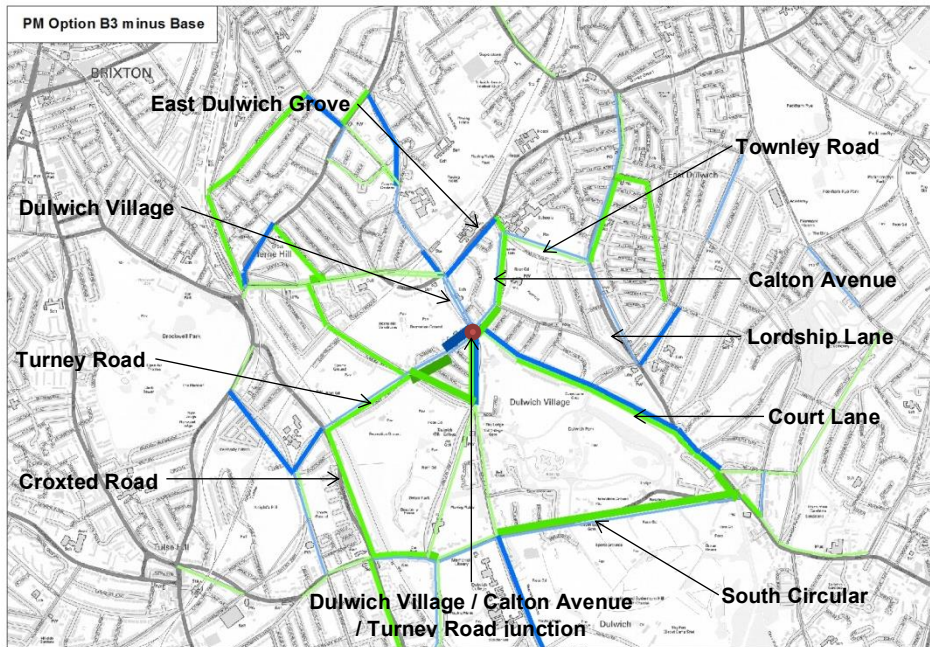
Impact:

- Slight increase in traffic volumes along the QW7 alignment (mainly PM Peak).
- Slight increase in traffic volumes along Court Lane.
- Moderate increase in traffic volumes along Burbage Road, Half Moon Lane and South Circular Road.
- Moderate increase in traffic volumes using Dulwich Village junction.



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Flow Difference



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Scenario ID: **C1**

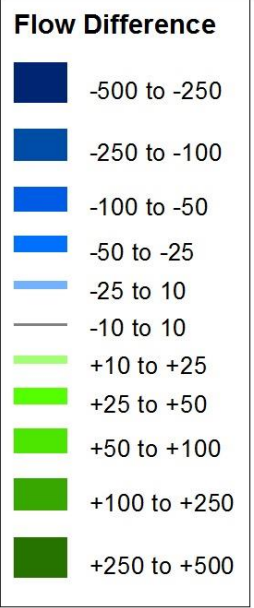
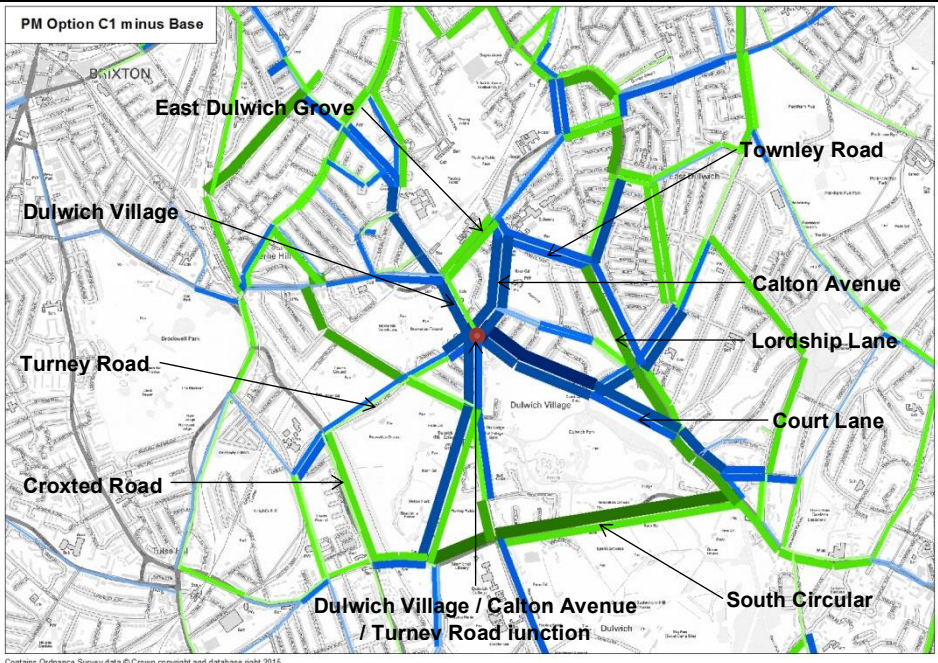
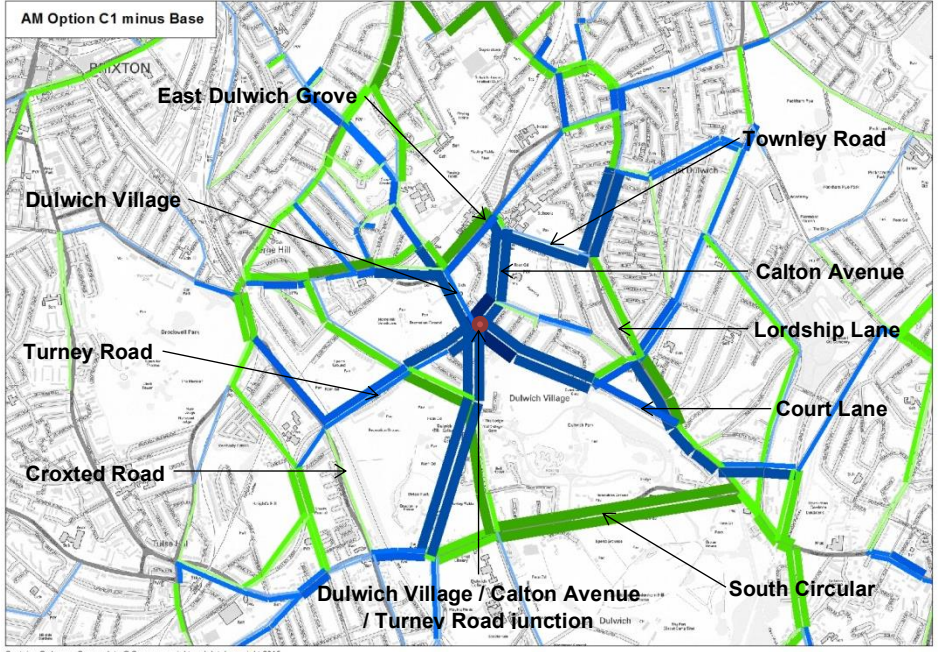
Proposal description:

Calton Avenue closure at the Dulwich Village / Calton Avenue / Turney Road junction

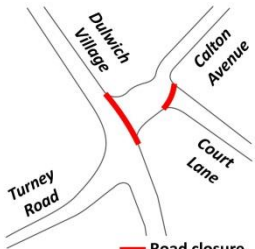
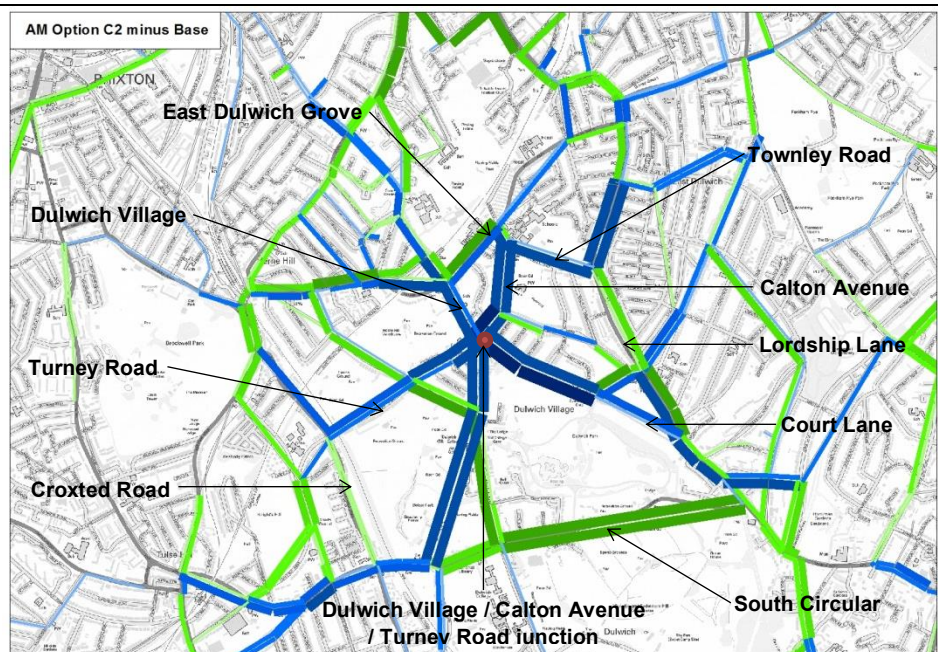
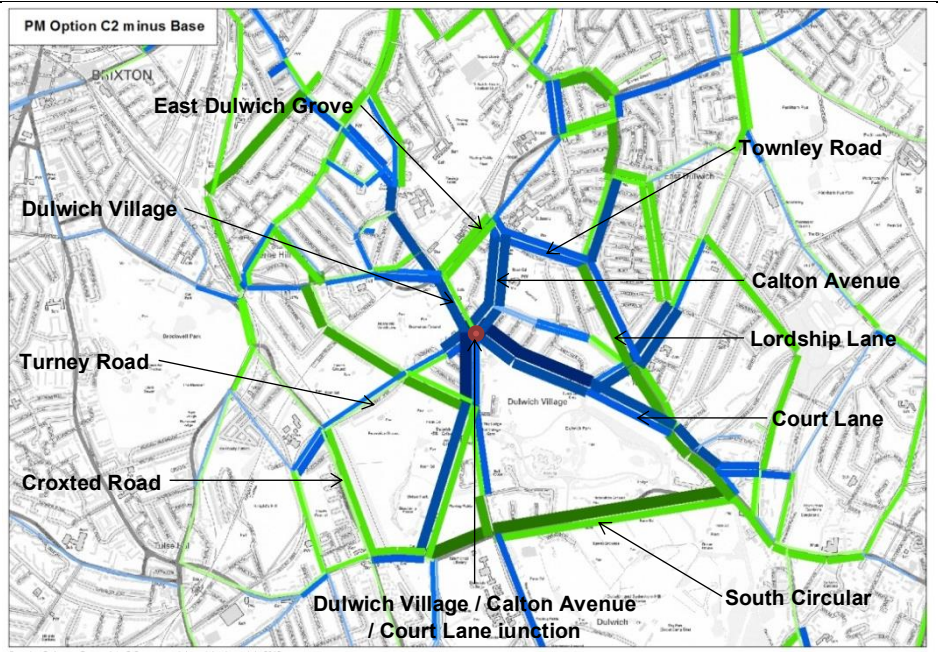


Impact:

- Significant reduction in traffic volumes along the QW7 alignment (Calton Avenue and Turney Road).
- Significant reduction in traffic volumes along Court Lane, Dulwich Village and Gallery Road.
- Potential improvement to efficiency of junction due to restricted manoeuvre and reduction in traffic volumes.
- Moderate increase in traffic volumes along the QW7 alignment (Champion Hill, Grove Lane and Rosendale Road).
- Moderate increase in traffic volumes along Half Moon Lane, East Dulwich Grove and Lordship Lane.
- Significant increase in traffic volumes along Burbage Road and South Circular Road.



Technical Note

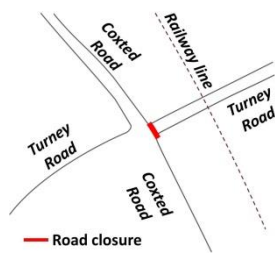
<p>Scenario ID: C2</p>	<p>Impact:</p> <ul style="list-style-type: none"> • Significant reduction in traffic volumes along the QW7 alignment (Calton Avenue and Turney Road). • Significant reduction in traffic volumes along Court Lane, Dulwich Village and Gallery Road. • Potential improvement to efficiency of junction due to restricted manoeuvre and reduction in traffic volumes. • Moderate increase in traffic volumes along the QW7 alignment (Champion Hill, Grove Lane and Rosendale Road). • Moderate increase in traffic volumes along Half Moon Lane, East Dulwich Grove and Lordship Lane. • Significant increase in traffic volumes along Burbage Road and South Circular Road. 																						
<p>Proposal description:</p> <p>Calton Avenue and Court Lane closures at the Dulwich Village / Calton Avenue / Turney Road junction</p>																							
	<p>AM Option C2 minus Base</p>  <p>Contains Ordnance Survey data © Crown copyright and database right 2015</p>																						
<p>Flow Difference</p> <table border="1"> <tr><td>Dark Blue</td><td>-500 to -250</td></tr> <tr><td>Blue</td><td>-250 to -100</td></tr> <tr><td>Light Blue</td><td>-100 to -50</td></tr> <tr><td>Very Light Blue</td><td>-50 to -25</td></tr> <tr><td>White</td><td>-25 to 10</td></tr> <tr><td>Light Green</td><td>-10 to 10</td></tr> <tr><td>Light Green</td><td>+10 to +25</td></tr> <tr><td>Green</td><td>+25 to +50</td></tr> <tr><td>Dark Green</td><td>+50 to +100</td></tr> <tr><td>Very Dark Green</td><td>+100 to +250</td></tr> <tr><td>Black</td><td>+250 to +500</td></tr> </table>	Dark Blue	-500 to -250	Blue	-250 to -100	Light Blue	-100 to -50	Very Light Blue	-50 to -25	White	-25 to 10	Light Green	-10 to 10	Light Green	+10 to +25	Green	+25 to +50	Dark Green	+50 to +100	Very Dark Green	+100 to +250	Black	+250 to +500	<p>PM Option C2 minus Base</p>  <p>Contains Ordnance Survey data © Crown copyright and database right 2015</p>
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Dark Green	+50 to +100																						
Very Dark Green	+100 to +250																						
Black	+250 to +500																						

Technical Note

Scenario ID: **D1**

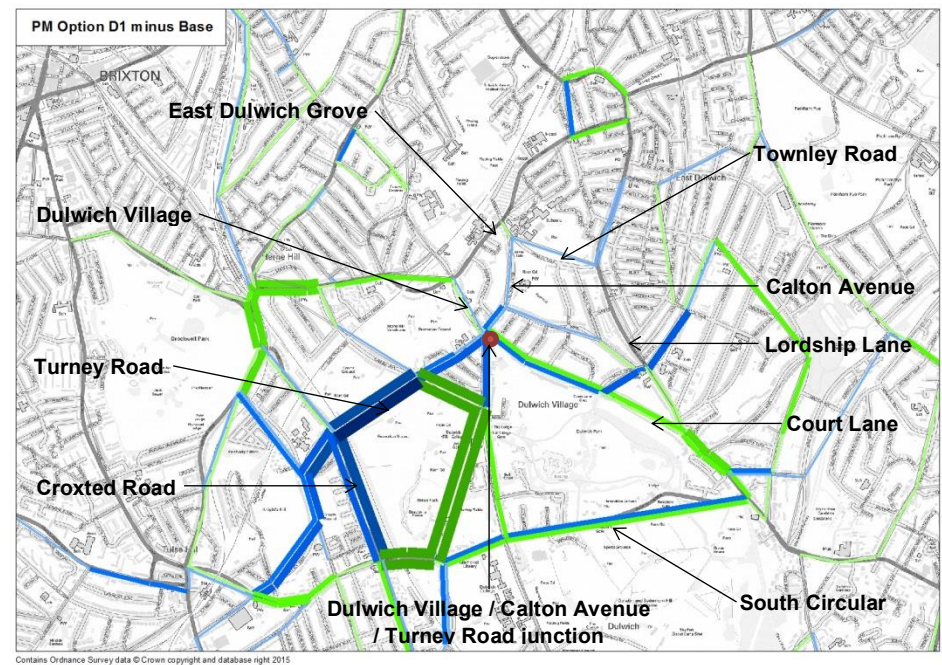
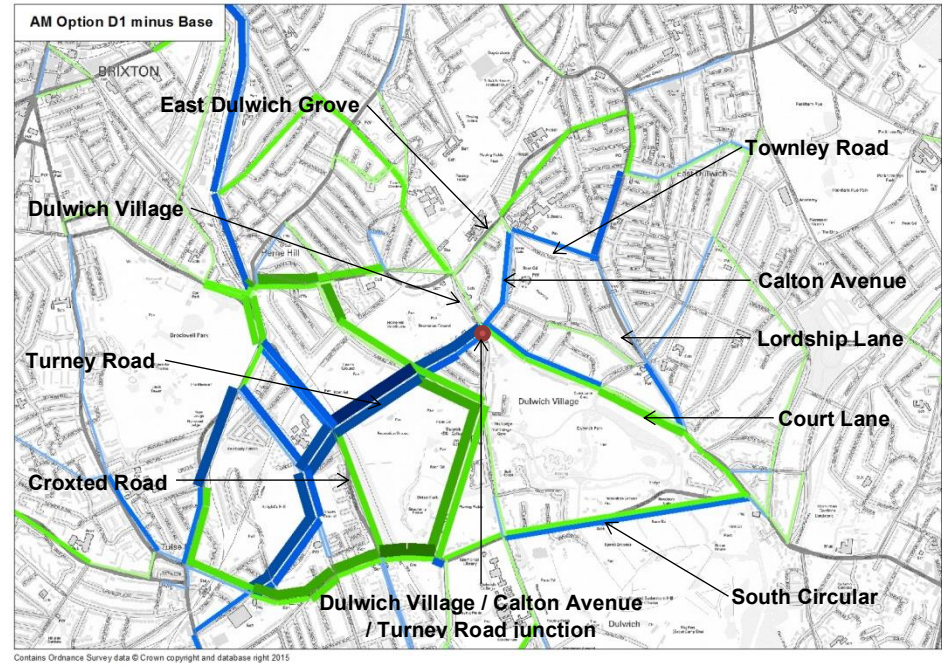
Proposal description:

Turney Road closure at the Croxted Road / Turney Road junction



Impact:

- Moderate reduction in traffic volumes along the QW7 alignment (Calton Avenue, Turney Road and Rosendale Road).
- Moderate increase in traffic volumes along Half Moon Lane, Burbage Road, Gallery Road and South Circular Road.



Flow Difference

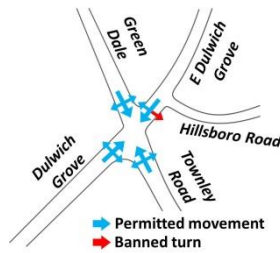
	-500 to -250
	-250 to -100
	-100 to -50
	-50 to -25
	-25 to 10
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	+50 to +100
	+100 to +250
	+250 to +500

Technical Note

Scenario ID: **E1**

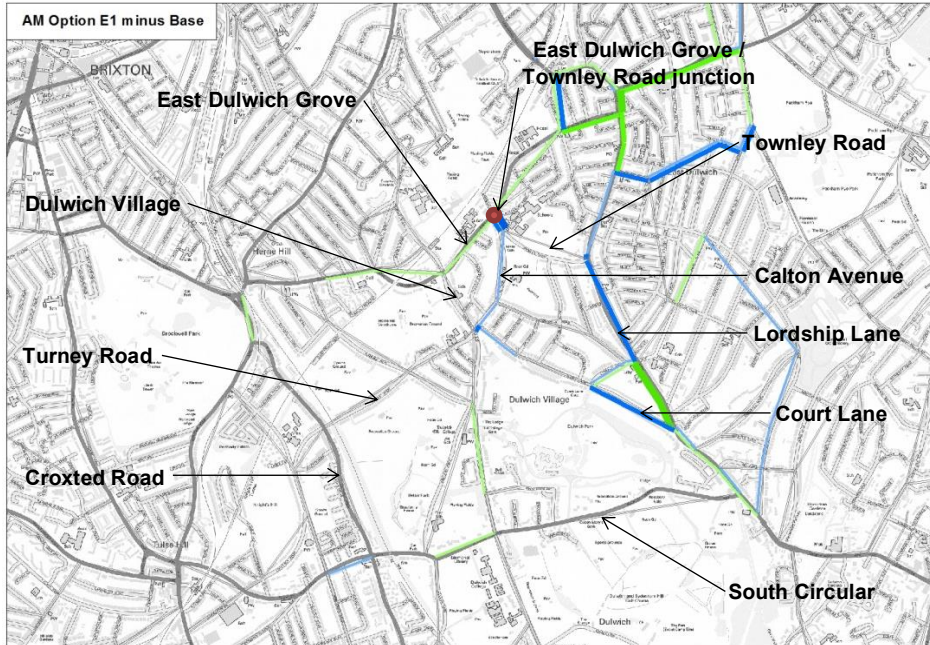
Proposal description:

Banned left turn from East Dulwich Grove Westbound at the East Dulwich Grove / Townley Road junction

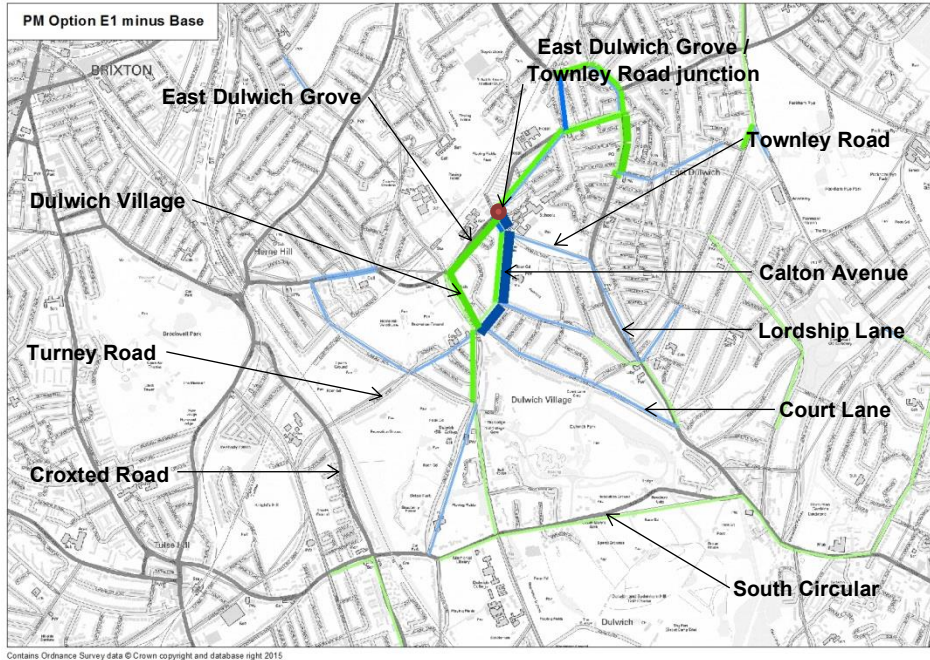


Impact:

- Minimal impact on the existing road network.
- No benefit along the QW7 alignment.



Flow Difference

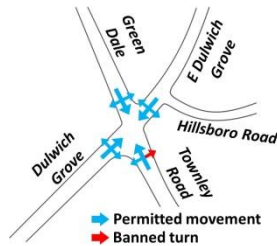


Technical Note

Scenario ID: **E2**

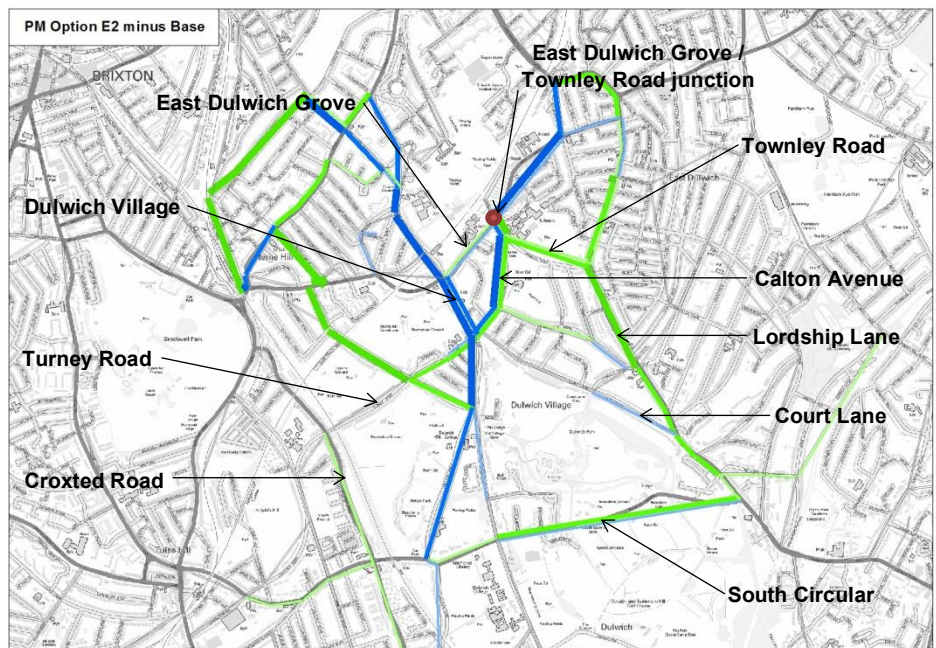
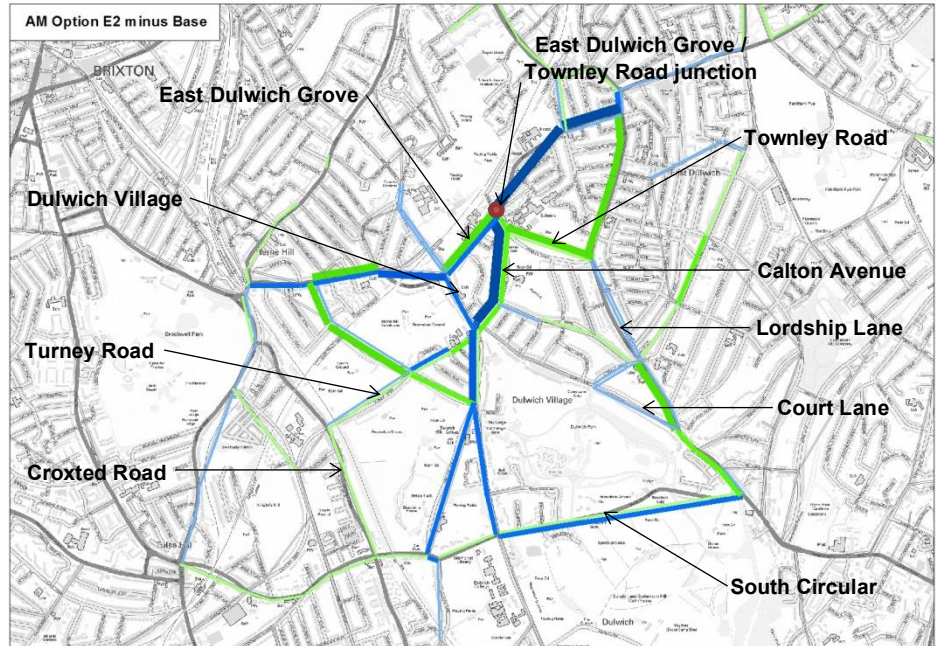
Proposal description:

Banned right turn from Townley Road Northbound at the East Dulwich Grove / Townley Road junction

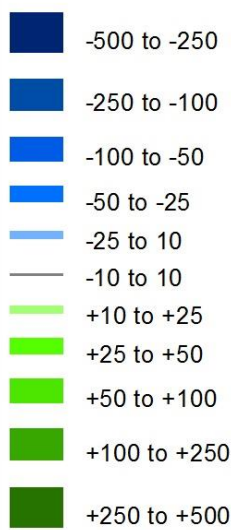


Impact:

- Slight reduction in traffic volumes along the QW7 alignment.
- Moderate reduction in traffic volumes along East Dulwich Grove
- Potential improvement to efficiency of junction due to restricted manoeuvre and reduction in traffic volumes.
- Slight increase in traffic volumes along Burbage Road, Townley Road and Lordship Lane.
- Equal displacement of traffic volumes on the surrounding streets



Flow Difference



Technical Note

Scenario ID: **F1**

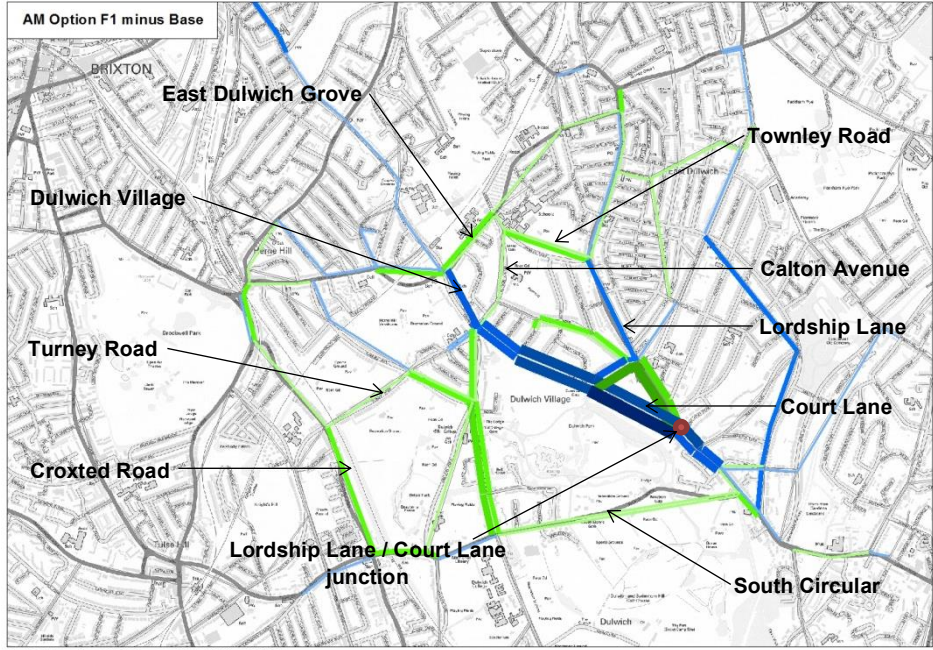
Proposal description:

Court Lane closure at the Lordship Lane / Court Lane junction

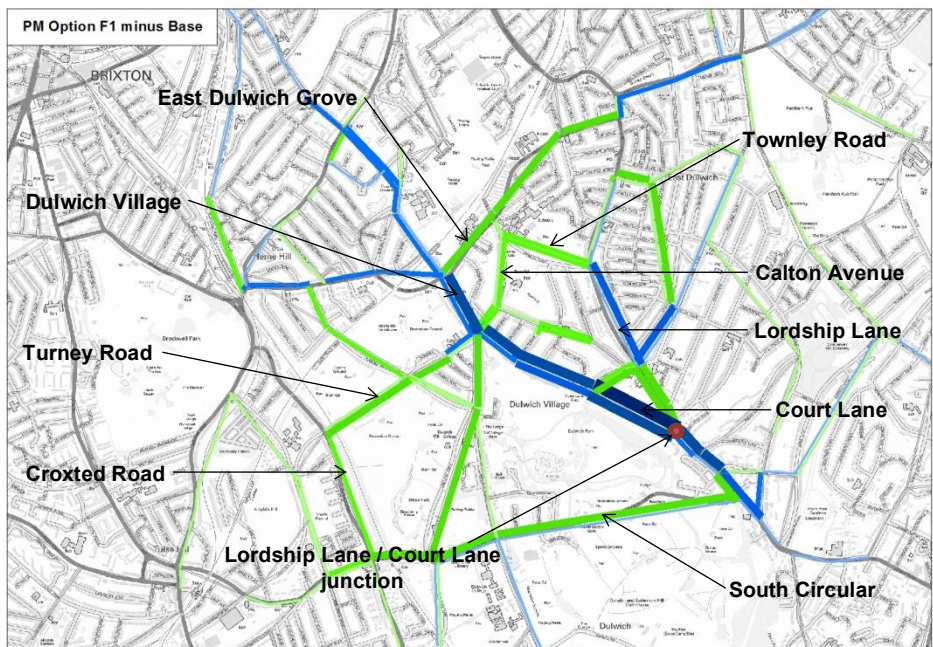


Impact:

- Slight increase in traffic volumes along the QW7 alignment.
- Significant reduction in traffic volumes along Court Lane.
- Slight increase in traffic volumes along Dulwich Village, South Circular Road and East Dulwich Grove.



Flow Difference



Technical Note

Conclusion

Dulwich Village / Calton Avenue / Turney Road signalised junction (in Dulwich) is a key junction on the Quietway 7 alignment. This junction is currently operating at / over capacity and the volume of motorised traffic through this junction is considered to be high. Various intervention options to improve the traffic conditions for this junction and the Quietway alignment in Dulwich, including banned turns and road closures, were considered and traffic modelling was undertaken to provide an early indication on the potential wider traffic re-assignment impact of these options.

The traffic modelling shows that in general, the banned turns / restricted manoeuvres options have limited impact on the Quietway 7 alignment, whilst road closures can reduce the traffic volumes along the Quietway 7 alignment more effectively. For options that show a reduction in traffic volumes for the Quietway 7 alignment, the surrounding road network generally show an increase in traffic volumes as might be expected. For these options, the road links that are most affected include Burbage Road, Half Moon Lane and the South Circular Road.

Appendix J - Supplementary information

Number of residents (respondents living in one of the consultation areas) and non-residents (people living outside the consultation areas)

Area / response	Yes	No	N/a	Total	%
Farquhar Road / Dulwich Wood Avenue					
<i>Residents</i>	17	8	2	27	39%
<i>Other</i>	18	23	1	42	61%
<i>Total</i>	35	31	3	69	100%
Turney Road					
<i>Residents</i>	34	77	5	116	76%
<i>Other</i>	18	18	1	37	24%
<i>Total</i>	52	95	6	153	100%
Calton Avenue					
<i>Residents</i>	29	140	7	176	78%
<i>Other</i>	20	28	2	50	22%
<i>Total</i>	49	168	9	226	100%
Dulwich Village junction					
<i>Residents</i>	83	259	28	370	76%
<i>Other</i>	57	53	7	117	24%
<i>Total</i>	140	312	35	487	100%

Number of postcodes we were able to geocode, and therefore sample size, for each consultation

	Number responses	Number responses mapped	% mapped
Farquhar Road / Dulwich Wood Avenue	88	69	78%
Turney Road	216	153	71%
Calton Avenue	303	226	75%
Dulwich Village junction	487	487	100%

'Generally, do you support the proposals?'-Based on responses from consultation area

AREA	YES	NO	N/A
Calton Avenue	16%	80%	4%
Dulwich Village junction	22%	70%	8%
Turney Road	29%	66%	5%
Dulwich Wood Avenue / Farquhar Road	63%	30%	7%