



Traffic Forecasting Report Addendum

Stroud Local Plan Traffic Modelling

April 2022

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Executive summary

Revised Stroud Local Plan

Mott MacDonald has undertaken traffic forecasting work that assessed the impact of the proposed Stroud Local Plan site allocations on the local and strategic road networks. This traffic modelling was based on proposals within the Draft Plan for Consultation (November 2019) and was reported in a Traffic Forecasting Report (March 2021).

Since the completion of the traffic forecasts based on the 2019 Draft Plan, the Local Plan has been subject to revision in terms of the proposed site allocations. While the majority of allocations in the updated 2021 Local Plan are unchanged from the 2019 Draft Plan, there are some revisions in respect of site locations and assumed development quanta.

Revised Local Plan Traffic Modelling

An updated set of traffic forecasts have been developed based on the revised 2021 Local Plan and are reported in this Traffic Forecasting Report Addendum. This report addendum should be read in conjunction with the Traffic Forecasting Report (March 2021).

In summary, the updated modelling has shown that the traffic impact of the revised Local Plan is similar to that seen in the forecasts of the draft Local Plan. The forecasts continue to demonstrate that the impacts of the Local Plan can be largely mitigated, and that the highway network can operate at similar levels of performance to the 2040 Baseline situation.

Preferred Mitigation

The most notable additional impact associated with the revised Local Plan relates to the traffic impact around the Javelin Park site, which has increased from 9 hectares of employment land in the draft Local Plan to 27 hectares in the revised Local Plan. The revised traffic forecasts indicate a requirement for additional mitigation on the B4008 in this area, potentially involving widening the road to dual carriageway standard between the Javelin Park site and the M5 J12. It is noted that the forecasts have assumed an equal split of employment types (B1 General Offices, B2 Industrial and Manufacturing and B8 Storage and Distribution) at this site. Revisions to these land use type splits would alter the volume of traffic generated by the site, which could potentially change any requirement for further highway mitigation in this locality.

1 Introduction

1.1 Background

The current Stroud District Local Plan was adopted in November 2015 and sets out the strategy for development within the district up until 2031. Stroud District Council started the process of reviewing the current Local Plan in 2017 and published a Draft Plan for Consultation in November 2019.

Mott MacDonald has been providing traffic modelling support to Stroud District Council in relation to the emerging Stroud Local Plan. This included traffic forecasting work that assessed the impact of the proposed Local Plan site allocations on the local and strategic road networks, and which informed the development of a long-term transport investment strategy with the county and adjoining areas. The traffic forecasting was based on the proposals within the Draft Plan for Consultation (November 2019), and was reported in a Traffic Forecasting Report in March 2021.

Since the completion of the traffic forecasts based on the 2019 Draft Plan, the Local Plan has been subject to revision in terms of the proposed site allocations. While the majority of allocations in the updated 2021 Local Plan are unchanged from the 2019 Draft Plan, there are some revisions in respect of site locations and assumed development quanta.

An updated set of traffic forecasts have been developed based on the revised 2021 Local Plan and are reported in this Traffic Forecasting Report Addendum. This report addendum should be read in conjunction with the Traffic Forecasting Report (March 2021).

2 Updated 2021 Local Plan

2.1 Introduction

This chapter identifies the revisions to the proposed site allocations in the 2021 Local Plan compared to the 2019 Draft Plan.

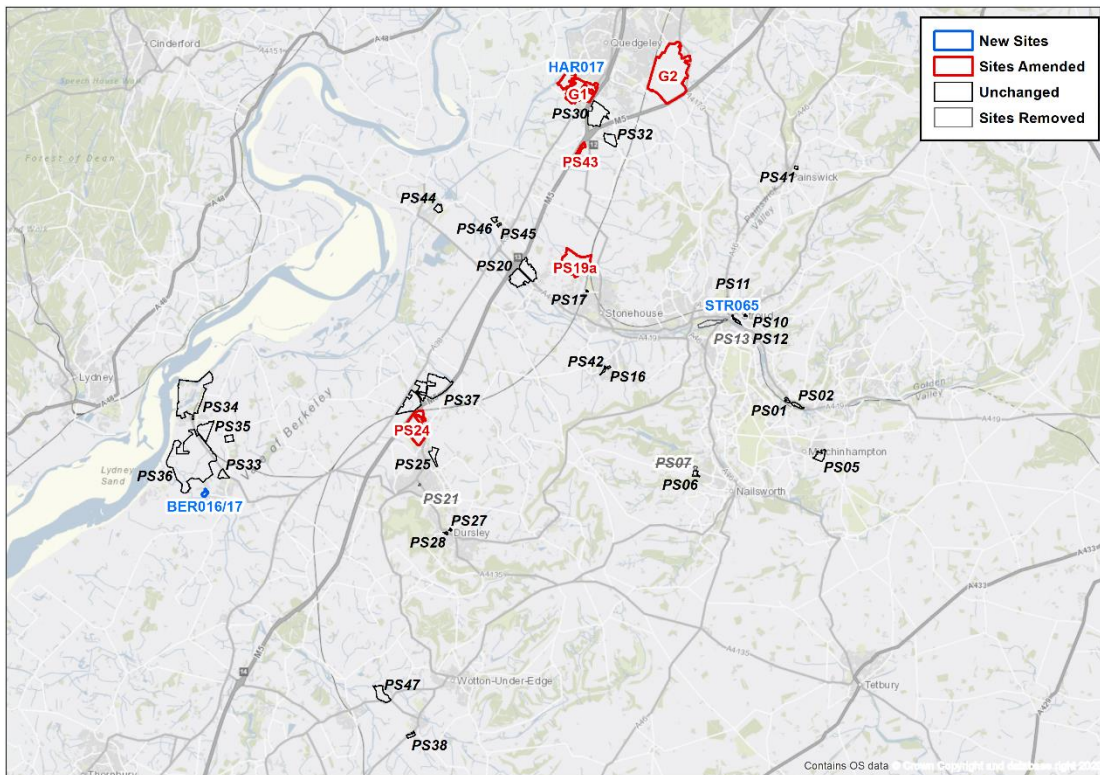
2.2 Revised Site Allocations

The updated 2021 Local Plan includes various changes to site allocations proposed in the 2019 Draft Plan. The quantum of proposed development has been revised at five sites, three new sites have been added, and three sites are removed from the Plan. These changes are summarised in Table 2.1, while the locations of the affected sites are shown in Figure 2.1.

Table 2.1: Local Plan Revisions

Site ID	Site Name	Number of dwellings		Employment site area (hectares)	
		Draft Plan 2019	Local Plan 2021	Draft Plan 2019	Local Plan 2021
Revised sites					
G1	South of Hardwicke	1200	1350	-	-
G2	Land at Whaddon	2500	3000	-	-
PS19a	Northwest of Stonehouse	650	700	5	5
PS24	West of Draycott	700	900	-	-
PS43	Javelin Park	-	-	9	27
Sites added to Local Plan					
BER016 /17	Land at Lynch Road, Berkeley	-	60	-	-
HAR017	Land at Sellars, Hardwicke	-	10	-	-
STR065	Beeches Green, Stroud	-	20	-	-
Sites removed from Local Plan					
PS07	North Nympsfield Road, Nailsworth	25	-	-	-
PS13	Central river/canal corridor	120	-	-	-
PS21	Land adjacent to Tiltdown House, Cam	15	-	-	-

Figure 2.1: Local Plan Site Allocations



The remainder of this addendum report outlines the updated traffic forecasting undertaken to assess the revised 2021 Local Plan.

3 Development of Revised Traffic Forecasts

3.1 Introduction

This chapter summarises the development of traffic forecasts for the revised 2021 Local Plan. As was the case for the 2019 Draft Plan, the traffic forecasts for the revised Local Plan focus on a forecast year of 2040.

The Stroud Local Plan Traffic Forecasting Report (March 2021) details the development of the Baseline, or Do Minimum, forecasts. The Baseline scenario accounts for committed future residential and employment changes in the local area, as well as committed transport network changes. The updates in the latest Local Plan do not affect the future year Baseline scenario and therefore this scenario has not been revised.

Unless stated otherwise, the traffic forecasting for the revised Local Plan follows the approach and assumptions adopted in the assessment of the 2019 Draft Plan, as reported in detail in the Stroud Local Plan Traffic Forecasting Report, March 2021.

3.2 Unmitigated Local Plan Network

The network used for the revised unmitigated Local Plan forecast is essentially unchanged from the version used in the previous forecasting work. The development of the unmitigated network was summarised in section 5.2 of the Stroud Local Plan Traffic Forecasting Report, March 2021.

3.3 Unmitigated Local Plan Matrix Development

The following section discusses the development of additional travel demand associated with the proposed Local Plan allocation sites. As explained in the Stroud Local Plan Traffic Forecasting Report, the updated Local Plan demand is added on top of the Do Minimum demand matrices to create Local Plan matrices that are assigned in the SATURN traffic model.

3.3.1 Local Plan Trip Generation

Forecast travel demand associated with the revised 2021 Local Plan has been developed using the same trip rate assumptions detailed in chapter 5 of the Stroud Local Plan Traffic Forecasting Report. These trip rates have been applied to the latest proposed site allocations, which were summarised in chapter 2 above.

The number of trips generated by each site in the revised Local Plan can be found in Appendix A. Table 3.1 presents the trip generation associated with the 10 highest trip generating sites.

Table 3.1: Vehicle Trips Generated by Local Plan Developments (Top 10 Trip Generating Developments)

Development	Site Ref.	AM Peak		PM Peak	
		Arrivals	Departures	Arrivals	Departures
Land at Whaddon	G2	473	1170	1161	657
New settlement at Sharpness	PS36	684	966	962	641
New settlement at Wisloe	PS37	270	718	449	371
South of Hardwicke	G1	228	564	522	296
Javelin Park	PS43	694	176	120	602
M5 Junction 13	PS20	581	119	88	500
Northwest of Stonehouse	PS19a	227	318	300	270
West of Draycott	PS24	95	457	284	173
Hunts Grove extension	PS30	127	314	290	164
Sharpness Docks	PS34	289	184	158	238
Other / remaining sites	n/a	524	605	505	549
TOTAL	n/a	4191	5592	4839	4459

3.3.2 Local Plan Trip Distribution

Trips associated with the revised Local Plan have been distributed following the same assumptions detailed in chapter 5 of the Stroud Local Plan Traffic Forecasting Report.

The distribution of the total combined Local Plan allocation traffic across the network is shown in Figure 3.1 and Figure 3.2 for the AM and PM periods respectively.

Figure 3.1: Distribution of traffic associated with Local Plan allocations (AM Peak)

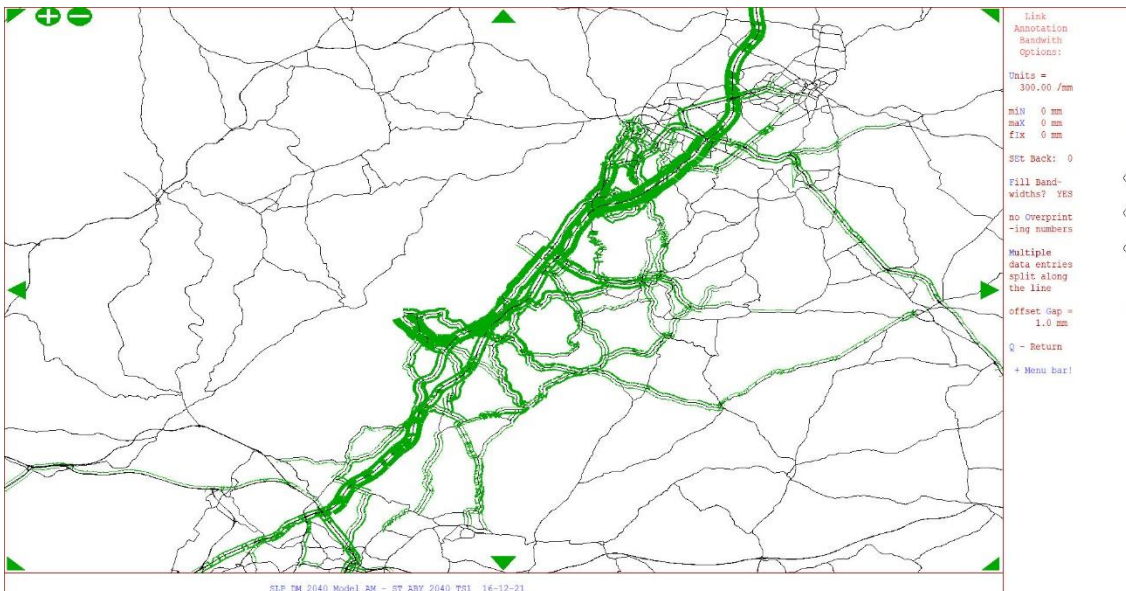
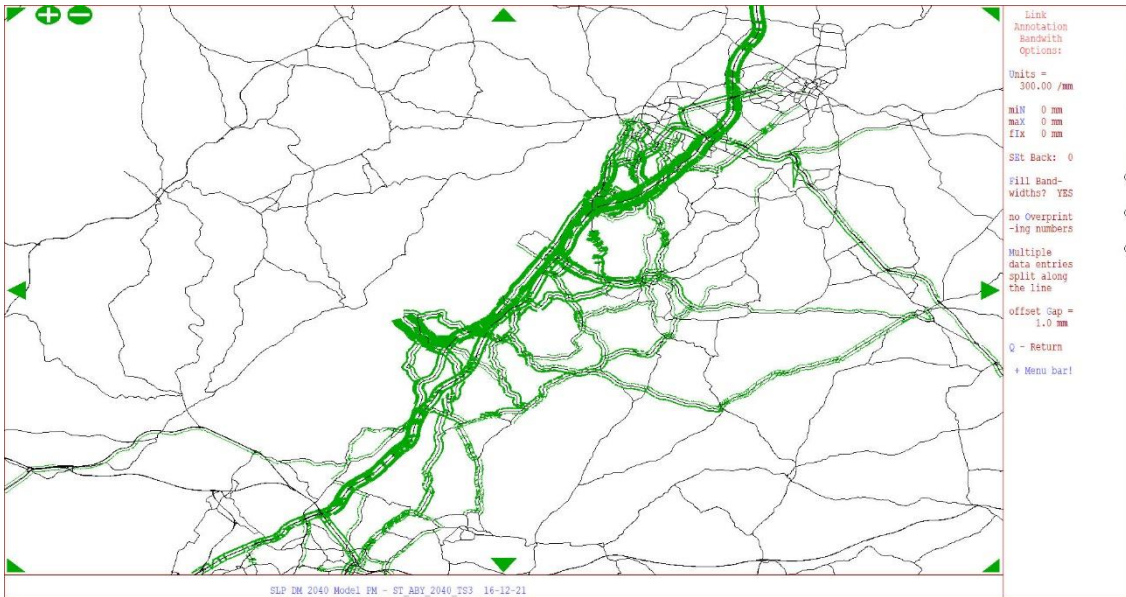


Figure 3.2: Distribution of traffic associated with Local Plan allocations (PM Peak)

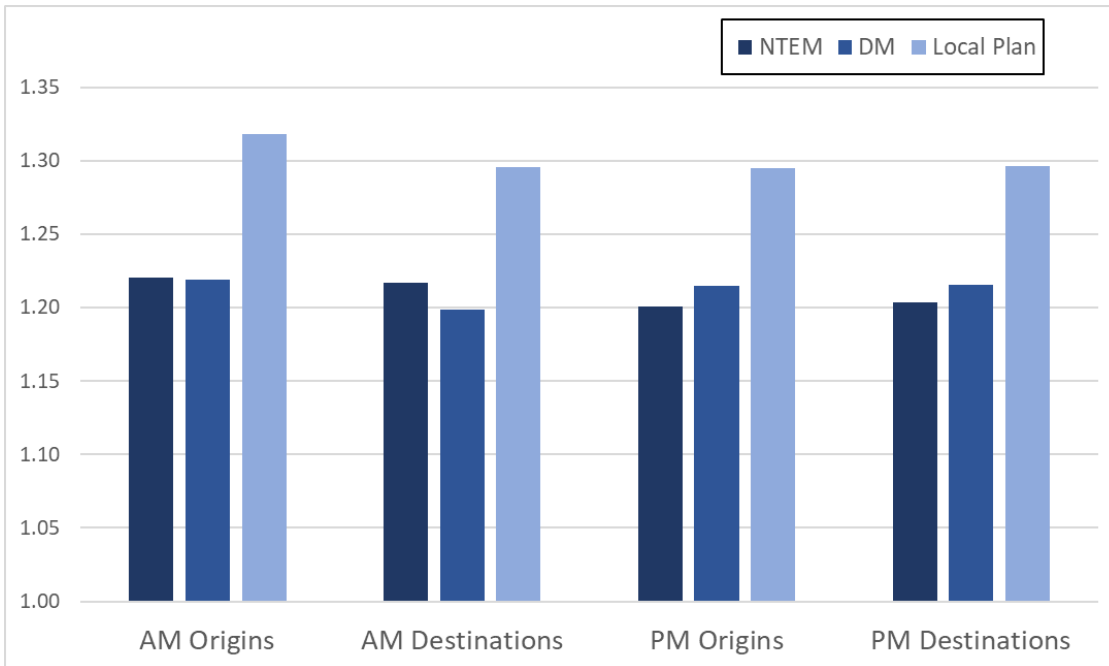


As noted in the Traffic Forecasting Report, the traffic impact assessment undertaken at this stage is based on the cumulative impact of vehicle trips associated with all of the proposed Local Plan allocation sites combined. While example trip distribution plots are provided in the Traffic Forecasting Report for a selection of individual allocation sites, it should be noted that detailed analyses of site specific traffic impacts have not been undertaken as part of the Local Plan traffic modelling at this stage.

3.4 Matrix Growth Versus National Forecasts

The Traffic Forecasting Report presented a comparison of growth between the 2015 Base and 2040 forecast scenarios (Baseline and Unmitigated Local Plan) to illustrate how growth in the forecast models compared with national forecasts. These comparisons have been updated to reflect the revised Local Plan, with Figure 3.3 summarising the growth in trip ends within the model simulation area for the Baseline (DM) and unmitigated Stroud Local Plan scenarios compared to NTEM. The Car 'Other' trip purpose is presented in the chart, with equivalent information for the other assignment trip purposes presented in Appendix B.

Figure 3.3: Trip End Comparison vs NTEM (Car, Other)



In summary, the comparison of traffic growth in the Local Plan forecasts against national forecasts mirrors the findings presented in the Stroud Local Plan Traffic Forecasting Report.

3.5 Unmitigated Local Plan Assignments

The revised Unmitigated Local Plan model assignment convergence statistics are presented in Table 3.2.

Table 3.2: Unmitigated Local Plan Assignment Convergence Statistics

Scenario	AM Peak				PM Peak			
	% Gap	% Flow	% Cost	Iter.	% Gap	% Flow	% Cost	Iter.
Unmitigated Local Plan	0.001	99.7	97.8	79	0.0006	99.4	98.0	100

It is noted that the PM peak assignment does not quite satisfy the enhanced flow stability convergence criteria adopted on the Stroud Local Plan forecasts¹, though it does easily meet the criteria set out in the Department for Transport’s “Transport Analysis Guidance” (TAG) Unit M3.1. The relative instability in the PM peak assignment model reflects the large amount of delay forecast to occur in the unmitigated Local Plan forecasts.

¹ Convergence criteria adopted for the Stroud Local Plan forecasts are discussed in section 2.5.2 of the Stroud Local Plan Forecasting Report.

4 Local Plan Mitigation

4.1 Introduction

Following the development of traffic forecasts reflecting the revised Local Plan with no mitigation assumed, a further set of forecasts have been undertaken assuming the previously proposed highway and sustainable transport mitigation measures remain unchanged from those set out in the Stroud Local Plan Traffic Forecasting Report, March 2021.

The following section recaps the development of the sustainable transport and highway mitigation strategy.

4.2 Sustainable Transport Strategy

The Traffic Forecasting Report summarised the development of a Sustainable Transport Strategy (STS), which is intended to set out a strategic approach to achieving modal shift, with detailed measures proposed to be developed by sites through the planning application process.

4.2.1 Estimated Reduction in Car Trips

The car mode percentage reduction targets adopted previously (and shown in the Traffic Forecasting Report) have been retained in the revised Local Plan forecasts.

Table 4.1 identifies the estimated reduction in total car trips that result from the implementation of the STS. Values within the table are presented separately to show reductions in trips associated the Local Plan developments directly and also reductions to baseline/background trips. The table has been updated to reflect the revised Local Plan allocations.

Table 4.1: Assumed reduction in car trips associated with STS

Trip Type	AM Peak	PM Peak
Local Plan development trips	830	796
Baseline / Background trips	508	550
Total reduction	1,338	1,347
Total unmitigated Local Plan trip generation	9,783	9,299

The updated table shows a more significant reduction in car trips compared to the draft Local Plan assessments – this largely reflects the larger trip generation associated with the updated Local Plan (i.e. the same percentage reduction applied to a larger initial number of trips results in a larger absolute reduction).

To provide an understanding of the scale of traffic reduction arising from the STS across the highway network, Figure 4.1 and Figure 4.2 show the difference in flows between the unmitigated and 'STS only' mitigated versions of the revised Local Plan forecasts for the AM and PM peak hours respectively. Links shown in blue indicate a decrease in traffic as a result of the STS measures, while green links denote flow increases.

Figure 4.1: Changes in traffic flows associated with STS, AM Peak

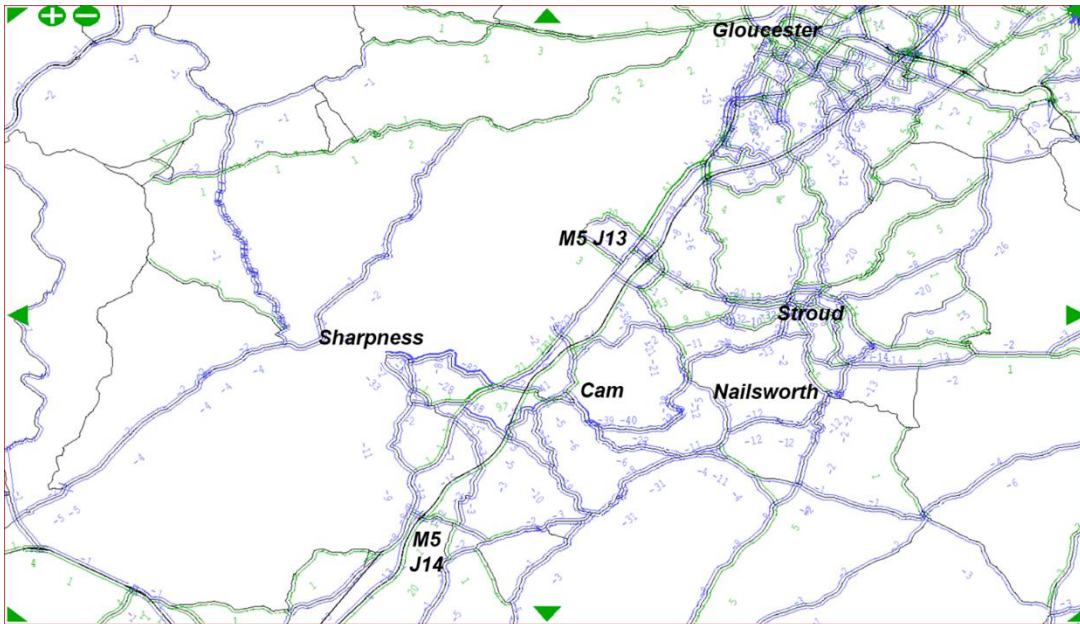
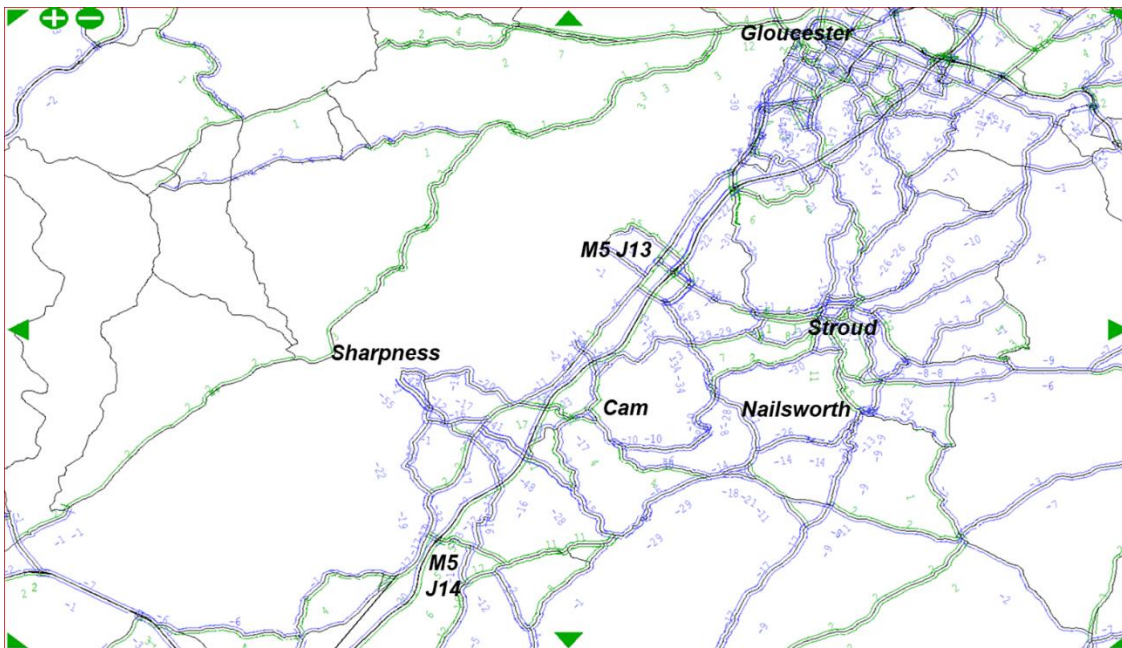


Figure 4.2: Changes in traffic flows associated with STS, PM Peak



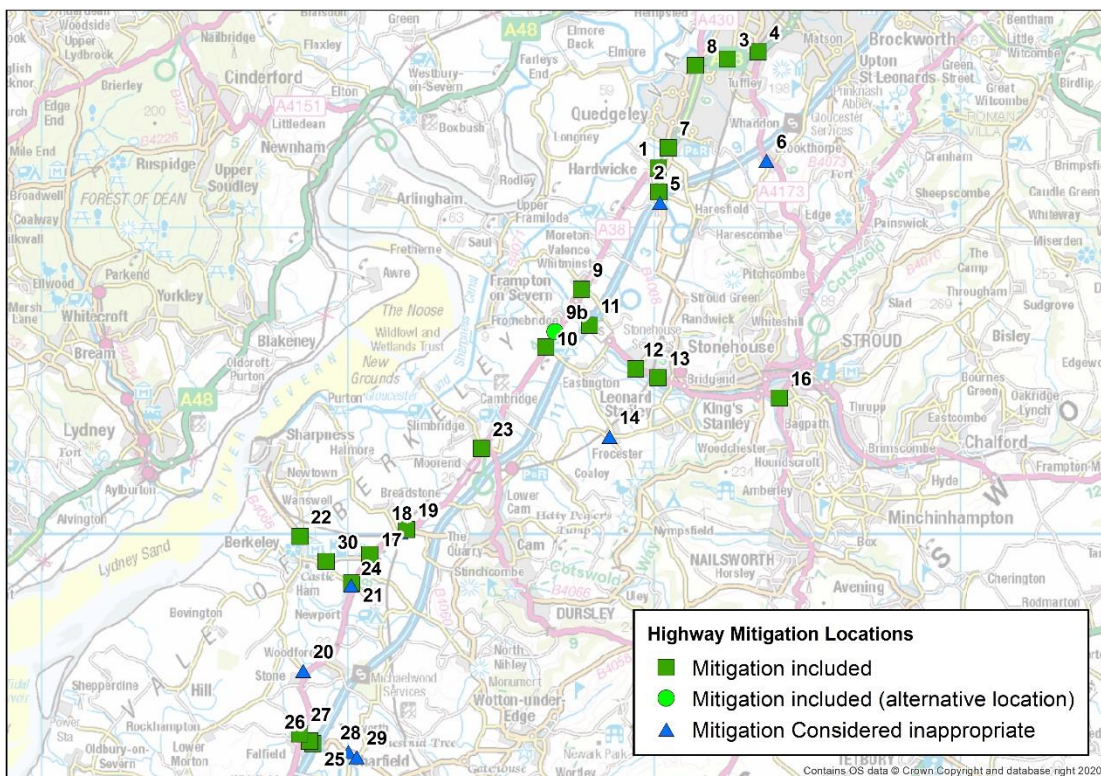
The Traffic Forecasting Report (section 6.2) concluded that, although the sustainable transport measures were shown to reduce overall levels of car trips, substantial capacity and congestion issues are forecast to remain on the unmitigated highway network. This conclusion remains unchanged following a review of the revised forecasts.

4.3 Highway Mitigation

As noted above, in the first instance², the previously identified highway and sustainable transport mitigation measures remain unchanged from those set out in the Traffic Forecasting Report.

The development of the proposed highway mitigation measures was set out in chapter 6 of the Traffic Forecasting Report. For ease of reference, Figure 4.3 is included below to identify the location of highway improvement schemes, with further details on each improvement summarised in Table 4.2 (these are unchanged copies of Figure 6.3 and Table 6.3 from the Traffic Forecasting Report).

Figure 4.3: Highway Mitigation Locations



² As presented and discussed within chapter 5 of this addendum report, the updated traffic forecasts have identified a potential requirement for additional highway improvements on the B4008 near M5 Junction 12. This is largely a result of the increase in employment land provided at the Javelin Park allocation site in the revised Local Plan.

Table 4.2: Highway Mitigation Measures

ID	Junction	Improvements			Indicative Cost Band
		Signals	Approach Widening	New Junction Design	
1	A38 Cross Keys Roundabout	A38 EB approach signalised Signal timings optimised	A38 SB approach widened to 3 lanes	-	4 – High
2	M5 J12	All approach arms signalised Signal timings optimised	-	New grade-separated all-movements interchange	5 – Very high
3	A38 / Epney Road	Signal timings optimised	Both A38 approaches widened to include 2 ahead lanes and 1 right turn lane	-	3 – Medium
4	St Barnabas Roundabout	-	-	All approaches widened by one lane Circulatory east of Stroud Rd widened to 3 lanes	4 – High
5	B4008 / Stonehouse	Junction signalised	-	-	2 – Low
6	A4173 / Brookthorpe	No capacity improvements included to avoid potential further increases in traffic using the identified rat-run through Haresfield.			N/A
7	B4008 / A38 NB off-slip	Signal timings optimised	-	-	1 – Very low
8	A38 / A430 / B4008 Cole Avenue	Signal timings optimised	A430 SB approach widened to 3 ahead lanes Nearside flare on the A38 EB approach lengthened A38 WB Approach widened to include 2 lanes for left turners	-	4 – High
9	A38 / Grove Lane	Signalise nearby junction of A38/B4071	-	-	3 – Medium
10	A38 at Claypits	Signal timings optimised	Both A38 approaches widened to include 2 ahead lanes	-	3 – Medium
11	M5 J13	All approach arms signalised Signal timings optimised	-	-	3 – Medium
12	A419 / Oldends Roundabout	-	A149 widened to 2 lanes in each direction between Oldends and Chipmans Platt roundabouts	-	4 – High
13	A419 / Boakes Drive roundabout	-	Both A419 approaches widened	-	2 – Low
14	Bath Road / Peter's Street (Frocester)	No capacity improvements included to avoid potential further increases in rat-running traffic between Leonard Stanley / King's Stanley and the A38			N/A
15	A419 / Bath Road (Stroud)	No improvements included			N/A
16	A46 / Dudbridge Hill	Signal timings optimised	Dudbridge Hill Approach widened to 3 lanes	-	3 – Medium
17	A38 / B4066	Junction signalised	Nearside flares added on A38 NB and B4066 approaches	-	3 – Medium
18	A38 / Breadstone	No capacity improvements included to avoid potential further increases in traffic routing through Breadstone			N/A
19	A38 / B4066 Berkeley Road	Junction signalised	-	-	3 – Medium
20	A38 at Stone	No capacity improvements to avoid potential further increases in rat-running traffic on the minor route between Berkeley and Stone			N/A
21	A38 / Alkington Lane	Junction signalised	-	-	3 – Medium
22	B4066 / Station Road	-	Widening on B4066 approach	-	2 – Low
23	A38 / A4135	-	A38 NB approach widened to 2 lanes	-	2 – Low
24	A38 / Wick Road	No improvements included as network improvements are introduced at nearby junctions			N/A
25 & 26	M5 J14	Signals timings optimised	-	New grade-separated all-movements interchange	5 – Very high
27	A38 / B4509	-	-	Current junction replaced by a roundabout B4509 dualled between the A38 and M5	4 – High
28	B4509 / Tortworth Road (south)	No improvements included as network improvements are introduced at nearby M5 Junction 14 and the A4509 / A38 junction			N/A
29	B4509 / Tortworth Road (north)	No improvements included as network improvements are introduced at nearby M5 Junction 14 and the A4509 / A38 junction			N/A
30	B4066 / Alkington Lane	Junction signalised	-	-	3 – Medium

4.4 Local Plan Mitigation Assignments

As per the approach adopted previously, the following forecast scenarios have been identified and revisited to reflect the revised Local Plan allocations:

- Local Plan with preferred highway mitigation only; and
- Local Plan with preferred highway mitigation *and* sustainable transport measures (STS).

As shown in Table 4.3, each of the mitigated (revised) Local Plan model assignments satisfy the convergence criteria set out in TAG Unit M3.1.

Table 4.3: Mitigated Local Plan Assignments Convergence Statistics

Scenario	AM Peak				PM Peak			
	% Gap	% Flow	% Cost	Iter.	% Gap	% Flow	% Cost	Iter.
Do Something with preferred highway mitigation	0.0007	99.7	97.9	59	0.0007	99.9	98.8	74
Do Something with preferred highway & STS mitigation	0.0007	99.6	97.7	68	0.0005	99.8	98.7	75

5 Forecast Results

5.1 Introduction

This chapter summarises the outputs of the model forecasts of the revised Local Plan, with particular focus on the key differences compared to the draft Local Plan forecasts.

5.2 Overview

It has not been necessary to revisit the 2040 Baseline (i.e. without Local Plan) forecasts and, therefore, the conclusion that various locations across the highway network will begin to experience significant capacity issues and delays in this scenario remains unchanged.

The inclusion of travel demand associated with the Local Plan allocation sites is forecast to further exacerbate problems at these locations and, more generally, introduces issues elsewhere across the local and strategic highway networks. This conclusion remains unchanged based on the forecasts of the revised Local Plan.

As discussed in chapter 4, a package of sustainable transport interventions and indicative highway capacity improvements at key 'pinch points' has been developed and assessed using the traffic model. In the first instance, the assessment of the revised Local Plan has assumed that the package of mitigation measures adopted previously remains unchanged.

Overall, the impact of the revised Local Plan is similar to that seen in the forecasts of the draft Local Plan, with the forecasts demonstrating that the impacts of the revised Local Plan can be largely mitigated, and that the highway network can operate at similar levels of performance to the 2040 Baseline situation. While some allocation sites have been removed in the revised Local Plan, they are modest in scale and their exclusion does not appreciably affect the proposed highway mitigation requirement.

The main exception to this conclusion relates to the traffic impact around the Javelin Park site, which has increased from 9 hectares of employment land in the draft Local Plan to 27 hectares in the revised Local Plan. The revised 'with mitigation' traffic forecasts indicate a requirement for additional mitigation on the B4008 in this area. Preliminary testing in this location indicated a scheme on the scale of an upgrade to dual-carriageway standard between the Javelin Park site and M5 J12 may be necessary to accommodate development traffic. It is noted that the current forecasts have assumed an equal split of employment types (B1 General Offices, B2 Industrial and Manufacturing and B8 Storage and Distribution) at this site as per the wider assumptions underpinning the forecasting work. Revisions to these land use type splits would be expected to alter the volume of traffic generated by the site, which could potentially have a significant bearing on the requirement for further highway mitigation in this locality. In summary, it is recommended that further work be undertaken to assess the viability of the proposed Javelin Park allocation, including consideration of its land use mix and potential mitigation strategy.

5.3 Presentation of Model Forecasts

The Stroud Local Plan Traffic Forecasting Report presented the following model output results from the 2040 Baseline and Local Plan forecast models for 30 key "problem locations":

- Maximum flow Volume over Capacity ratio (V/C) on approach links at each location;
- Maximum delay on approach links at each location; and
- Maximum queue length on approach links at each location.

An updated set of model outputs based on the revised Local Plan forecasts have been tabulated and are provided in Appendix C.

The tabulated data is accompanied by a series of figures that also identify link V/C and node delays throughout the network. Whilst these graphical outputs have, in general, not materially changed as a result of the revised Local Plan, they are included in full as separate appendices for each of the following four areas of the model for completeness:

- M5 J12 and Gloucester – Appendix D;
- M5 J13, Stonehouse and Stroud – Appendix E;
- Sharpness / Berkeley – Appendix F; and
- M5 J14 – Appendix G.

The most significant impact of the changes in the revised Local Plan are shown to be associated with the additional employment land at Javelin Park, which has contributed to large delays on the B4008 between the site and the M5 J12 in all forecast Local Plan scenarios. An additional preliminary SATURN forecast has been undertaken to understand the likely scale of mitigation on the B4008 in this area. This assessment indicated that the expanded Javelin Park allocation would likely necessitate widening the B4008 to dual-carriageway standard between the Javelin Park site and the M5 J12. However, as noted previously, the current forecasts have assumed an equal split of employment types at this site and revisions to these splits would alter the volume of traffic generated by the site, which could potentially change any requirement for further highway mitigation in this locality.

Except for the impact associated with Javelin Park, the forecast results for the revised Local Plan are not materially different to those presented in the Traffic Forecasting Report. It is therefore considered that the preferred highway mitigation strategy is largely unaffected by the amended allocations in the revised Local Plan.

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A. Trips Generated by Local Plan Developments

Table A.1: Trips Generated by Local Plan Developments

Site Ref.	Development	AM Arrivals	AM Departures	PM Arrivals	PM Departures
G2	Land at Whaddon	473	1170	1161	657
PS36	New settlement at Sharpness	684	966	962	641
PS37	New settlement at Wisloe	270	718	449	371
G1	South of Hardwicke	228	564	522	296
PS43	Javelin Park	694	176	120	602
PS20	M5 Junction 13	581	119	88	500
PS19a	Northwest of Stonehouse	227	318	300	270
PS24	West of Draycott	95	457	284	173
PS30	Hunts Grove extension	127	314	290	164
PS34	Sharpness Docks	289	184	158	238
PS47	Land west of Renishaw New Mills	231	59	40	201
PS32	South of M5 / J12	129	33	22	111
PS25	East of River Cam	19	91	57	35
PS02	Brimscombe Port	21	61	60	34
PS33	Northwest of Berkeley	21	55	51	21
PS05	East of Tobacconist Road	11	33	32	18
PS06	The New Lawn, Nailsworth	11	33	32	18
PS10	Railway land / car parks, Cheapside	11	31	30	17
PS35	Land at Focus School, Wanswell	12	32	30	12
BER0 16/17	Land at Lynch Road, Berkeley	11	27	26	10
PS38	South of Wickwar Road	5	25	16	10
PS12	Police station / Magistrates court, Parliament Street	6	18	18	10
PS01	Brimscombe Hill	6	16	16	9
PS44	Northwest of Whitminster Lane	5	14	13	5
PS46	Land west of School Lane	5	13	12	7
PS11	Merrywalks Arches, Merrywalks	4	10	10	6
PS16	South of Leonard Stanley Primary School	3	13	8	5
PS41	Washwell Fields	3	8	8	5
STR0 65	Beeches Green, Stroud	3	8	8	5
PS42	Land off Dozule Close	2	8	5	3

Site Ref.	Development	AM Arrivals	AM Departures	PM Arrivals	PM Departures
PS45	Land west of Upton's Gardens	2	4	4	2
HAR0 17	Land at Sellars Road, Hardwicke	2	4	4	2
PS17	Magpies site, Oldends Lane	1	4	4	2
PS28	Land off Prospect Place	1	5	3	2

B. Trip Growth Factors by Purpose

Table B.1: Trip Growth Factors (Car EB)

Trip End Type	NTEM	Do Minimum	Unmitigated Local Plan
AM Origins	1.18	1.21	1.31
AM Destinations	1.17	1.16	1.25
PM Origins	1.16	1.15	1.22
PM Destinations	1.17	1.16	1.24

Table B.2: Trip Growth Factors (Car Commute)

Trip End Type	NTEM	Do Minimum	Unmitigated Local Plan
AM Origins	1.14	1.15	1.23
AM Destinations	1.14	1.13	1.20
PM Origins	1.12	1.13	1.20
PM Destinations	1.13	1.15	1.22

Table B.3: Trip Growth Factors (Car Other)

Trip End Type	NTEM	Do Minimum	Unmitigated Local Plan
AM Origins	1.22	1.22	1.32
AM Destinations	1.22	1.20	1.30
PM Origins	1.20	1.22	1.30
PM Destinations	1.20	1.22	1.30

C. Model Outputs at Key Locations

Table C.1: Junction Performance – Maximum Link V/C (AM Peak)

Junction No.	Junction Location	2040 Do Minimum		2040 Unmitigated Local Plan		2040 Local Plan with Preferred Highway Mitigation		2040 Local Plan with Preferred Highway Mitigation and STS	
		Approach Arm	V/C	Approach Arm	V/C	Approach Arm	V/C	Approach Arm	V/C
1	Cross Keys Roundabout	A38 SB	98	A38 SB	106	A38 SB	81	A38 SB	80
2	M5 J12	B4008 SB	98	B4008 SB	100	Overbridge SB	97	Overbridge SB	96
3	A38 / Epney Road	Epney Rd NB	77	A38 EB	106	Epney Rd NB	100	Epney Rd NB	96
4	A38 St Barnabas Roundabout	A38 WB	105	A38 WB	108	A38 WB	100	A38 WB	100
5	B4008 / Stonehouse	Stonehouse WB	82	Stonehouse WB	121	B4008 SB	79	B4008 SB	80
6	A4173 / Brookthorpe	A4173 NB	77	A4173 NB	90	A4173 NB	88	A4173 NB	87
7	B4008 / Bristol Road	A38 off-slip	57	A38 SB	73	A38 SB	82	A38 SB	82
8	A38 / A430	B4008 NB	82	B4008 NB	95	A38 NB	77	A38 NB	75
9	A38 / Grove Lane	A38 SB	50	School Lane EB	125	School Lane EB	72	School Lane EB	72
10	A38 at Claypits	A38 NB	73	A38 NB	107	A38 NB	100	A38 NB	100
11	M5 J13	A419 WB	65	M5 SB Off-slip	90	Gyratory West	88	Gyratory West	87
12	A419 / Oldens Roundabout	A419 WB	68	A419 WB	75	A419 WB	85	A419 WB	83
13	A419 / Boakes Drive Roundabout	A419 WB	93	A419 WB	105	A419 WB	95	A419 WB	93
14	Bath Rd / Peter's St (Frocester)	Frocester Hill NB	29	Peters St EB	107	Peters St EB	103	Peters St EB	101
15	A419 / Bath Rd (Stroud)	Cainscross Rd SB	102	Cainscross Rd SB	103	Cainscross Rd SB	104	Cainscross Rd SB	104
16	A46 / Dudbridge Hill (Stroud)	Dudbridge Hill EB	86	Dudbridge Hill EB	95	Walkley Hill WB	91	Walkley Hill WB	86
17	A38 / B4066	A38 SB	46	B4066 EB	102	A38 SB	72	A38 SB	74
18	A38 / Breadstone	A38 SB	50	A38 SB	96	A38 SB	104	A38 SB	103
19	A38 / B4066 Berkeley Road	Berkeley Road WB	65	A38 NB	103	A38 NB	91	A38 NB	85
20	A38 at Stone	A38 NB	44	Minor Rd	104	Minor Rd	101	Minor Rd	97
21	A38 / Alkington Lane	Alkington Ln EB	66	Alkington Ln EB	106	A38 SB	65	A38 SB	63
22	B4066 / Station Road	B4066 EB	17	B4066 EB	84	B4066 EB	83	B4066 EB	79
23	A38 / A4135	A38 NB	51	A38 NB	105	A4135 WB	64	A4135 WB	61
24	A38 / Wick Road	A38 SB	57	A38 SB	77	A38 SB	95	A38 SB	90
25	M5 J14 Eastern	Overbridge EB	112	Overbridge EB	113	Overbridge EB	82	Overbridge EB	80
26	M5 J14 Western	B4509 EB	83	B4509 EB	113				
27	A38 / B4509	B4509 WB	94	B4509 WB	115	A38 SB	67	A38 SB	65
28	B5409 / Tortworth Rd (south)	B4509 EB	90	Tortworth Rd	98	B4509 EB	102	B4509 EB	103
29	B4509 / Tortworth Rd (north)	B4509 WB	80	Tortworth Rd	109	B4509 WB	82	B4509 WB	82
30	B4066 / Alkington Lane	B4066 EB	29	Alkington Ln	75	B4066 EB	86	B4066 EB	79

Table C.2: Junction Performance – Maximum Link V/C (PM Peak)

Junction No.	Junction Location	2040 Do Minimum		2040 Unmitigated Local Plan		2040 Local Plan with Preferred Highway Mitigation		2040 Local Plan with Preferred Highway Mitigation and STS	
		Approach Arm	V/C	Approach Arm	V/C	Approach Arm	V/C	Approach Arm	V/C
1	Cross Keys Roundabout	A38 SB	88	A38 SB	98	B4008 NB Circ.	101	B4008 NB Circ.	101
2	M5 J12	B4008 NB	102	B4008 NB	117	Overbridge SB	92	Overbridge SB	91
3	A38 / Epney Road	Epney Rd NB	95	A38 EB	109	A38 EB	67	A38 EB	63
4	A38 St Barnabas Roundabout	A38 WB	106	A38 WB	112	A38 WB	89	A38 WB	88
5	B4008 / Stonehouse	B4008 NB	63	B4008 NB	155	B4008 NB	99	B4008 NB	96
6	A4173 / Brookthorpe	A4173 NB	64	Minor Rd	107	Minor Rd	101	Minor Rd	99
7	B4008 / Bristol Road	A38 off-slip	59	A38 off-slip	77	A38 NB	74	A38 NB	74
8	A38 / A430	A430 SB	97	A430 SB	101	A38 WB	78	A38 WB	76
9	A38 / Grove Lane	A38 SB	42	A38 SB	51	A38 NB	85	A38 NB	81
10	A38 at Claypits	A38 SB	64	A38 SB	106	A38 SB	97	A38 SB	95
11	M5 J13	A419 WB	72	A419 WB	89	Overbridge WB	77	Overbridge WB	76
12	A419 / Oldens Roundabout	A419 WB	75	A419 WB	81	A419 WB	83	A419 WB	84
13	A419 / Boakes Drive Roundabout	A419 WB	98	A419 WB	104	A419 EB	87	A419 WB	86
14	Bath Rd / Peter's St (Frocester)	Frocester Hill NB	32	Leonard Stanley Rd	104	Leonard Stanley Rd	53	Leonard Stanley Rd	45
15	A419 / Bath Rd (Stroud)	Cainscross Rd NB	97	Cainscross Rd NB	98	Cainscross Rd NB	101	Cainscross Rd NB	100
16	A46 / Dudbridge Hill (Stroud)	A46 Bath Rd SB	67	Dudbridge Hill EB	92	A46 Bath Rd SB	103	A46 Bath Rd SB	104
17	A38 / B4066	A38 NB	41	A38 SB	88	A38 NB	75	A38 NB	75
18	A38 / Breadstone	A38 NB	59	A38 SB	92	A38 SB	100	A38 SB	94
19	A38 / B4066 Berkeley Road	A38 NB	56	A38 NB	104	A38 NB	102	A38 NB	101
20	A38 at Stone	A38 NB	53	Minor Rd	79	A38 NB	88	A38 NB	85
21	A38 / Alkington Lane	A38 NB	55	Alkington Ln EB	97	A38 NB	79	A38 NB	76
22	B4066 / Station Road	B4066 WB	17	B4066 EB	74	B4066 EB	64	B4066 EB	61
23	A38 / A4135	A38 NB	48	A38 NB	91	A38 SB	63	A38 SB	61
24	A38 / Wick Road	A38 NB	38	Wick Rd	100	Wick Rd	67	Wick Rd	62
25	M5 J14 Eastern	B4509 WB	80	Overbridge EB	108	Overbridge WB	78	Overbridge WB	77
26	M5 J14 Western	M5 NB Off-slip	79	B4509 EB	104				
27	A38 / B4509	B4509 WB	88	B4509 WB	114	B4509 WB	79	B4509 WB	78
28	B4509 / Tortworth Rd (south)	B4509 EB	83	Tortworth Rd	95	B4509 EB	91	B4509 EB	91
29	B4509 / Tortworth Rd (north)	B4509 WB	60	Tortworth Rd	83	B4509 WB	72	B4509 WB	71
30	B4066 / Alkington Lane	Alkington Ln	31	Alkington Ln	85	Alkington Ln	77	Alkington Ln	75

Table C.3: Maximum Delay on Approach Link (AM Peak)

Junction No.	Junction Location	2040 Do Minimum		2040 Unmitigated Local Plan		2040 Local Plan with Preferred Highway Mitigation		2040 Local Plan with Preferred Highway Mitigation and STS	
		Approach Arm	Delay (sec)	Approach Arm	Delay (sec)	Approach Arm	Delay (sec)	Approach Arm	Delay (sec)
1	Cross Keys Roundabout	B4008 NB circ.	36	B4008 NB circ.	172	A38 NB Circ.	30	B4008 NB circ.	32
2	M5 J12	B4008 SB	52	B4008 SB	74	Overbridge SB	51	Overbridge SB	45
3	A38 / Epney Road	Epney Rd SB	63	A38 EB	229	Epney Rd NB	123	Epney Rd NB	96
4	A38 St Barnabas Roundabout	A38 WB	160	A38 WB	207	A38 WB	49	A38 WB	49
5	B4008 / Stonehouse	Stonehouse WB	33	Stonehouse WB	483	Stonehouse WB	37	Stonehouse WB	36
6	A4173 / Brookthorpe	A4173 NB	16	A4173 NB	21	A4173 NB	20	A4173 NB	19
7	B4008 / Bristol Road	A38 off-slip	29	Hunts Grove Access	85	Hunts Grove Access	32	Hunts Grove Access	31
8	A38 / A430	B4008 NB	97	B4008 NB	191	B4008 NB	80	B4008 NB	74
9	A38 / Grove Lane	School Lane EB	19	School Lane EB	570	School Lane EB	96	School Lane EB	88
10	A38 at Claypits	A38 SB	29	A38 NB	202	Minor Rd WB	90	Minor Rd WB	85
11	M5 J13	M5 NB off-slip	21	M5 NB off-slip	75	Gyratory West	53	Gyratory West	52
12	A419 / Oldens Roundabout	A419 WB	7	A419 WB	7	A419 WB	10	A419 WB	9
13	A419 / Boakes Drive Roundabout	A419 EB	43	A419 WB	164	A419 EB	50	A419 EB	47
14	Bath Rd / Peter's St (Frocester)	Frocester Hill NB	8	Peters St EB	201	Peters St EB	121	Peters St EB	80
15	A419 / Bath Rd (Stroud)	Cainscross Rd SB	85	Cainscross Rd SB	94	Cainscross Rd SB	126	Cainscross Rd SB	116
16	A46 / Dudbridge Hill (Stroud)	Walkley Hill WB	71	Walkley Hill WB	119	Walkley Hill WB	112	Walkley Hill WB	100
17	A38 / B4066	A38 SB	7	B4066 EB	75	A38 NB	40	A38 NB	39
18	A38 / Breadstone	A38 NB	9	Breadstone SB	35	A38 SB	123	A38 SB	108
19	A38 / B4066 Berkeley Road	A38 SB	16	A38 NB	153	A38 SB	58	A38 SB	55
20	A38 at Stone	Minor Rd	17	Minor Rd	173	Minor Rd	127	Minor Rd	90
21	A38 / Alkington Lane	Alkington Ln EB	19	Alkington Ln EB	184	Alkington Ln EB	31	Alkington Ln EB	27
22	B4066 / Station Road	B4066 EB	6	B4066 EB	38	B4066 EB	36	B4066 EB	33
23	A38 / A4135	A38 NB	8	A38 NB	127	A4135 EB	7	A4135 EB	7
24	A38 / Wick Road	Wick Rd	14	Wick Rd	24	Wick Rd	28	Wick Rd	25
25	M5 J14 Eastern	Overbridge EB	342	Overbridge EB	384	Overbridge EB	36	Overbridge EB	36
26	M5 J14 Western	M5 NB Off-slip	49	B4509 EB	303				
27	A38 / B4509	B4509 WB	73	B4509 WB	357	A38 SB	6	A38 SB	6
28	B5409 / Tortworth Rd (south)	B4509 EB	48	Tortworth Rd	81	B4509 EB	143	B4509 EB	148
29	B4509 / Tortworth Rd (north)	B4509 WB	45	Tortworth Rd	249	B4509 WB	49	B4509 WB	49
30	B4066 / Alkington Lane	Alkington Ln	7	Alkington Ln	18	Alkington Ln	58	Alkington Ln	56

Table C.4: Maximum Delay on Approach Link (PM Peak)

Junction No.	Junction Location	2040 Do Minimum		2040 Unmitigated Local Plan		2040 Local Plan with Preferred Highway Mitigation		2040 Local Plan with Preferred Highway Mitigation and STS	
		Approach Arm	Delay (sec)	Approach Arm	Delay (sec)	Approach Arm	Delay (sec)	Approach Arm	Delay (sec)
1	Cross Keys Roundabout	B4008 NB circ.	31	A38 NB	89	B4008 NB circ.	66	B4008 NB circ.	66
2	M5 J12	B4008 NB	101	B4008 NB	375	Gyratory North	43	Gyratory North	42
3	A38 / Epney Road	Epney Rd NB	133	Epney Rd NB	322	Epney Rd SB	59	Epney Rd SB	58
4	A38 St Barnabas Roundabout	A38 WB	164	A38 WB	275	A38 WB	45	A38 WB	44
5	B4008 / Stonehouse	Stonehouse WB	13	B4008 NB	1077	B4008 NB	72	B4008 NB	53
6	A4173 / Brookthorpe	A4173 NB	12	Minor Rd	171	Minor Rd	71	Minor Rd	39
7	B4008 / Bristol Road	A38 off-slip	51	A38 off-slip	144	Hunts Grove Access	25	Hunts Grove Access	24
8	A38 / A430	A430 SB	95	A430 SB	140	B4008 NB	68	B4008 NB	66
9	A38 / Grove Lane	School Lane EB	12	School Lane EB	21	School Lane EB	35	School Lane EB	35
10	A38 at Claypits	A38 SB	36	A38 SB	195	Minor Rd WB	127	Minor Rd WB	119
11	M5 J13	M5 NB off-slip	50	M5 NB off-slip	76	Gyratory East	57	Gyratory East	57
12	A419 / Oldens Roundabout	A419 WB	8	Oldens Ln	9	A419 WB	9	A419 WB	9
13	A419 / Boakes Drive Roundabout	A419 EB	51	A419 WB	141	A419 EB	39	A419 EB	38
14	Bath Rd / Peter's St (Frocester)	Frocester Hill NB	9	Leonard Stanley Rd	123	Peters St EB	20	Peters St EB	16
15	A419 / Bath Rd (Stroud)	A419 WB	68	A419 WB	96	A419 WB	114	A419 WB	110
16	A46 / Dudbridge Hill (Stroud)	Walkley Hill WB	69	Walkley Hill WB	107	A46 Bath Rd SB	195	A46 Bath Rd SB	201
17	A38 / B4066	B4066 EB	9	A38 SB	39	B4066 EB	38	B4066 EB	37
18	A38 / Breadstone	A38 NB	13	A38 SB	32	A38 SB	66	A38 SB	34
19	A38 / B4066 Berkeley Road	A38 SB	16	A38 NB	162	A38 NB	110	A38 NB	100
20	A38 at Stone	Minor Rd	18	Minor Rd	44	Minor Rd	46	Minor Rd	39
21	A38 / Alkington Lane	Alkington Ln EB	14	Alkington Ln EB	63	Alkington Ln EB	34	Alkington Ln EB	32
22	B4066 / Station Road	B4066 EB	5	B4066 EB	29	B4066 EB	23	B4066 EB	21
23	A38 / A4135	A38 NB	7	A38 NB	16	A4135 EB	7	A4135 EB	6
24	A38 / Wick Road	Wick Rd	15	Wick Rd	84	Wick Rd	32	Wick Rd	29
25	M5 J14 Eastern	B4509 WB	60	Overbridge EB	222	Overbridge EB	30	Overbridge EB	30
26	M5 J14 Western	M5 NB Off-slip	73	M5 NB Off-slip	145				
27	A38 / B4509	A38 NB	129	B4509 WB	338	A38 NB	7	A38 NB	6
28	B5409 / Tortworth Rd (south)	B4509 EB	38	Tortworth Rd	58	B4509 EB	49	B4509 EB	48
29	B4509 / Tortworth Rd (north)	B4509 WB	23	Tortworth Rd	38	B4509 WB	36	B4509 WB	34
30	B4066 / Alkington Lane	Alkington Ln	8	Alkington Ln	24	Alkington Ln	64	Alkington Ln	62

Table C.5: Maximum Queue on Approach Link (AM Peak)

Junction No.	Junction Location	2040 Do Minimum		2040 Unmitigated Local Plan		2040 Local Plan with Preferred Highway Mitigation		2040 Local Plan with Preferred Highway Mitigation and STS	
		Approach Arm	Queue (pcu)	Approach Arm	Queue (pcu)	Approach Arm	Queue (pcu)	Approach Arm	Queue (pcu)
1	Cross Keys Roundabout	A38 SB	6	A38 SB	85	A38 SB	9	A38 SB	9
2	M5 J12	M5 SB Off-slip	8	M5 SB Off-slip	10	Overbridge SB	12	Overbridge SB	12
3	A38 / Epney Road	Epney Rd NB	7	A38 EB	23	A38 EB	10	Epney Rd NB	9
4	A38 St Barnabas Roundabout	A38 WB	44	A38 WB	62	A38 WB	6	A38 WB	6
5	B4008 / Stonehouse	Stonehouse WB	2	Stonehouse WB	28	B4008 SB	5	B4008 SB	5
6	A4173 / Brookthorpe	A4173 NB	0	A4173 SB	1	A4173 NB	1	A4173 NB	0
7	B4008 / Bristol Road	A38 off-slip	0	A38 SB	5	A38 SB	9	A38 SB	9
8	A38 / A430	A38 NB	34	A38 NB	59	A38 NB	39	A38 NB	38
9	A38 / Grove Lane	School Lane EB	1	School Lane EB	63	School Lane EB	6	School Lane EB	6
10	A38 at Claypits	A38 SB	5	A38 NB	49	A38 NB	6	A38 NB	6
11	M5 J13	M5 NB off-slip	3	M5 NB off-slip	13	Gyratory West	7	Gyratory West	7
12	A419 / Oldens Roundabout	A419 WB	0	Oldens Ln	0	A38 EB	0	A38 EB	0
13	A419 / Boakes Drive Roundabout	A419 WB	0	A419 WB	32	A419 WB	0	A419 WB	0
14	Bath Rd / Peter's St (Frocester)	Peters St EB	0	Peters St EB	22	Peters St EB	13	Peters St EB	7
15	A419 / Bath Rd (Stroud)	Cainscross Rd SB	25	Cainscross Rd SB	27	Cainscross Rd SB	37	Cainscross Rd SB	34
16	A46 / Dudbridge Hill (Stroud)	Dudbridge Hill EB	10	Dudbridge Hill EB	12	Dudbridge Hill EB	12	Dudbridge Hill EB	11
17	A38 / B4066	B4066 EB	0	B4066 EB	14	A38 SB	4	A38 SB	4
18	A38 / Breadstone	Breadstone SB	0	Breadstone SB	3	A38 SB	29	A38 SB	23
19	A38 / B4066 Berkeley Road	Berkeley Road WB	0	A38 NB	20	A38 SB	5	A38 SB	5
20	A38 at Stone	Minor Rd	0	Minor Rd	11	Minor Rd	6	Minor Rd	4
21	A38 / Alkington Lane	Alkington Ln EB	1	Alkington Ln EB	15	A38 SB	4	A38 SB	4
22	B4066 / Station Road	B4066 EB	0	B4066 WB	0	B4066 EB	0	B4066 EB	0
23	A38 / A4135	A38 NB	0	A38 NB	26	A4135 WB	1	A4135 WB	1
24	A38 / Wick Road	A38 NB	0	Wick Rd	1	Wick Rd	0	Wick Rd	0
25	M5 J14 Eastern	Overbridge EB	31	Overbridge EB	31	Overbridge EB	13	Overbridge EB	12
26	M5 J14 Western	M5 NB Off-slip	5	B4509 EB	37				
27	A38 / B4509	B4509 WB	9	B4509 WB	50	A38 SB	0	A38 SB	0
28	B5409 / Tortworth Rd (south)	Tortworth Rd	2	Tortworth Rd	5	B4509 EB	11	B4509 EB	12
29	B4509 / Tortworth Rd (north)	Tortworth Rd	0	Tortworth Rd	19	Tortworth Rd	0	Tortworth Rd	0
30	B4066 / Alkington Lane	Alkington Ln	3	B4509 EB	1	B4066 EB	5	B4066 EB	4

Table C.6: Maximum Queue on Approach Link (PM Peak)

Junction No.	Junction Location	2040 Do Minimum		2040 Unmitigated Local Plan		2040 Local Plan with Preferred Highway Mitigation		2040 Local Plan with Preferred Highway Mitigation and STS	
		Approach Arm	Queue (pcu)	Approach Arm	Queue (pcu)	Approach Arm	Queue (pcu)	Approach Arm	Queue (pcu)
1	Cross Keys Roundabout	A38 SB	4	A38 NB	19	B4008 NB Circ.	20	B4008 NB Circ.	19
2	M5 J12	B4008 NB	15	B4008 NB	36	Gyratory South	10	Gyratory South	10
3	A38 / Epney Road	A38 EB	6	A38 EB	45	A38 EB	8	A38 EB	7
4	A38 St Barnabas Roundabout	A38 WB	44	A38 WB	80	A38 WB	2	A38 WB	1
5	B4008 / Stonehouse	B4008 NB	0	B4008 NB	159	B4008 NB	3	B4008 NB	3
6	A4173 / Brookthorpe	Minor Rd	0	Minor Rd	37	Minor Rd	13	Minor Rd	5
7	B4008 / Bristol Road	A38 off-slip	0	A38 off-slip	24	A38 NB	6	A38 NB	5
8	A38 / A430	A38 NB	35	A38 NB	38	A38 NB	36	A38 NB	35
9	A38 / Grove Lane	School Lane EB	0	School Lane EB	1	School Lane EB	2	School Lane EB	2
10	A38 at Claypits	A38 SB	4	A38 SB	38	A38 NB	5	A38 NB	5
11	M5 J13	M5 NB off-slip	6	M5 NB off-slip	12	Overbridge WB	9	Overbridge WB	9
12	A419 / Oldens Roundabout	A419 WB	0	A419 WB	1	A419 WB	1	A419 WB	1
13	A419 / Boakes Drive Roundabout	A419 WB	0	A419 WB	25	A419 WB	0	A419 WB	0
14	Bath Rd / Peter's St (Frocester)	Leonard Stan. Rd	0	Leonard Stanley Rd	13	Leonard Stanley Rd	1	Leonard Stanley Rd	1
15	A419 / Bath Rd (Stroud)	A419 WB	21	A419 WB	31	A419 WB	35	A419 WB	34
16	A46 / Dudbridge Hill (Stroud)	A46 Bath Rd SB	7	A46 Bath Rd SB	10	A46 Bath Rd SB	13	A46 Bath Rd SB	16
17	A38 / B4066	B4066 EB	0	A38 SB	5	B4066 EB	4	A38 NB	4
18	A38 / Breadstone	A38 SB	0	A38 SB	3	A38 SB	7	A38 SB	4
19	A38 / B4066 Berkeley Road	A38 NB	0	A38 NB	24	A38 NB	21	A38 NB	17
20	A38 at Stone	Minor Rd	0	Minor Rd	1	Minor Rd	2	Minor Rd	1
21	A38 / Alkington Lane	Alkington Ln EB	0	Alkington Ln EB	4	A38 NB	3	A38 NB	3
22	B4066 / Station Road	Station Rd NB	0	Station Rd NB	0	Station Rd NB	0	Station Rd NB	0
23	A38 / A4135	A38 NB	0	A38 NB	2	A4135 WB	0	A4135 WB	0
24	A38 / Wick Road	Wick Rd	0	Wick Rd	5	Wick Rd	1	Wick Rd	1
25	M5 J14 Eastern	B4509 WB	7	Overbridge EB	31	Overbridge EB	9	Overbridge EB	9
26	M5 J14 Western	M5 NB Off-slip	7	B4509 EB	20				
27	A38 / B4509	A38 NB	11	B4509 WB	65	A38 NB	0	A38 NB	0
28	B5409 / Tortworth Rd (south)	Tortworth Rd	0	Tortworth Rd	4	Tortworth Rd	1	Tortworth Rd	1
29	B4509 / Tortworth Rd (north)	Tortworth Rd	0	Tortworth Rd	2	Tortworth Rd	0	Tortworth Rd	0
30	B4066 / Alkington Lane	Alkington Ln	2	Alkington Ln	1	B4066 WB	4	B4066 WB	3

D. Network Performance – M5 J12 & Gloucester

Contents

Link V/C and Node Delay Plots

AM Peak

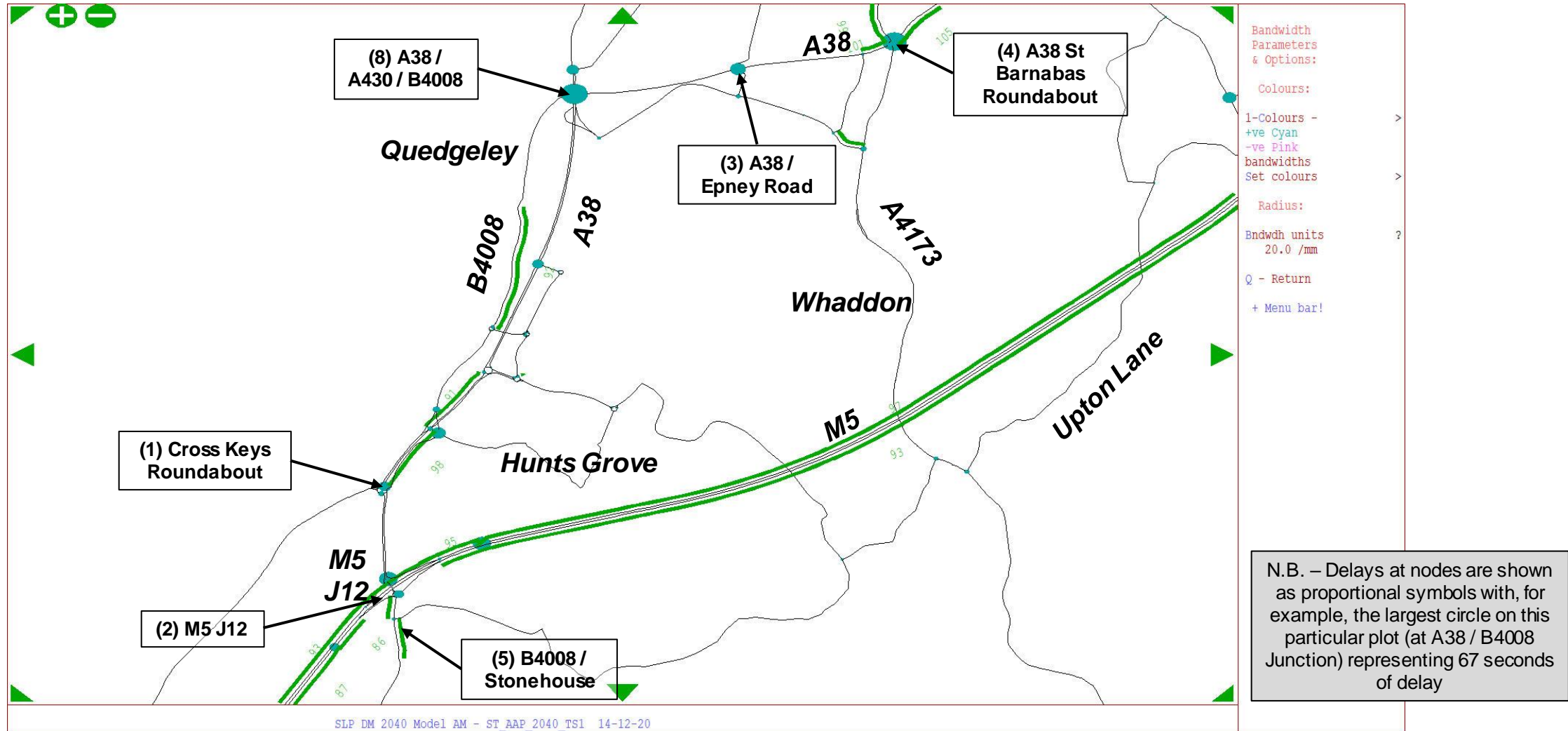
- a. Baseline
- b. Local Plan Unmitigated
- c. Local Plan with Preferred Highway Mitigation
- d. Local Plan with Preferred Highway Mitigation and Sustainable Transport Strategy

PM Peak

- e. Baseline
- f. Local Plan Unmitigated
- g. Local Plan with Preferred Highway Mitigation
- h. Local Plan with Preferred Highway Mitigation and Sustainable Transport Strategy

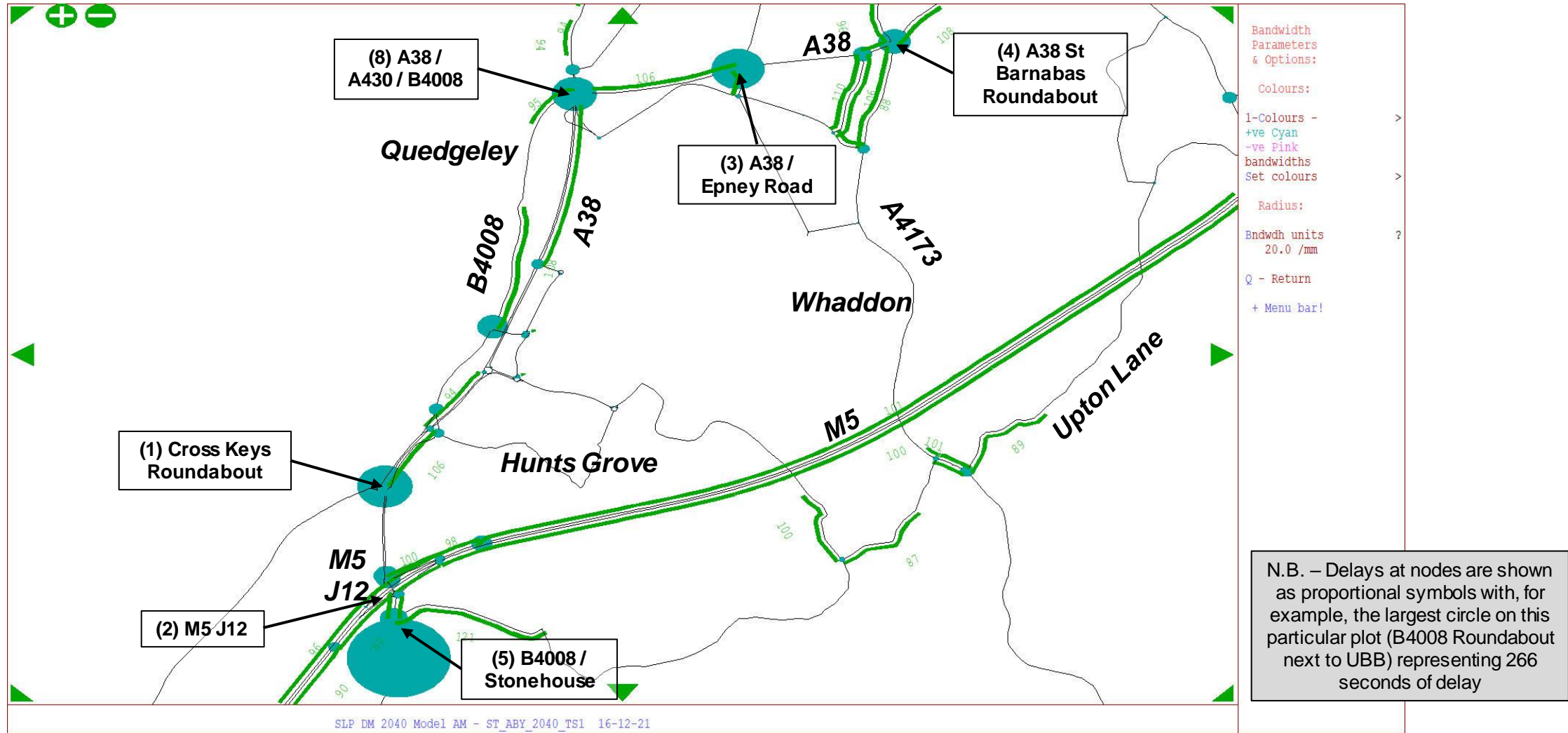
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Link V/C and Node Delay Plots (AM Peak)



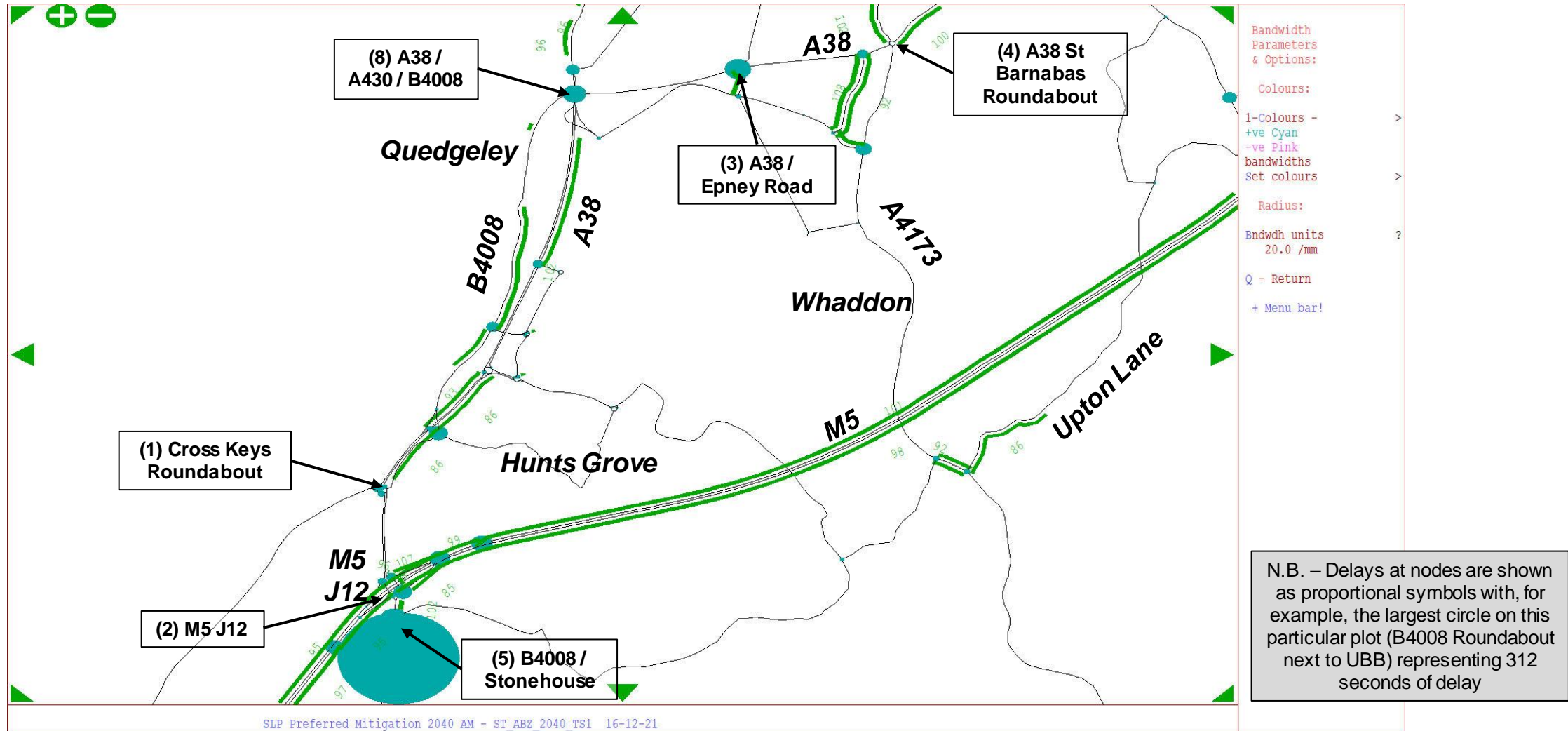
b. Local Plan Unmitigated

Link V/C and Node Delay Plots (AM Peak)



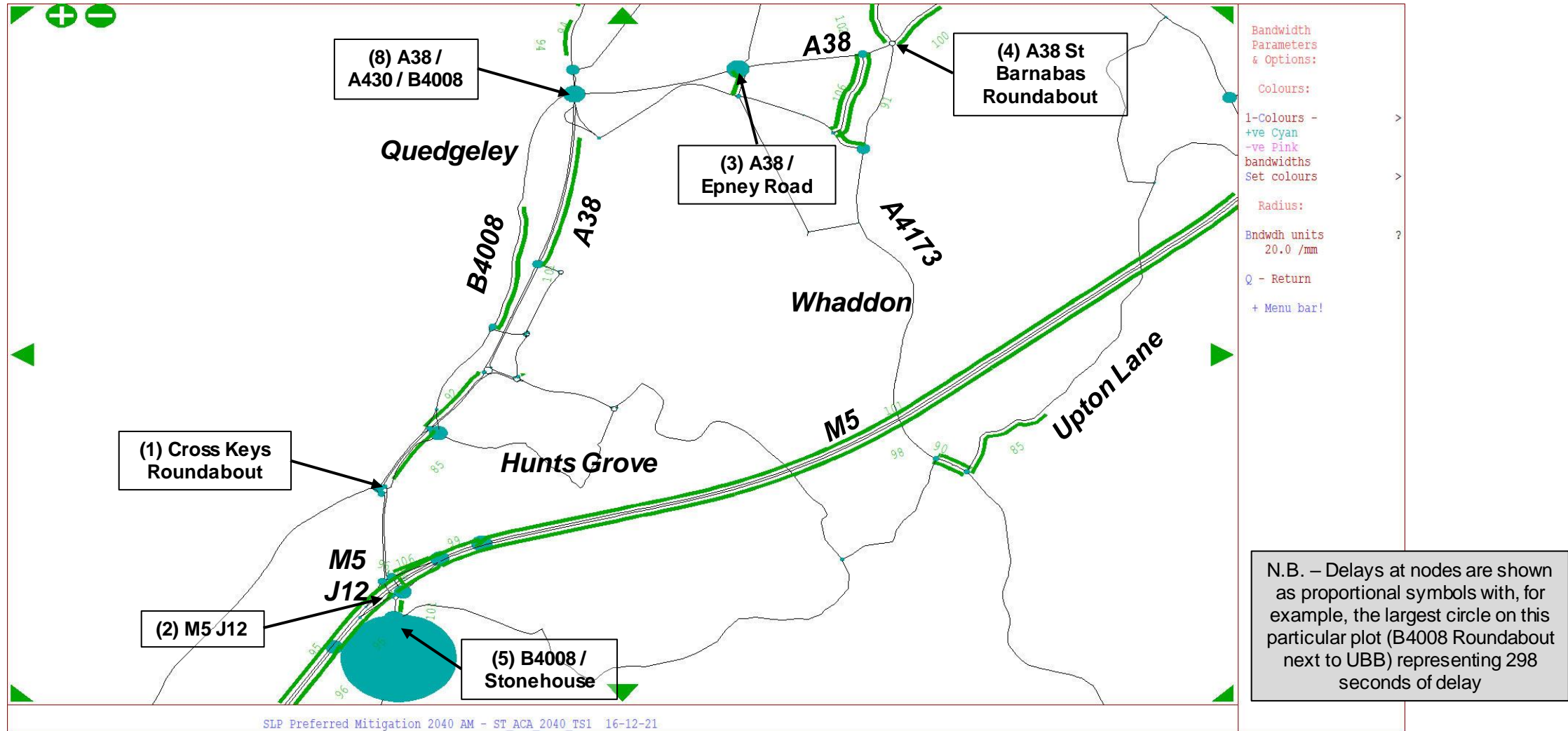
c. Local Plan with Preferred Mitigation

Link V/C and Node Delay Plots (AM Peak)



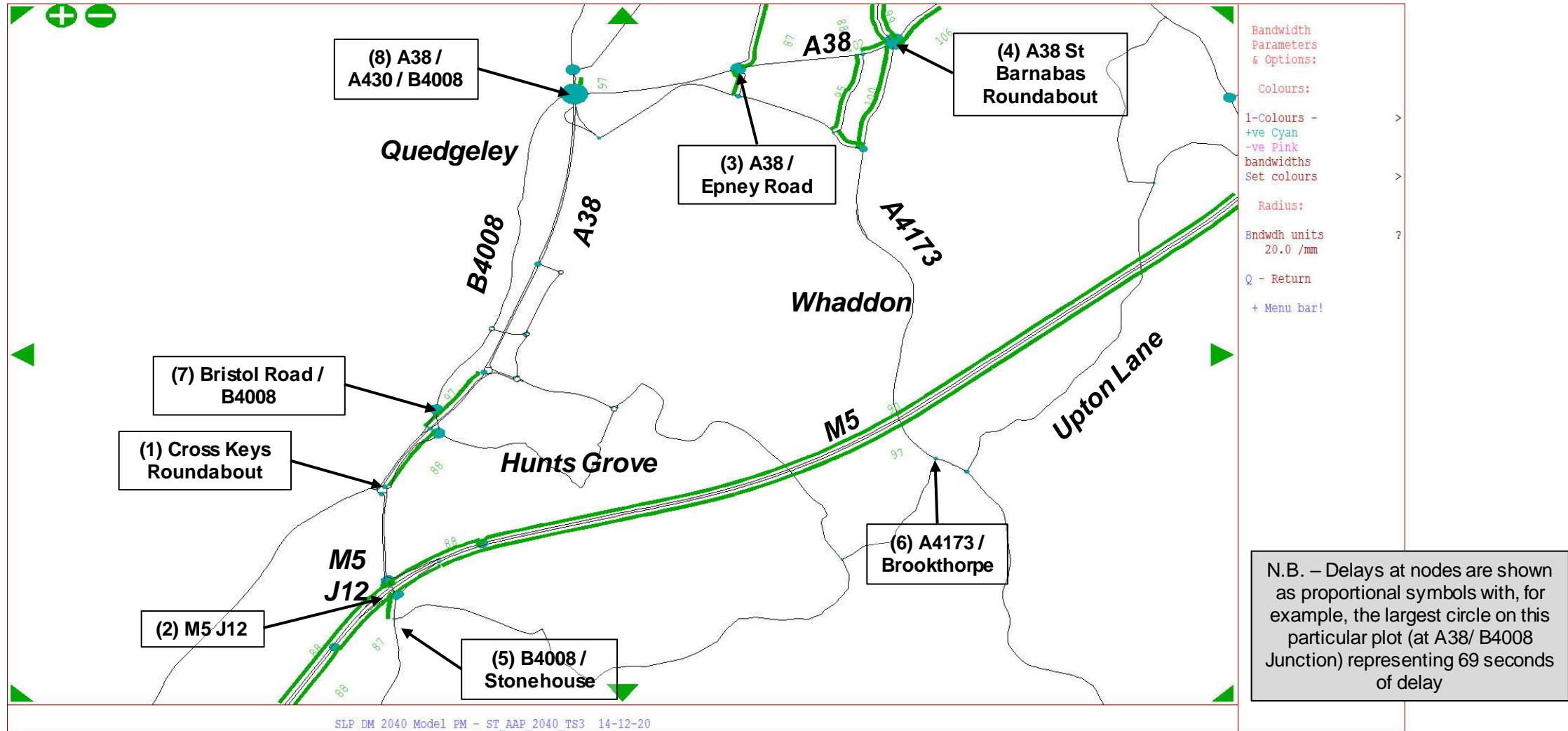
d. Local Plan with Preferred Mitigation and STS

Link V/C and Node Delay Plots (AM Peak)



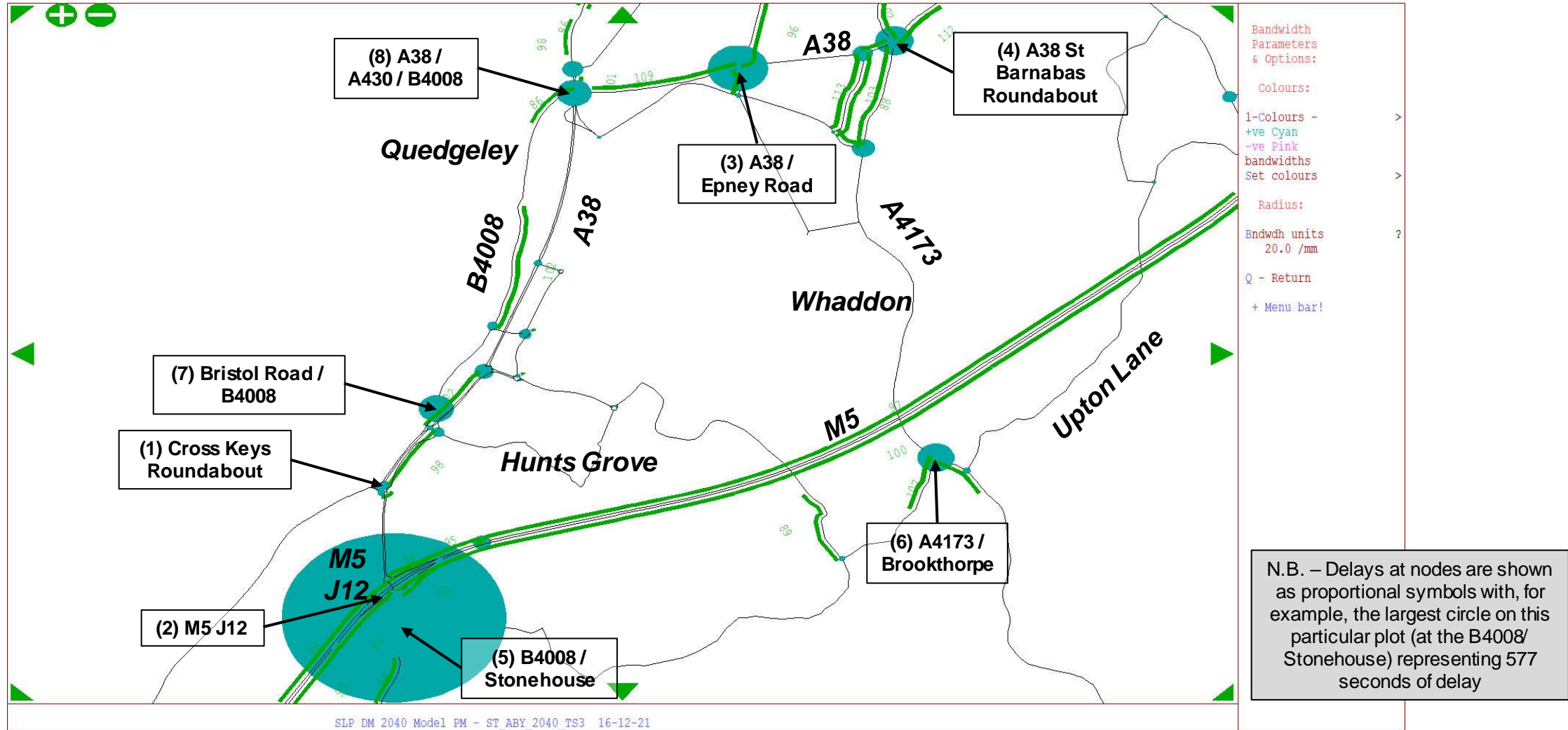
e. Baseline

Link V/C and Node Delay Plots (PM Peak)



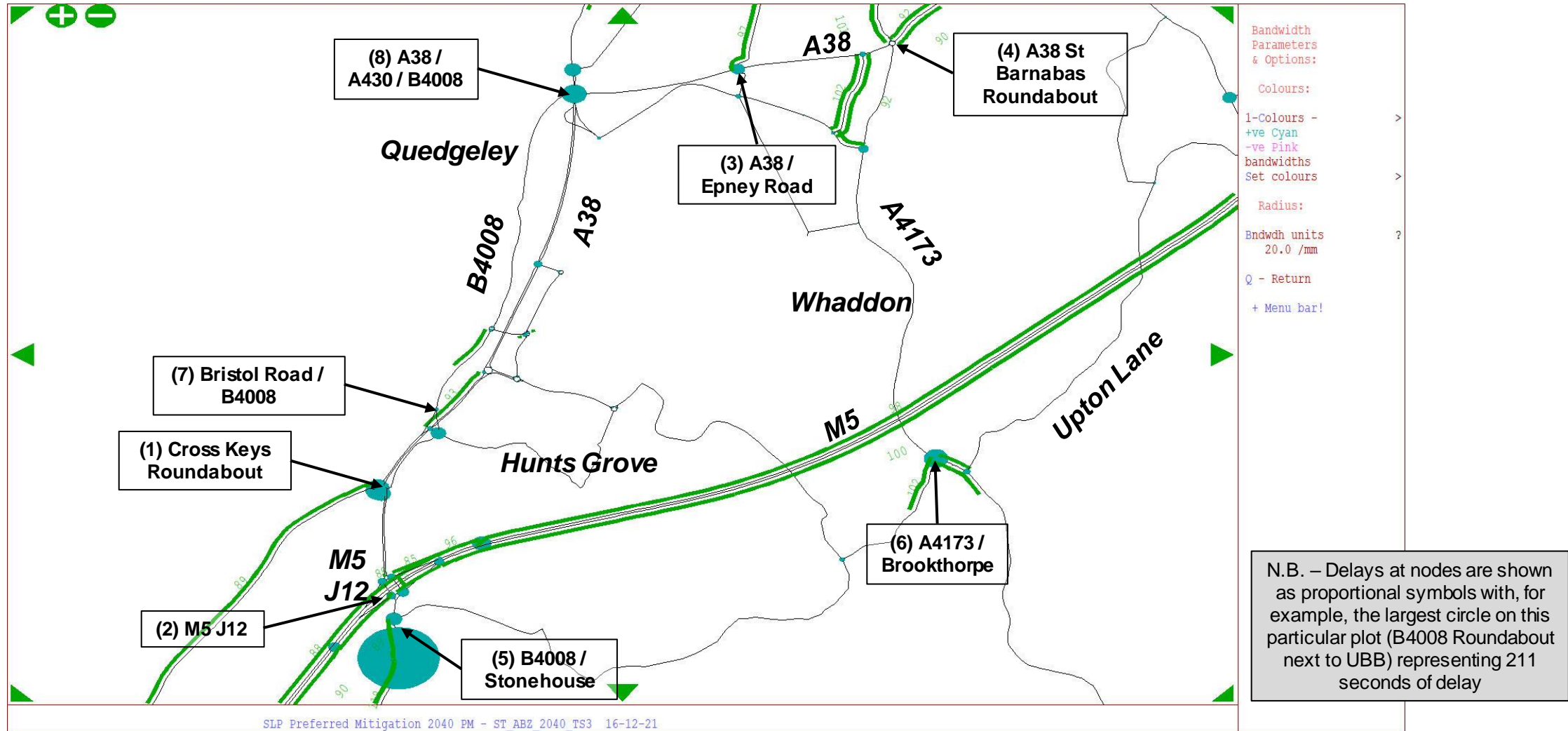
f. Local Plan Unmitigated

Link V/C and Node Delay Plots (PM Peak)



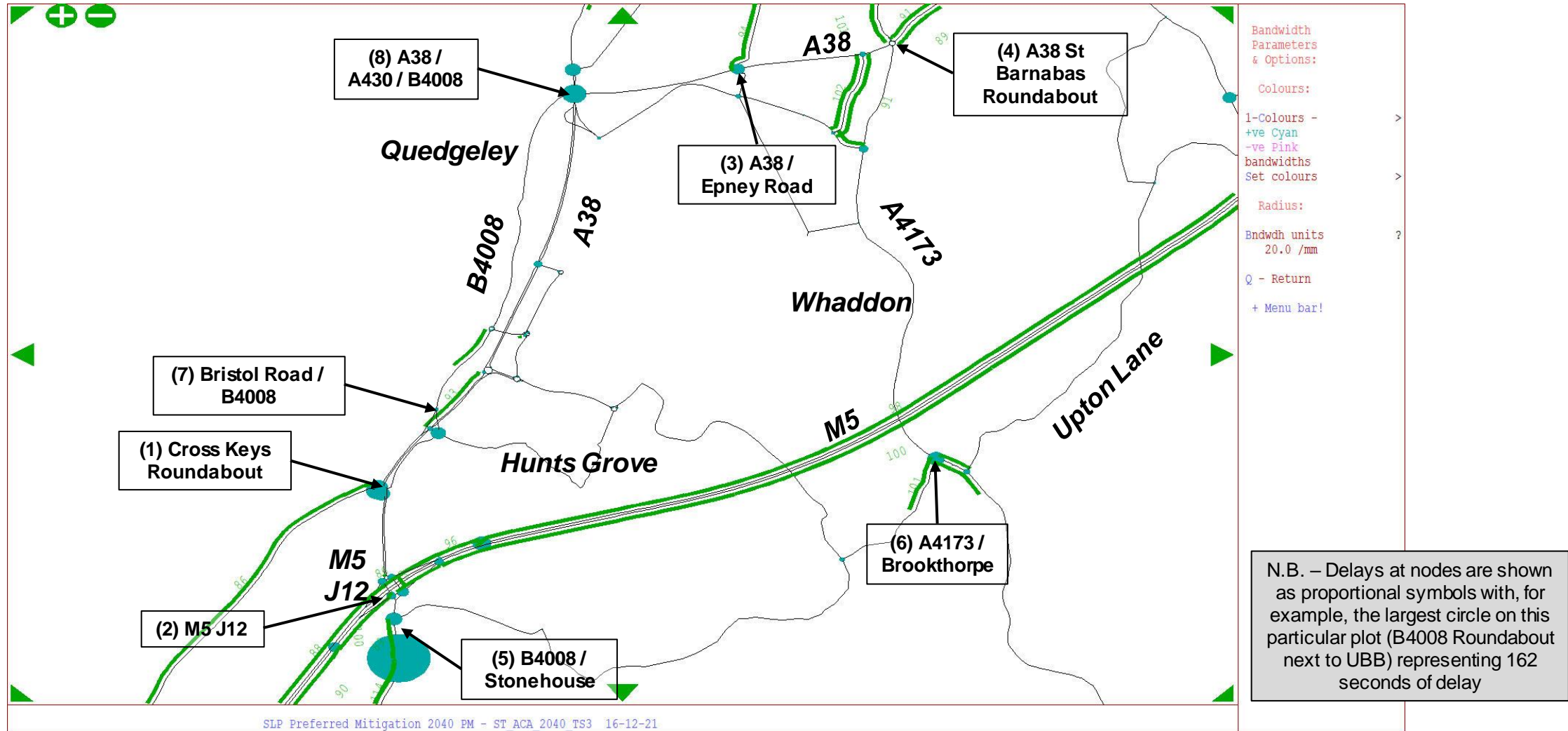
g. Local Plan with Preferred Mitigation

Link V/C and Node Delay Plots (PM Peak)



h. Local Plan with Preferred Mitigation and STS

Link V/C and Node Delay Plots (PM Peak)



E. Network Performance – M5 J13, Stonehouse & Stroud

Contents

Link V/C and Node Delay Plots

AM Peak

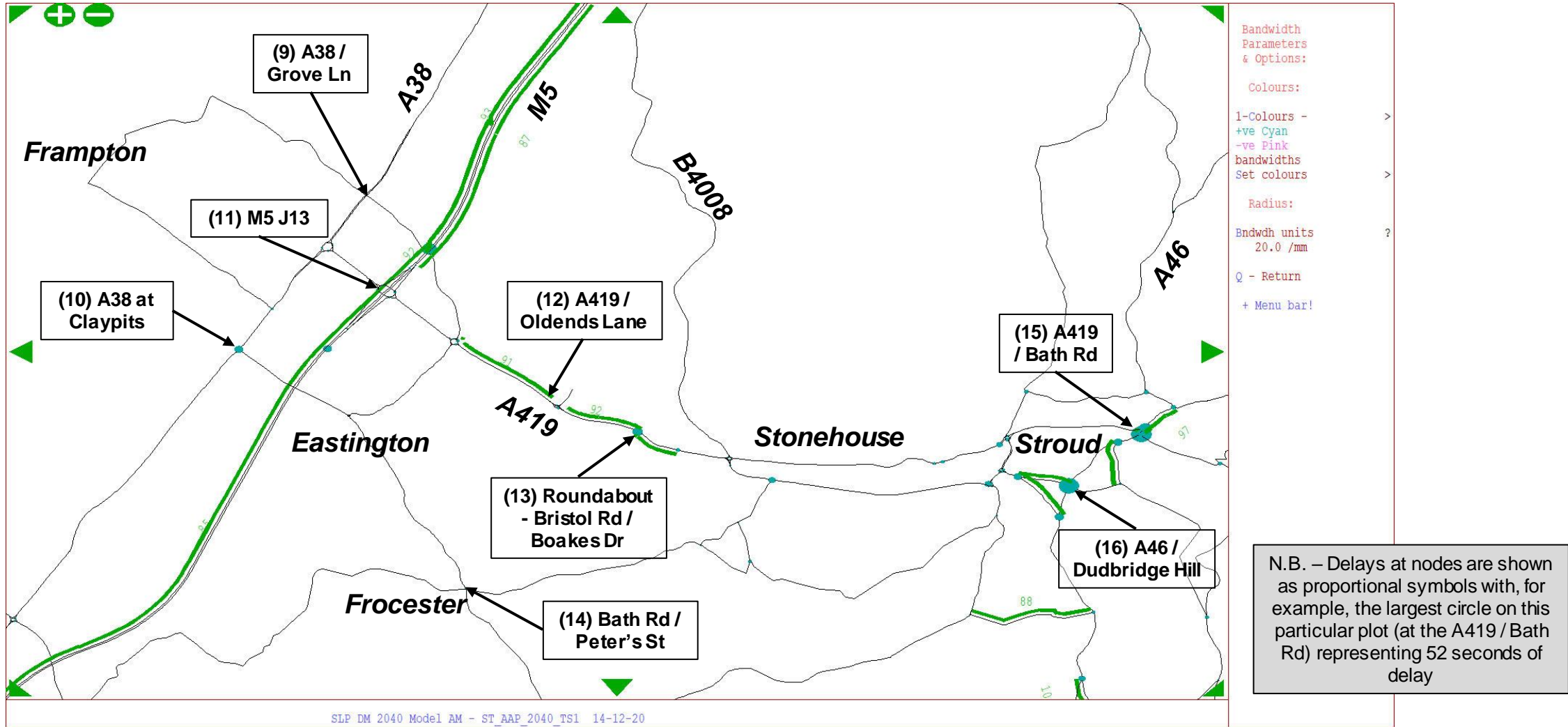
- a. Baseline
- b. Local Plan Unmitigated
- c. Local Plan with Preferred Mitigation
- d. Local Plan with Preferred Mitigation and Sustainable Transport Strategy

PM Peak

- e. Baseline
- f. Local Plan Unmitigated
- g. Local Plan with Preferred Mitigation
- h. Local Plan with Preferred Mitigation and Sustainable Transport Strategy

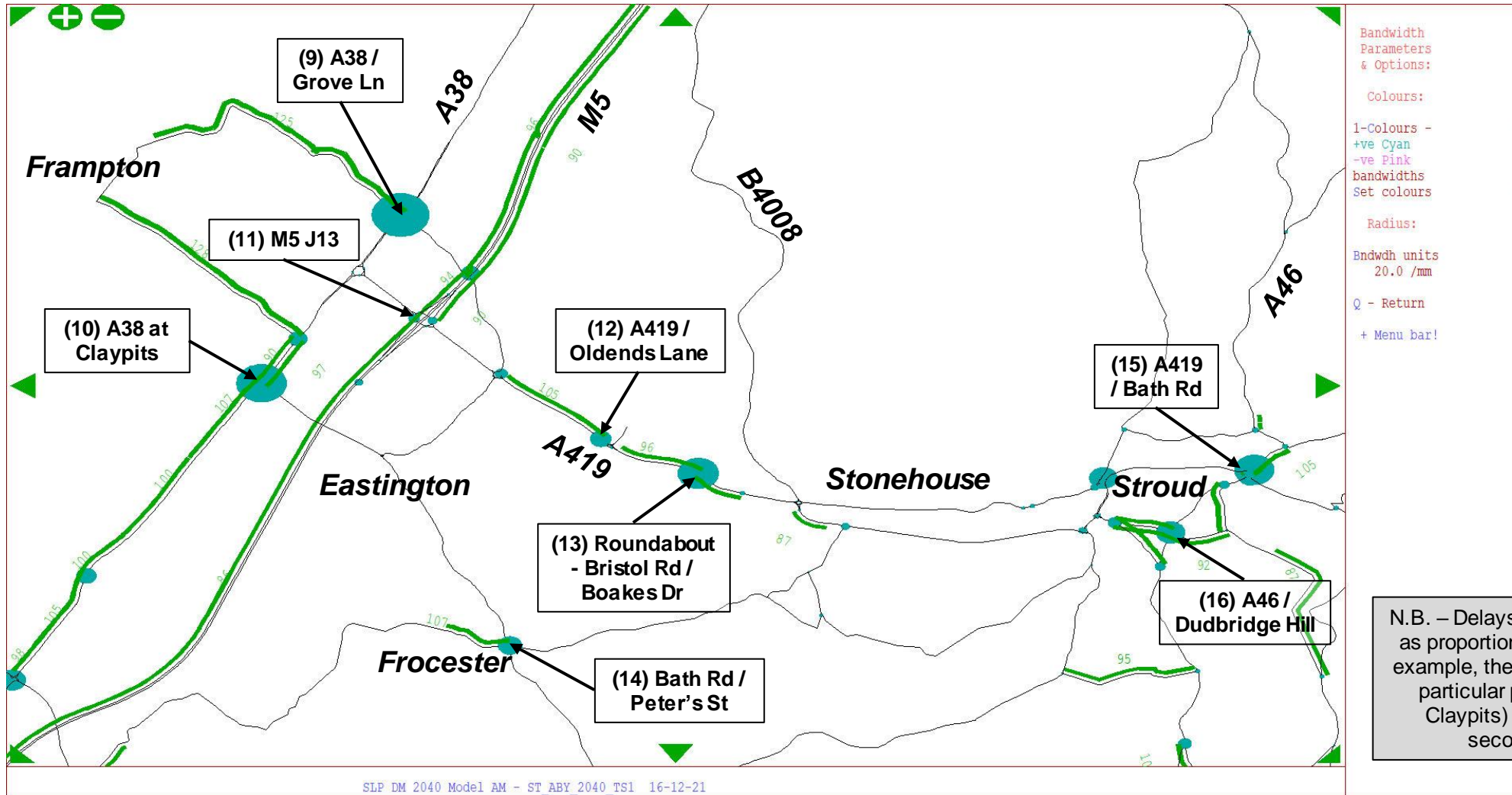
a. Baseline

Link V/C and Node Delay Plots (AM Peak)



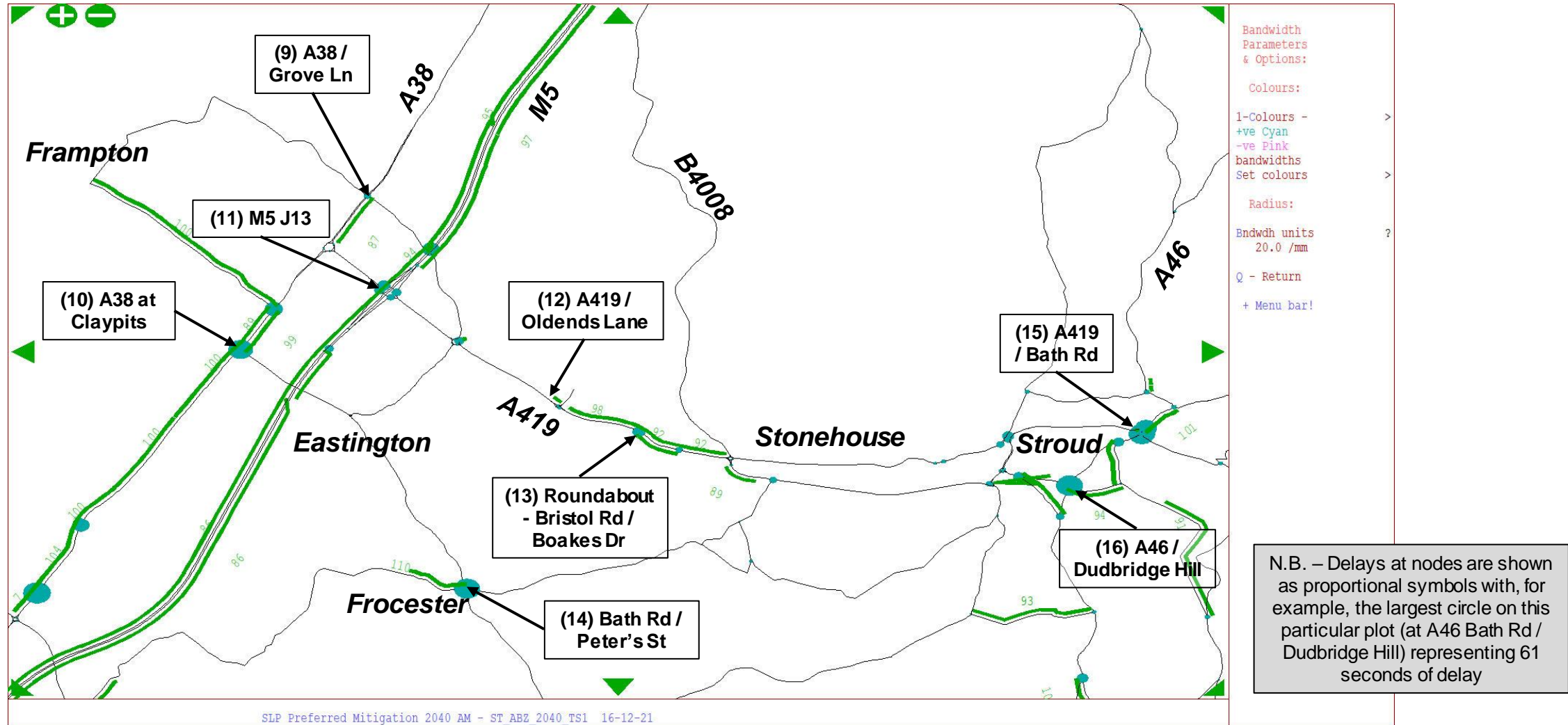
b. Local Plan Unmitigated

Link V/C and Node Delay Plots (AM Peak)



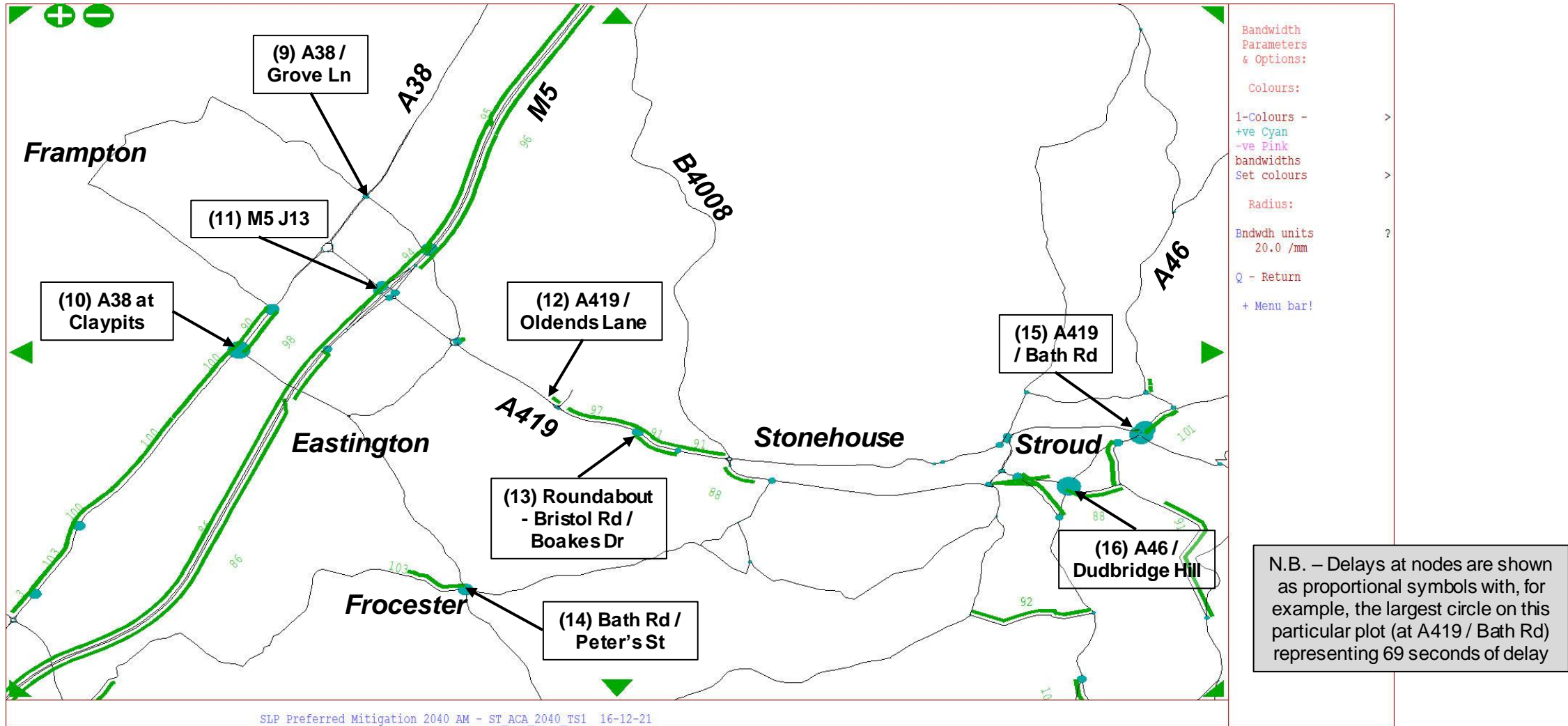
c. Local Plan with Preferred Mitigation

Link V/C and Node Delay Plots (AM Peak)



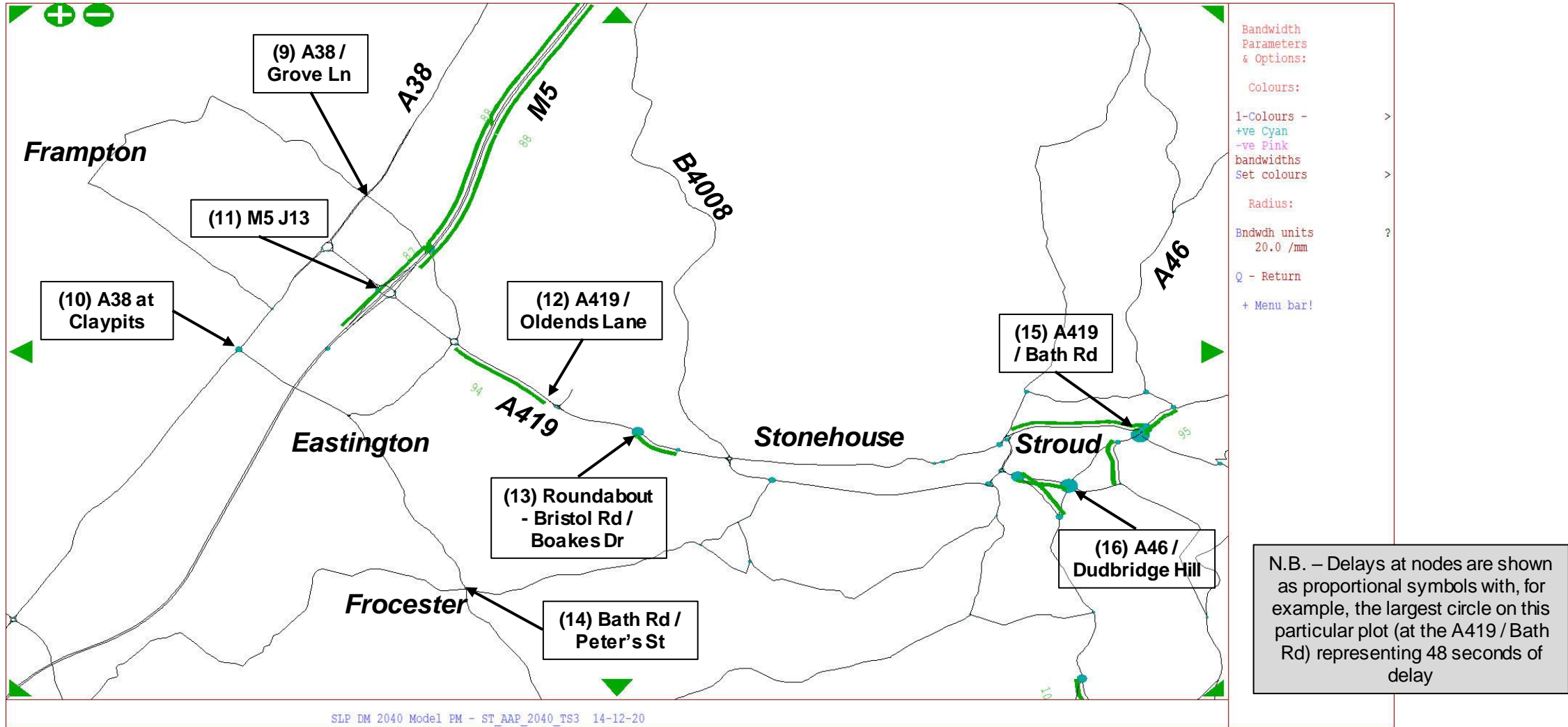
d. Local Plan with Preferred Mitigation and STS

Link V/C and Node Delay Plots (AM Peak)



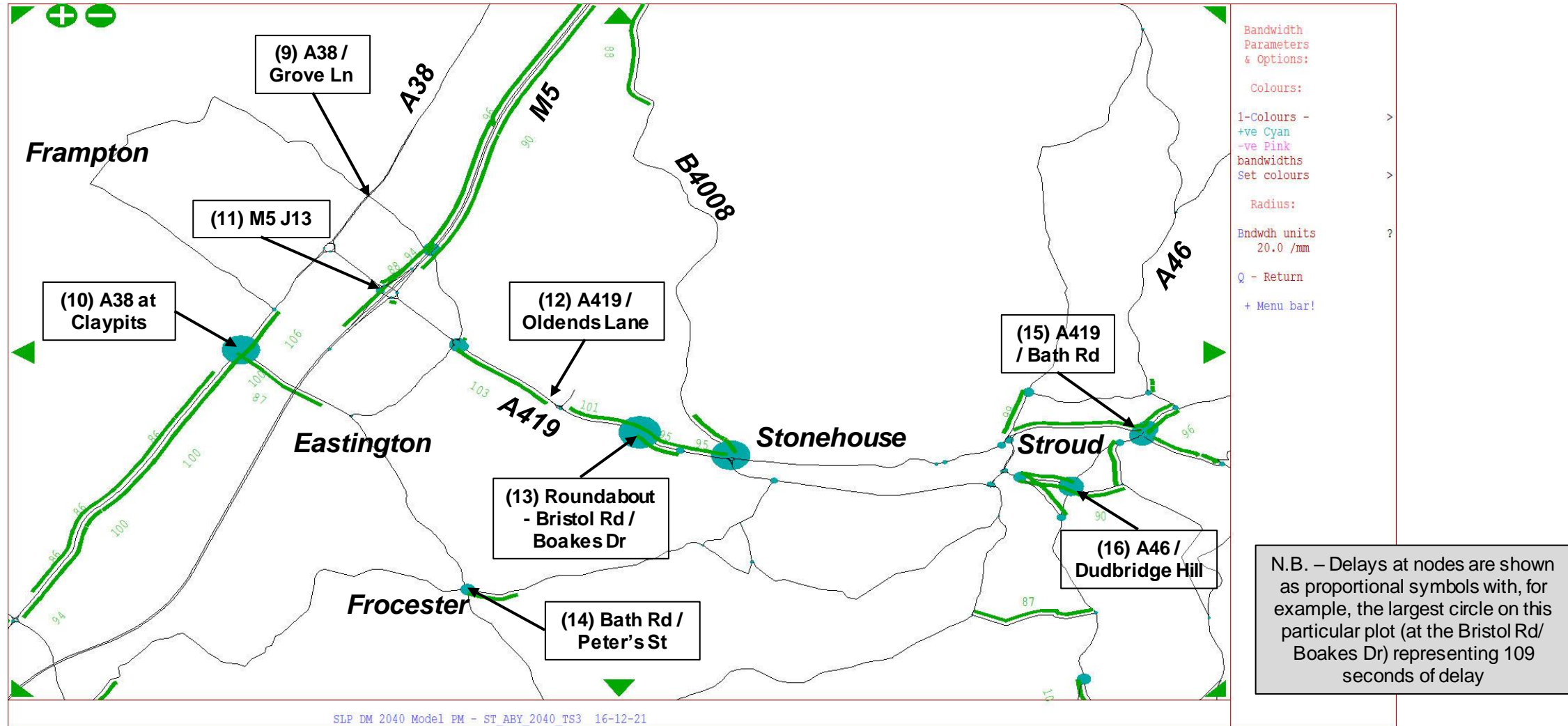
e. Baseline

Link V/C and Node Delay Plots (PM Peak)



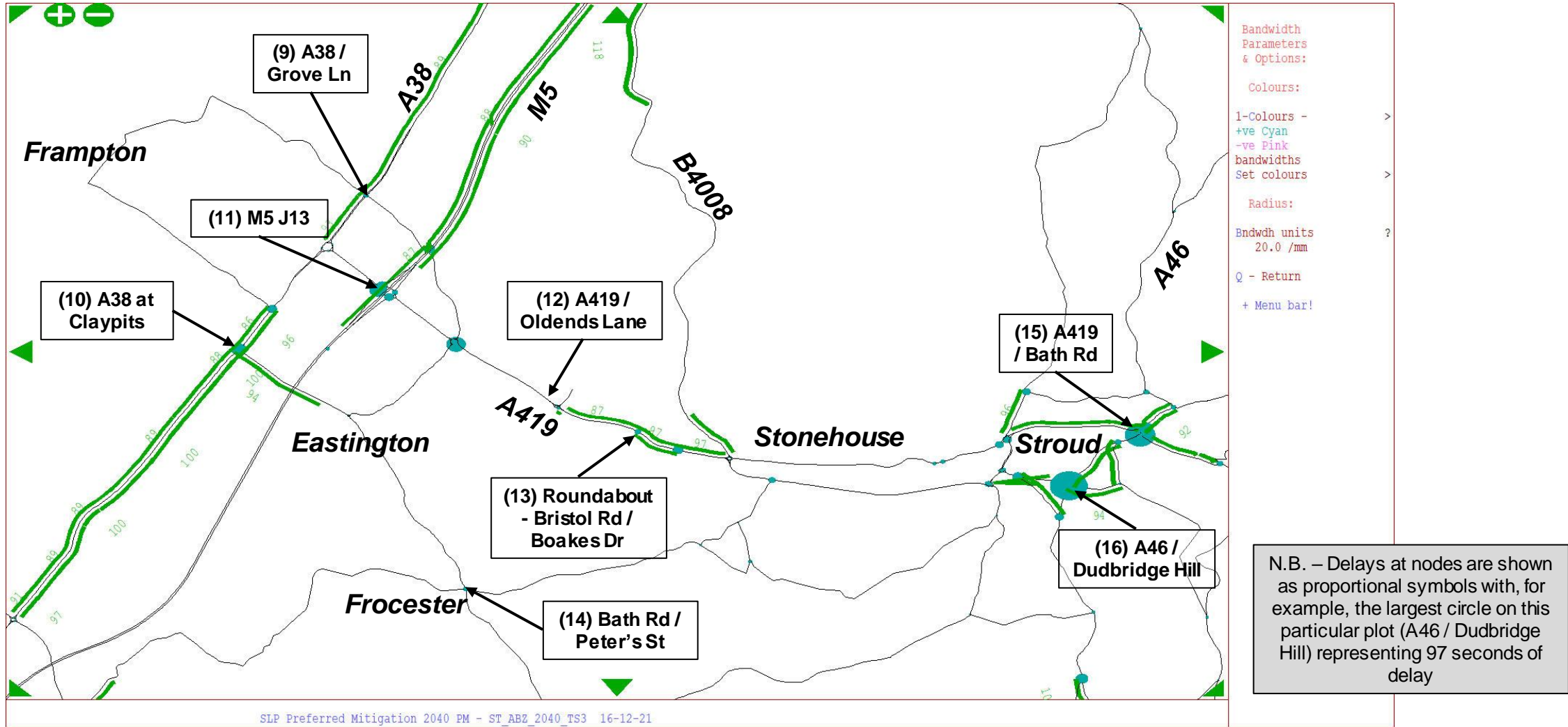
f. Local Plan Unmitigated

Link V/C and Node Delay Plots (PM Peak)



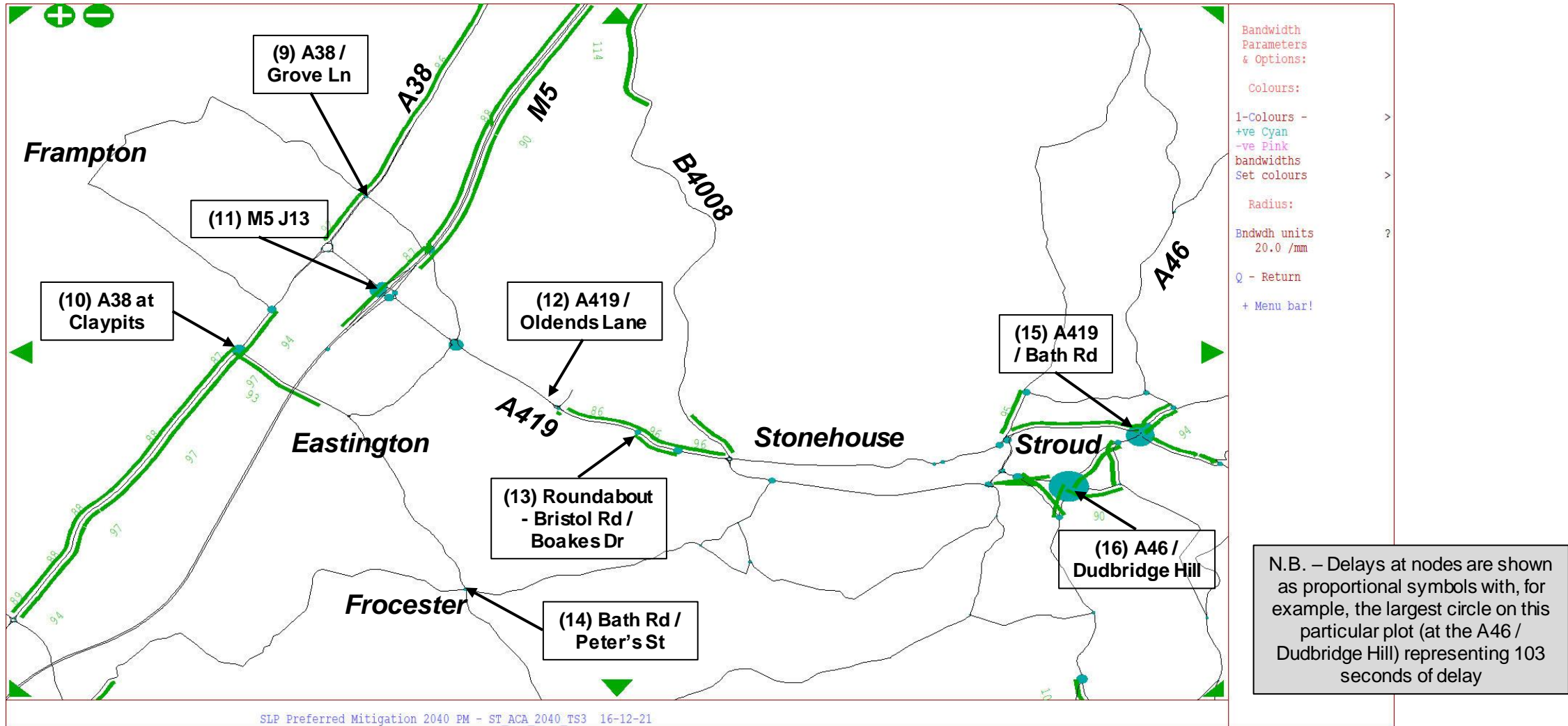
g. Local Plan with Preferred Mitigation

Link V/C and Node Delay Plots (PM Peak)



h. Local Plan with Preferred Mitigation and STS

Link V/C and Node Delay Plots (PM Peak)



F. Network Performance – Sharpness and Berkeley

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Link V/C and Node Delay Plots

AM Peak

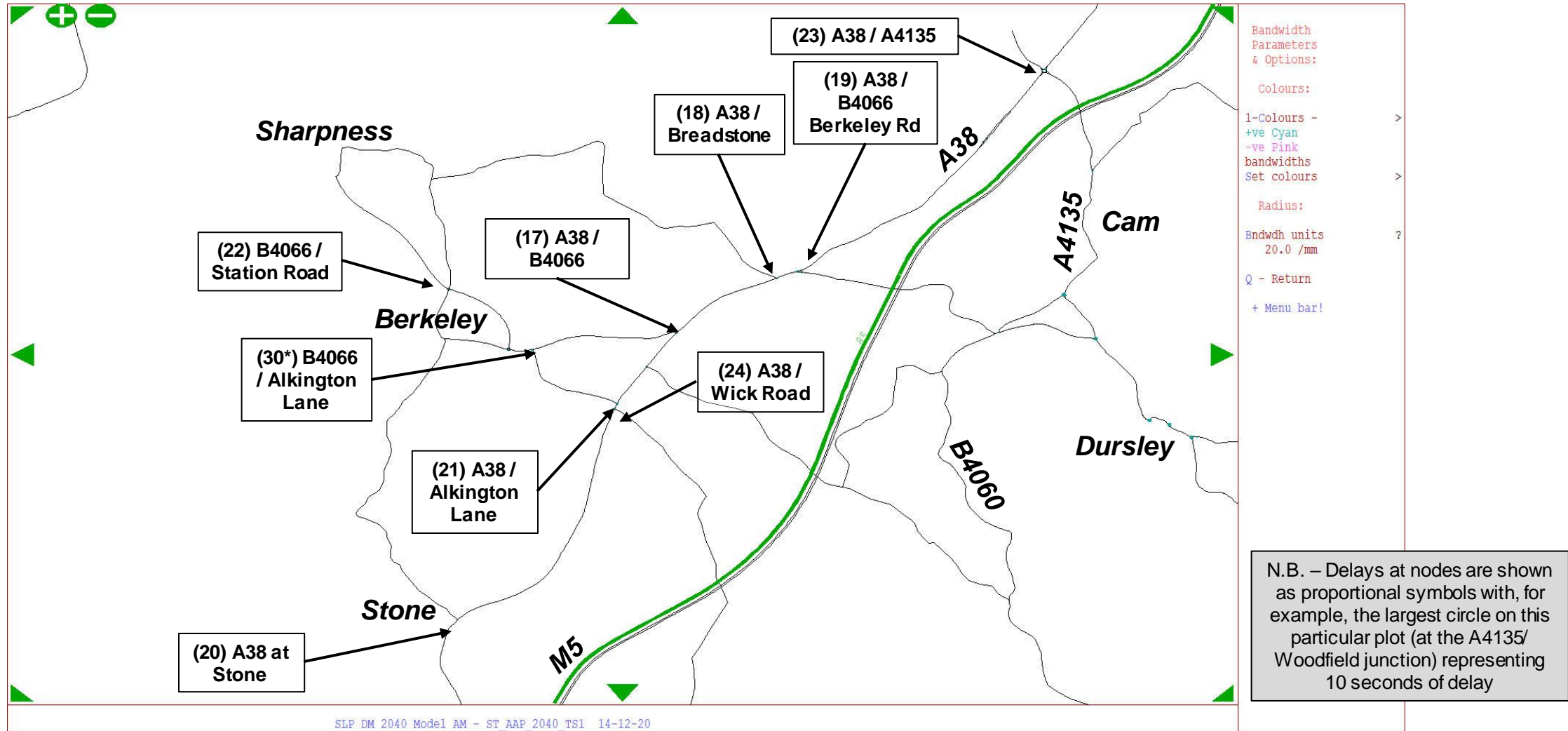
- a. Baseline
- b. Local Plan Unmitigated
- c. Local Plan with Preferred Mitigation
- d. Local Plan with Preferred Mitigation and Sustainable Transport Strategy

PM Peak

- e. Baseline
- f. Local Plan Unmitigated
- g. Local Plan with Preferred Mitigation
- h. Local Plan with Preferred Mitigation and Sustainable Transport Strategy

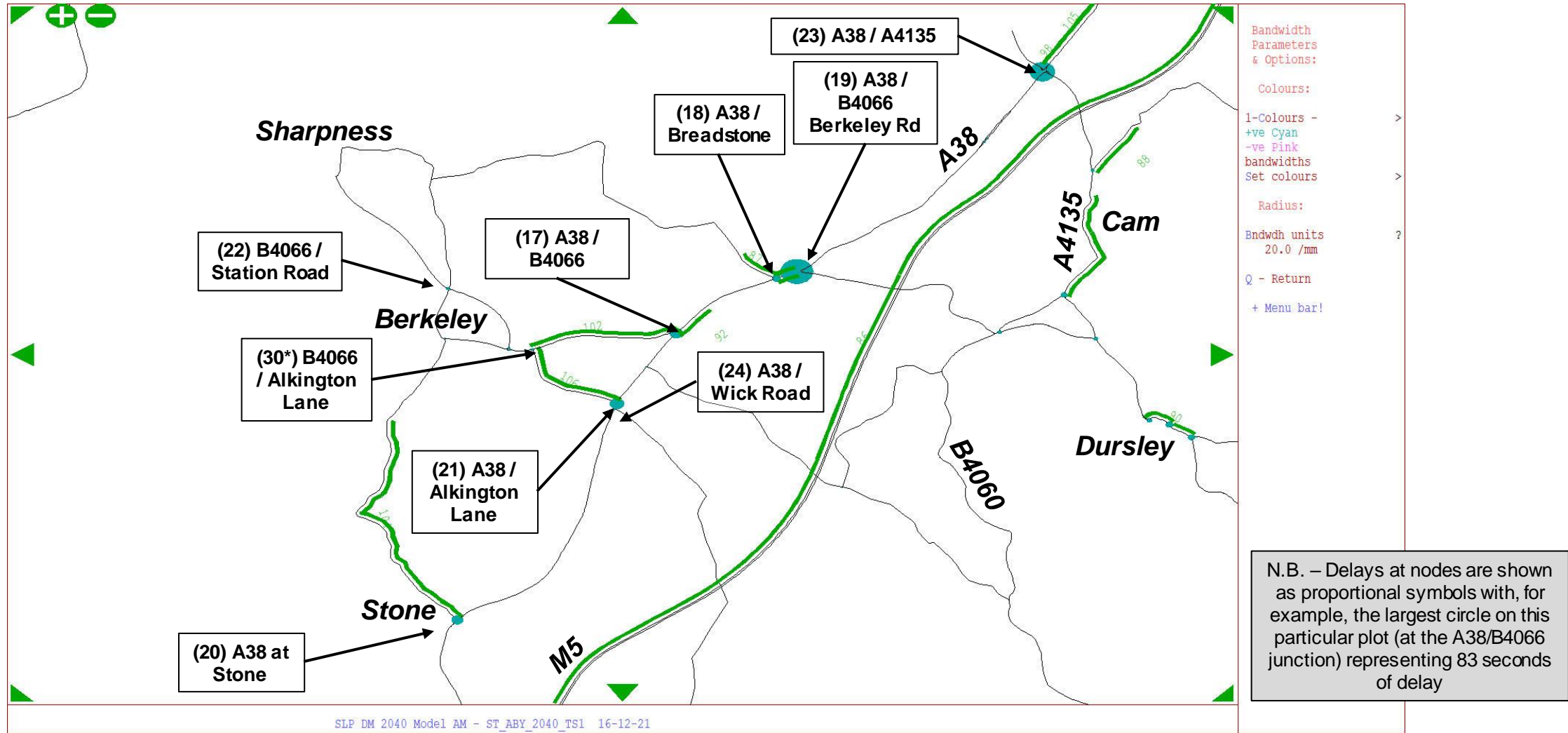
a. Baseline

Link V/C and Node Delay Plots (AM Peak)



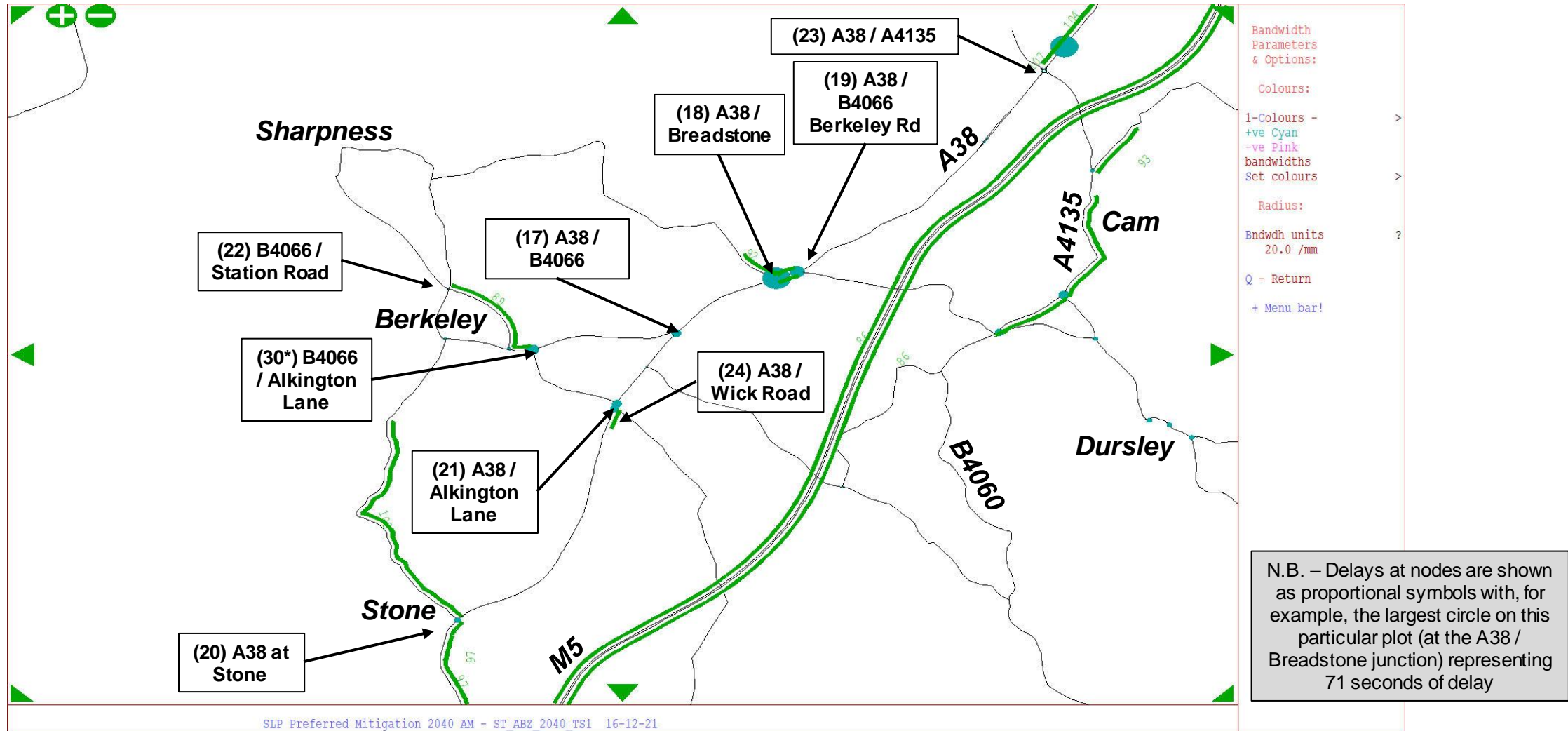
b. Local Plan Unmitigated

Link V/C and Node Delay Plots (AM Peak)



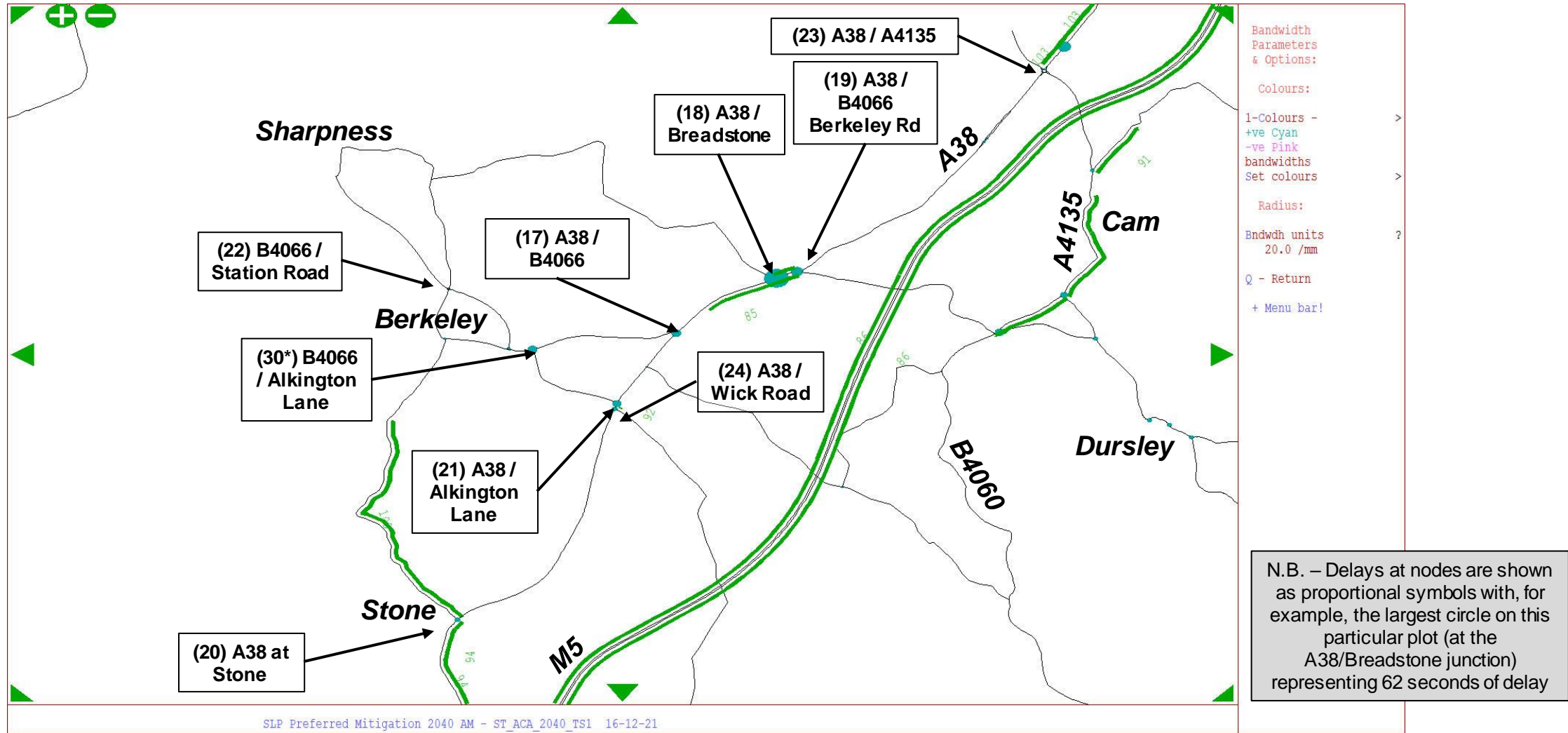
c. Local Plan with Preferred Mitigation

Link V/C and Node Delay Plots (AM Peak)



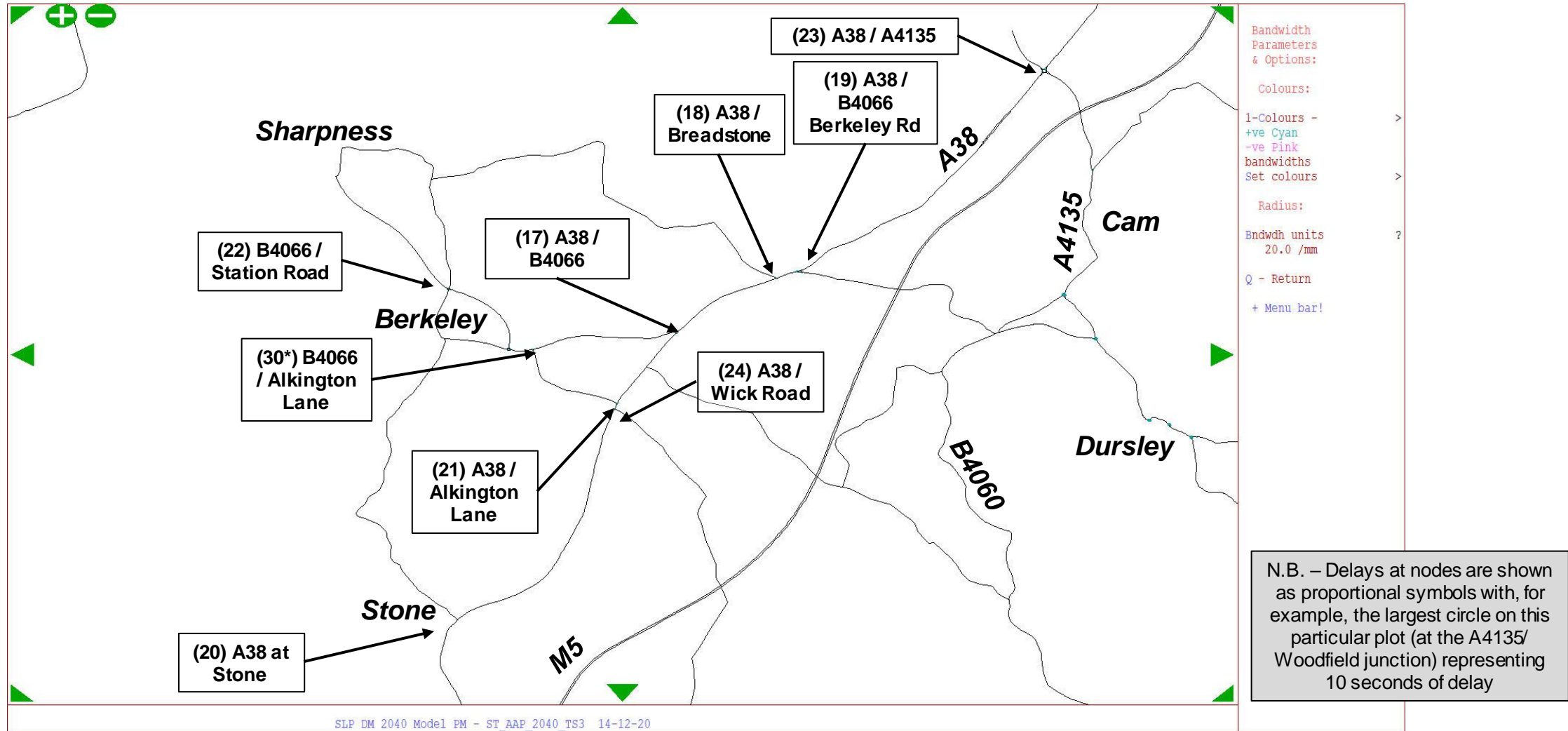
d. Local Plan with Preferred Mitigation and STS

Link V/C and Node Delay Plots (AM Peak)



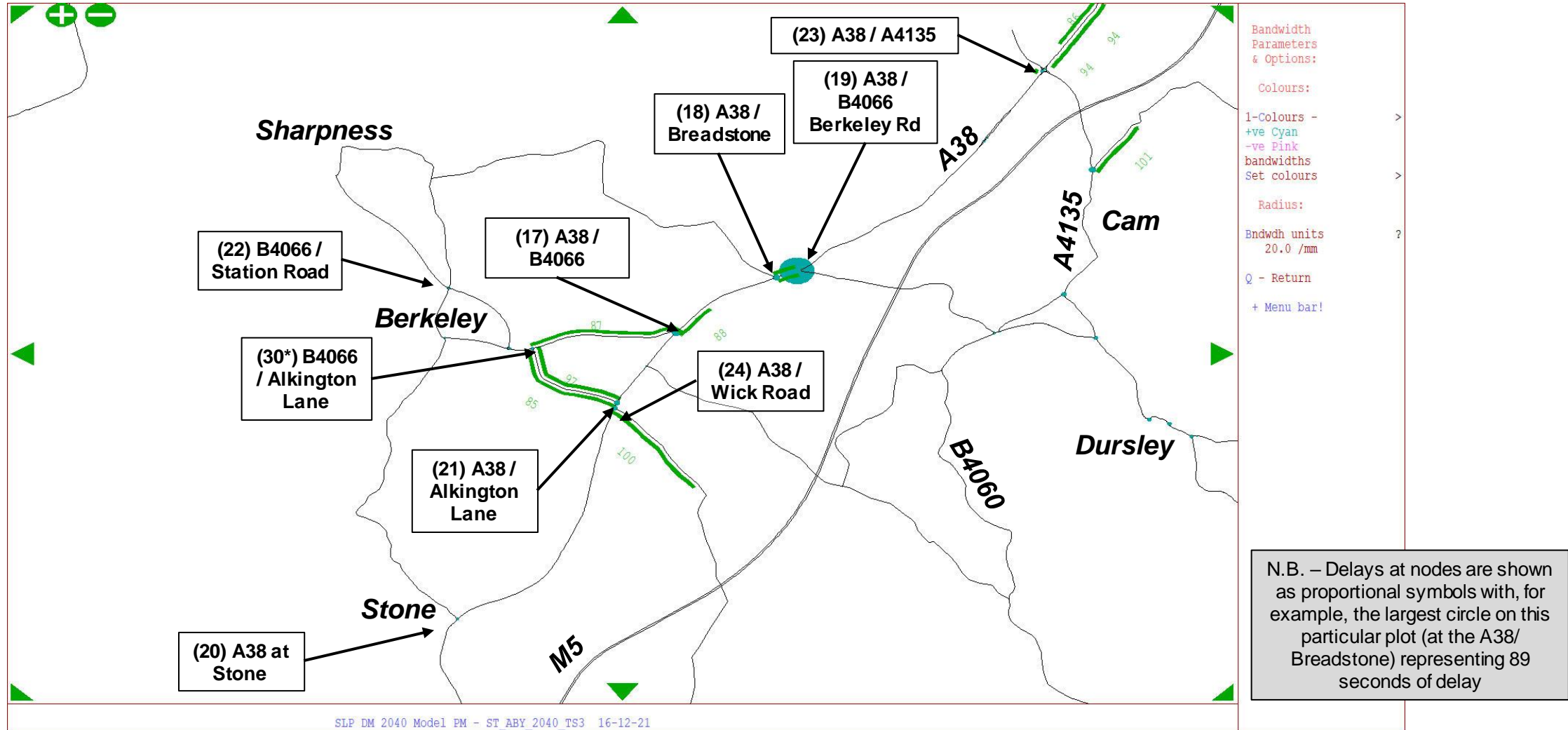
e. Baseline

Link V/C and Node Delay Plots (PM Peak)



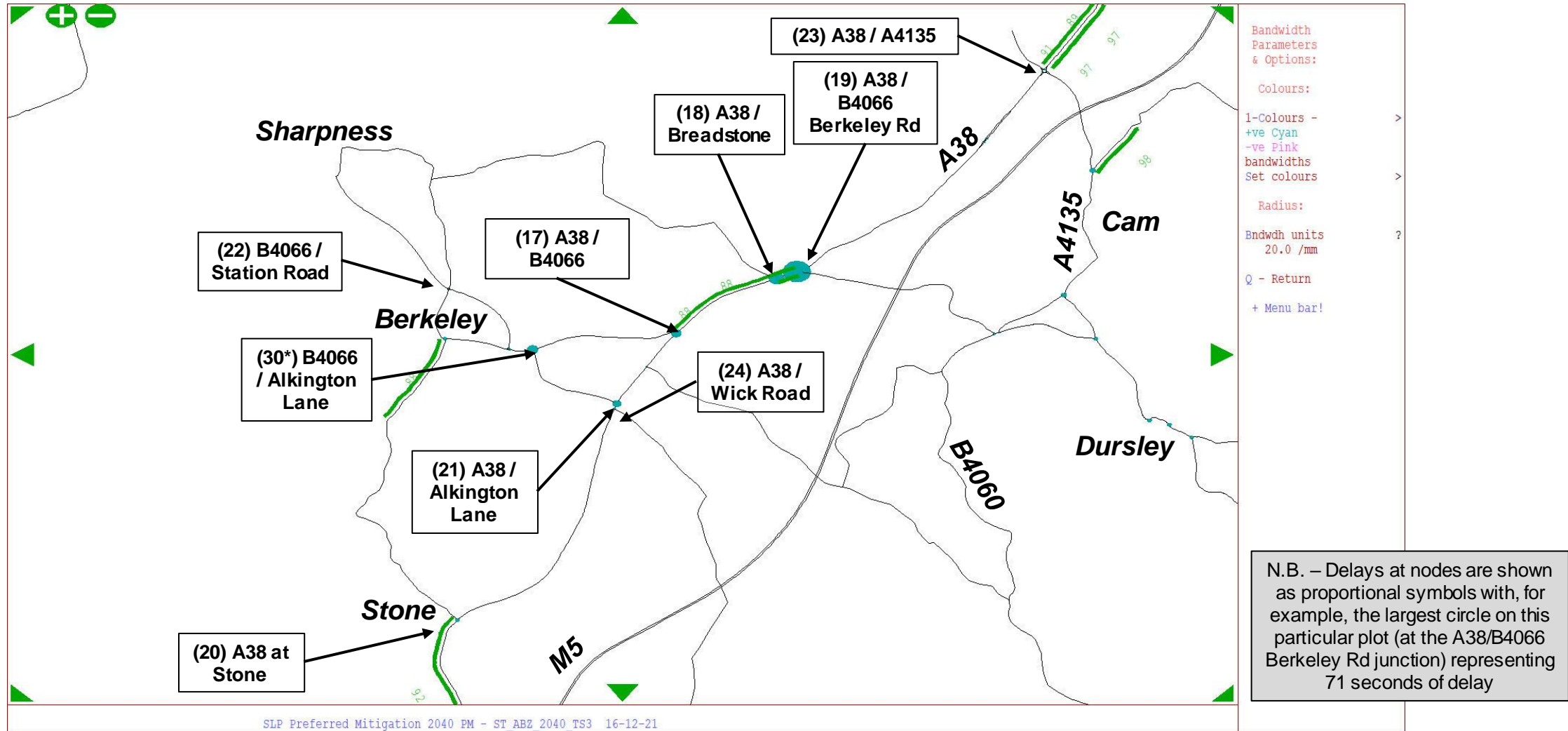
f. Local Plan Unmitigated

Link V/C and Node Delay Plots (PM Peak)



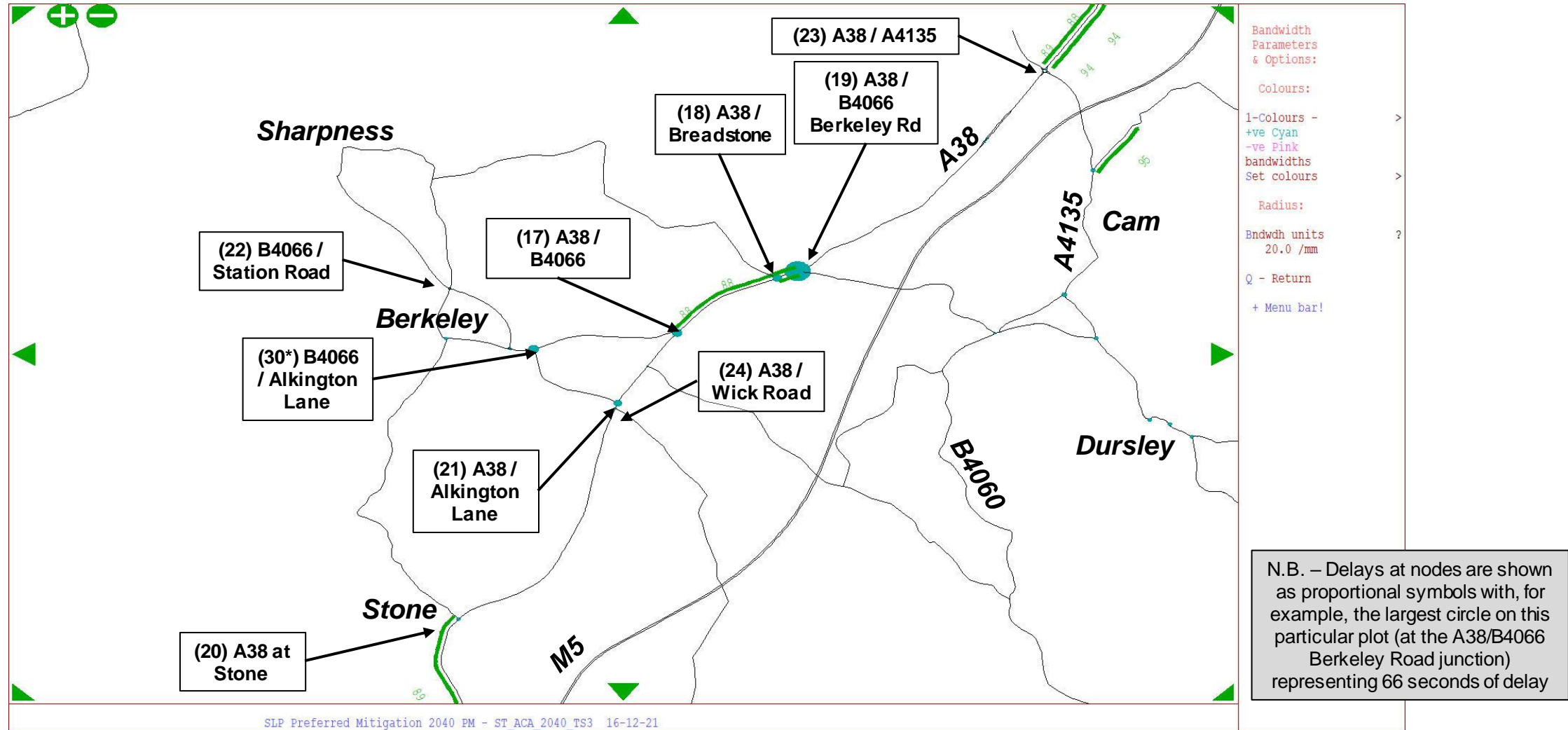
g. Local Plan with Preferred Mitigation

Link V/C and Node Delay Plots (PM Peak)



h. Local Plan with Preferred Mitigation and STS

Link V/C and Node Delay Plots (PM Peak)



G. Network Performance – M5 J14

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Link V/C and Node Delay Plots

AM Peak

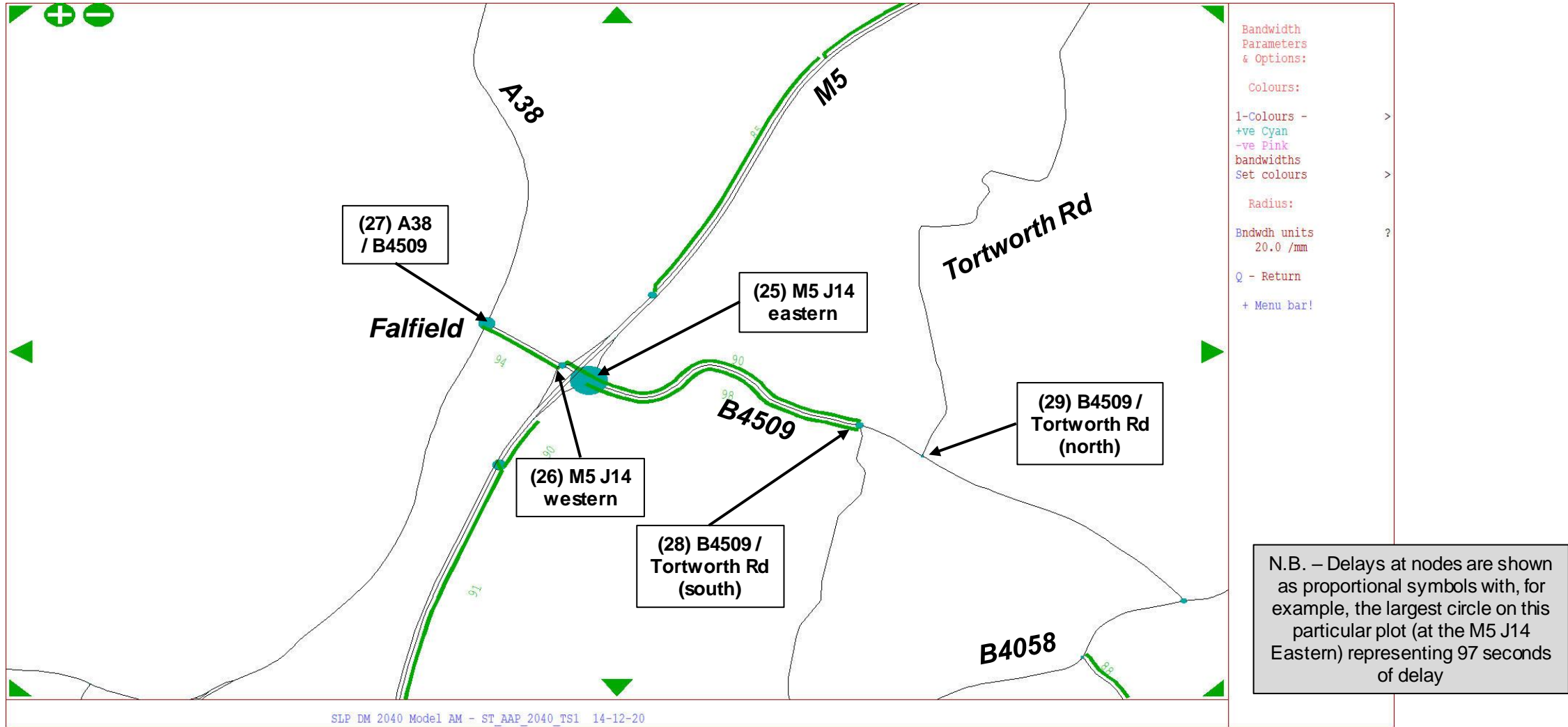
- a. Baseline
- b. Local Plan Unmitigated
- c. Local Plan with Preferred Mitigation
- d. Local Plan with Preferred Mitigation and Sustainable Transport Strategy

PM Peak

- e. Baseline
- f. Local Plan Unmitigated
- g. Local Plan with Preferred Mitigation
- h. Local Plan with Preferred Mitigation and Sustainable Transport Strategy

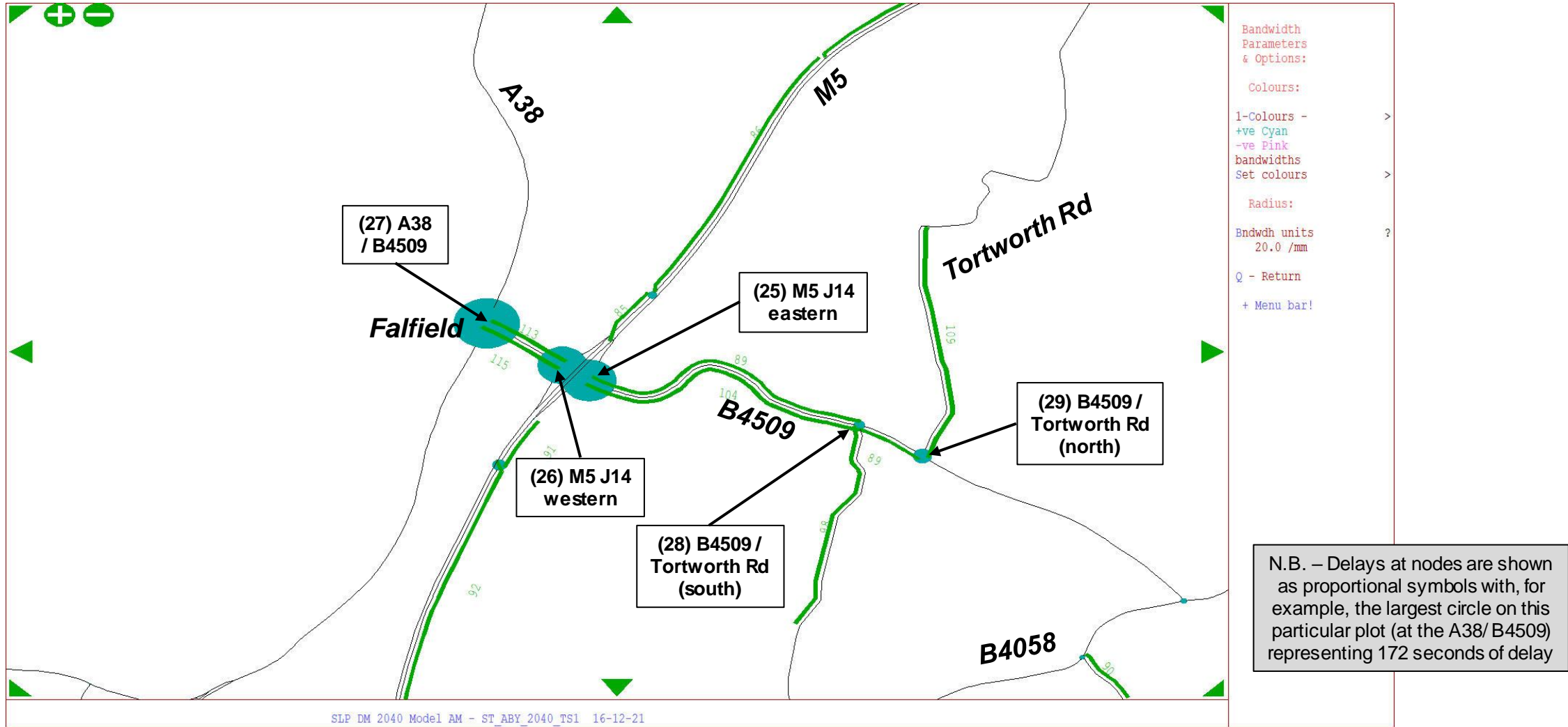
a. Baseline

Link V/C and Node Delay Plots (AM Peak)



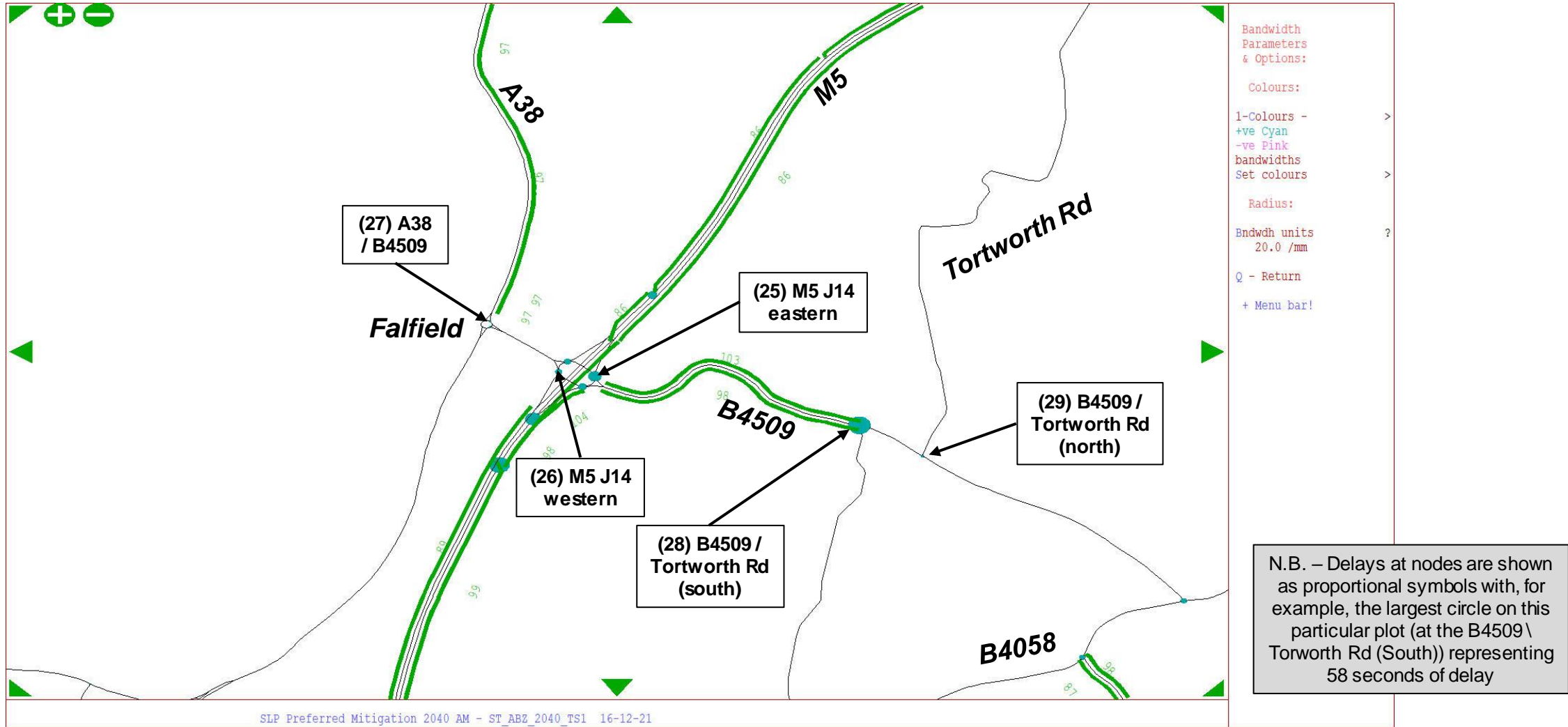
b. Local Plan Unmitigated

Link V/C and Node Delay Plots (AM Peak)



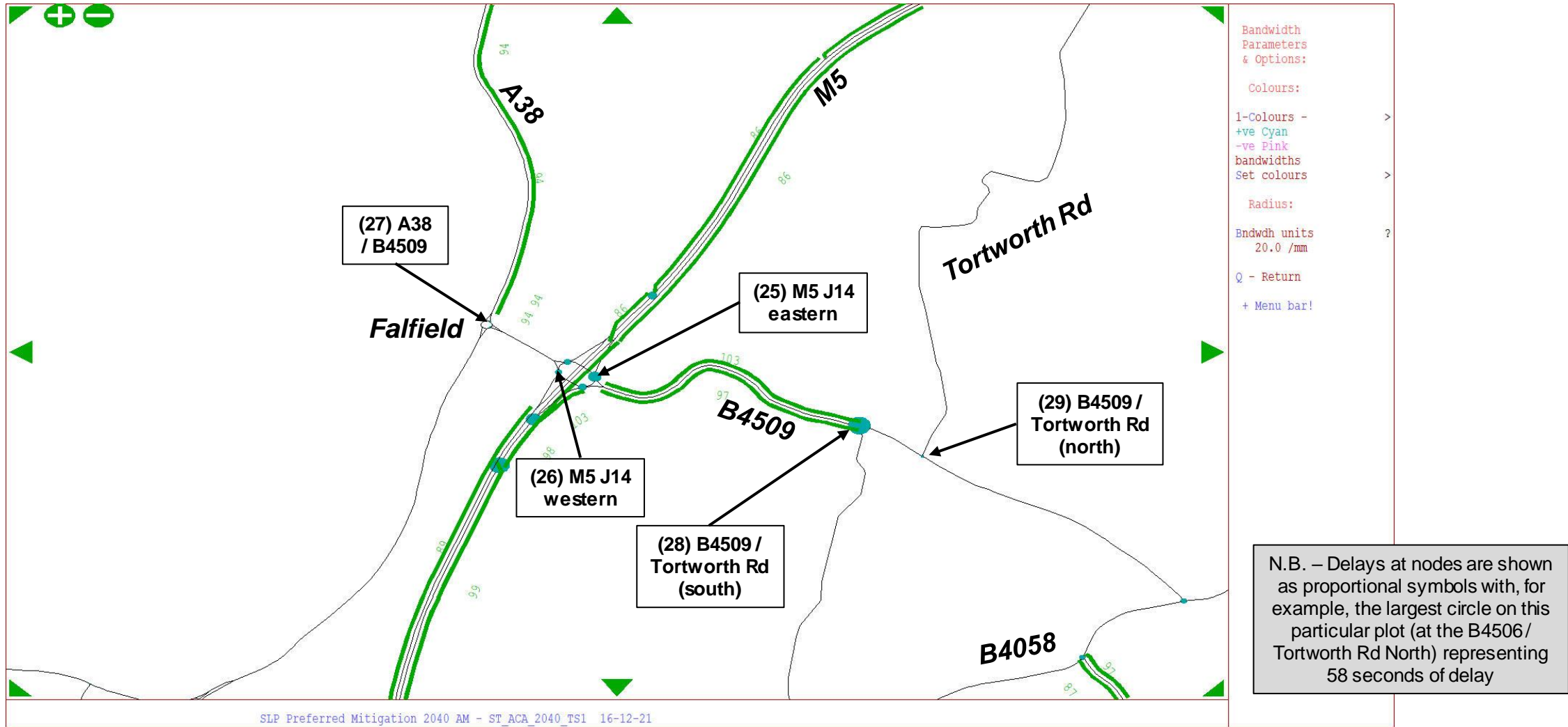
c. Local Plan with Preferred Mitigation

Link V/C and Node Delay Plots (AM Peak)



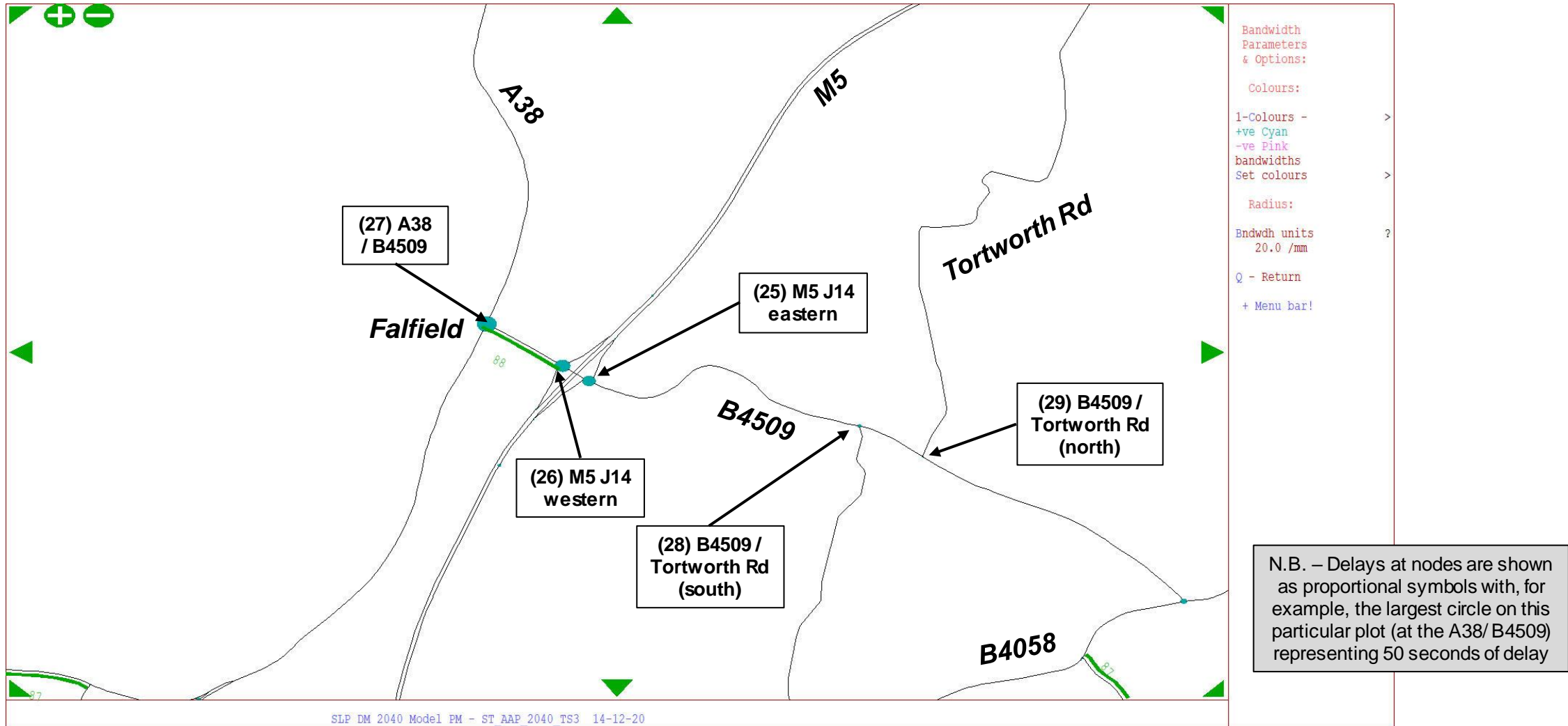
d. Local Plan with Preferred Mitigation and STS

Link V/C and Node Delay Plots (AM Peak)



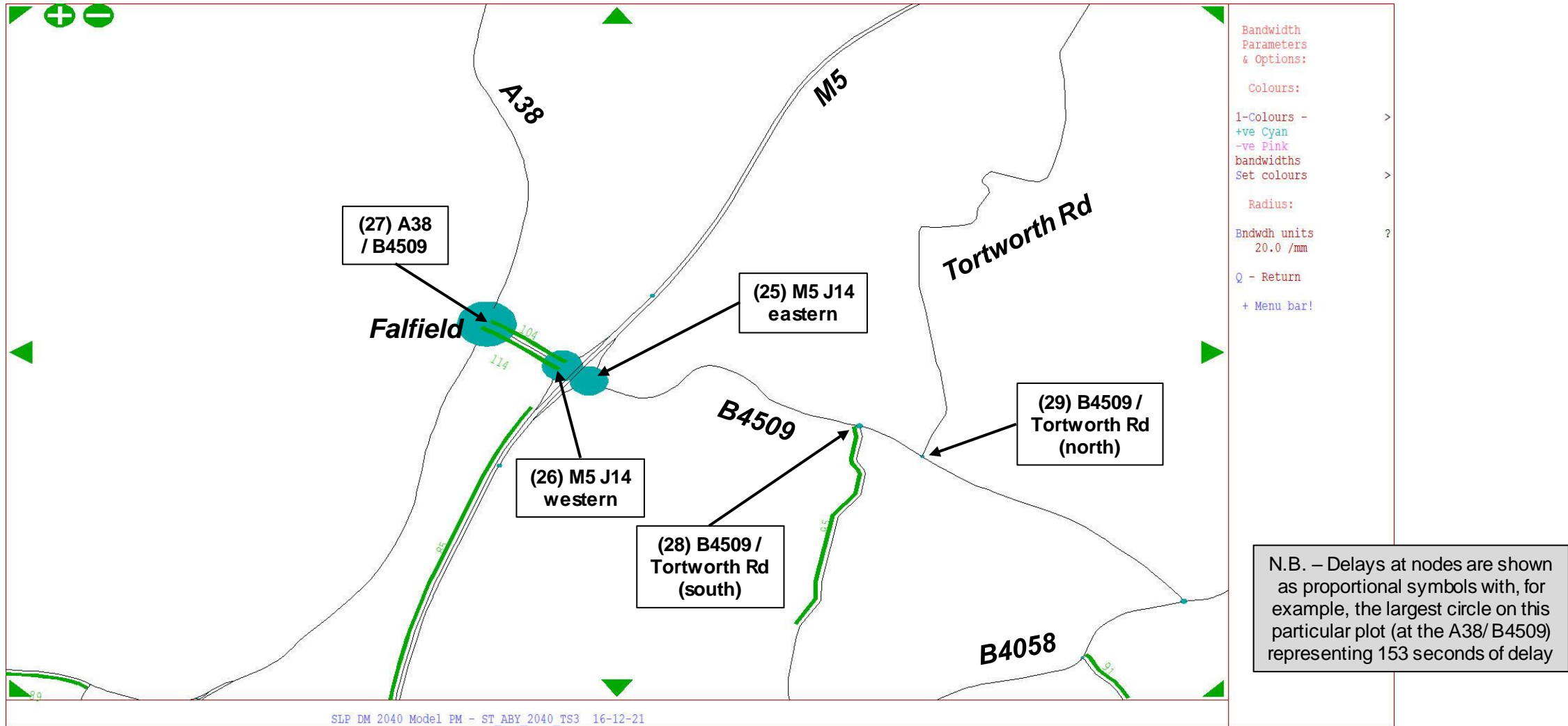
e. Baseline

Link V/C and Node Delay Plots (PM Peak)



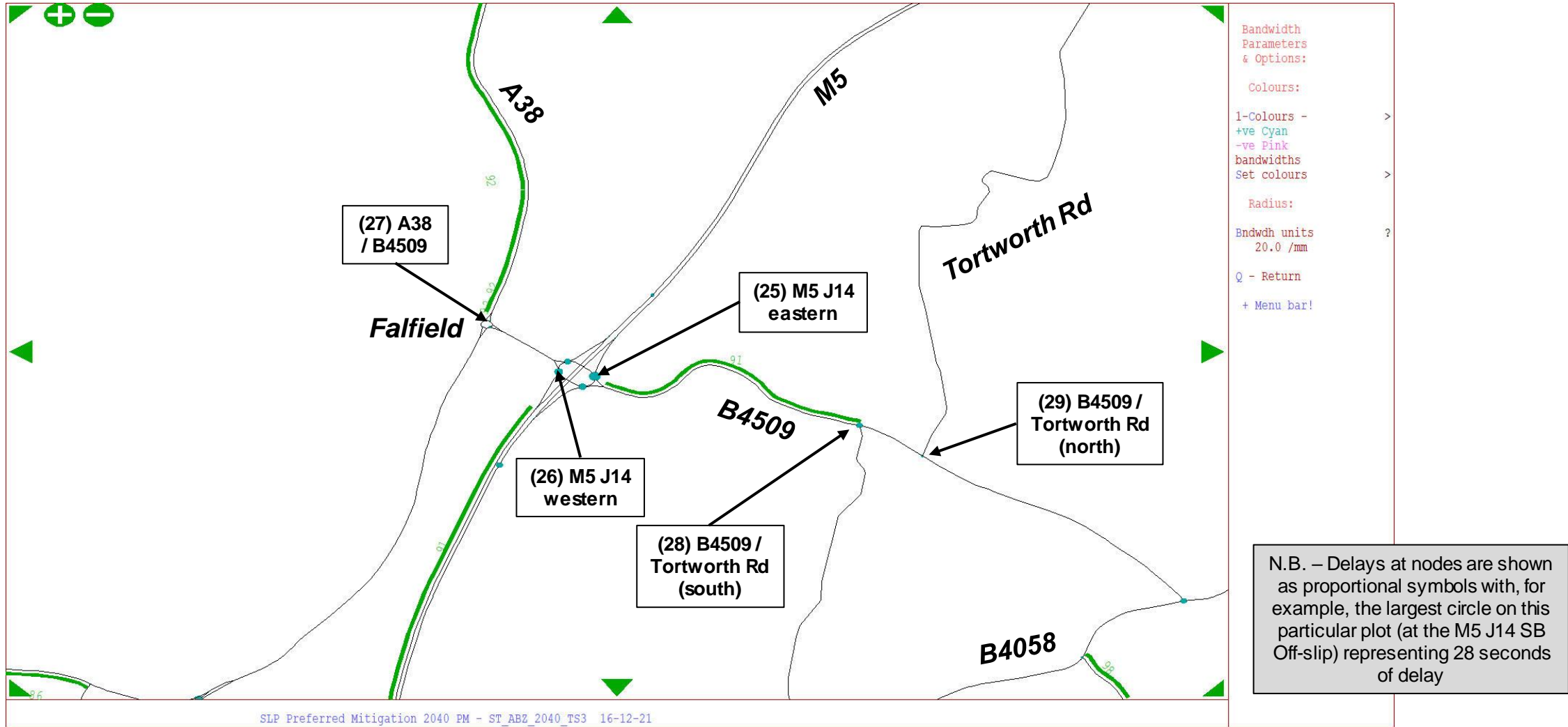
f. Local Plan Unmitigated

Link V/C and Node Delay Plots (PM Peak)



g. Local Plan with Preferred Mitigation

Link V/C and Node Delay Plots (PM Peak)



h. Local Plan with Preferred Mitigation and STS

Link V/C and Node Delay Plots (PM Peak)

