6. Summary and conclusion

6.1 Summary of results

Table 6.2 summarises the results of the modelling for each scenario. It is important to note that the table highlights the extent to which the Local Plan development impacts an area in terms of travel time changes, as well as the extent to which mitigation has been successful at reducing the impacts observed in the DS scenario across the geographic area.

A RAG (red, amber or green) rating has been applied to each area based on a purely qualitative assessment of the overall impact of the VALP DS scenario in terms of increased travel time; red represents a significant impact, amber a moderate impact and green a slight impact in comparison to the DM. A second RAG rating has also been applied based on a qualitative assessment of the overall improvement, if any, the DS with mitigation scenario provides.

Table 6.1 outlines a broad definition of each qualitative category. This rating is based only on the outputs produced as part of this phase of modelling.

RAG rating	Description
	Overall significant impact in terms of travel time increases on a number of key routes through the area compared with DM (without mitigation) and DS (with mitigation)
	Overall moderate impact in terms of travel time increases on a number of key routes through the area compared with DM (without mitigation) and DS (with mitigation)
	Overall slight impact in terms of travel time increases on a number of key routes through the area compared with DM (without mitigation) and DS (with mitigation)

Table 6.1 RAG rating description

Scenario	Model Areas	DS RAG rating	With Mitigation RAG rating	Comments
DS1	NE Aylesbury Vale District			The roads impacted by the local plan in NE Aylesbury in the DS1 scenario are the A421, Coddimoor Lane and Whaddon road. These have significant increases in travel times. However, Stoke Road is impacted positively observing a decrease in travel time in the DS1 scenario. The run 1 mitigation adds to travel times, due to increased demand on the A421 as a result of new infrastructure.
DS2	NE Aylesbury Vale District			DS2 follows a similar pattern to DS1. There is further significant increases in travel on Whaddon Road where it joins the A421. The with mitigation scenario shows a decrease in travel time along Stoke Road, however there is an increase in travel time on the A421 between Standing Way/Whaddon Road roundabout and Coddimoor Lane which is not seen in the DS1 with mitigation.

Scenario	Model Areas	DS RAG rating	With Mitigation RAG rating	Comments
DS3	NE Aylesbury Vale District			There are travel time increases in both the AM and PM peak, especially significant on the A421 in the PM. Coddimoor Lane observes only slight increase in travel time and the A421 has a significant increase in travel time on the A421 which is greater than that of DS2. The with mitigation shows the same CTT as DS1 and DS2.
DS4	NE Aylesbury Vale District			In the DS4 scenario there is less increase in travel time than in DS1-3, albeit the increases are still significant. The majority of impact falls on the Milton Keynes side of the district boundary. There is a significant increase in travel on Whaddon Road where in joins the A421. In the with mitigation scenario there are increases along the A421 as with the other mitigation scenarios, increases in travel time of Coddimoor Lane but decreases on Stoke Road.
DS5	NE Aylesbury Vale District			DS5 shows similar increases in travel times as all other scenarios. However, the impacts on Coddimor Lane are not quite as severe. The 'with mitigation' scenario shows a greater increase in travel time along the A421, however there is a significant decrease in travel time on Stoke Road.

Table 6.2 Impact Summary Table

6.2 Summary of individual development impacts

Like section 6.1, a RAG rating has been applied to qualitatively assess the impact on traffic each of the three developments. To assess the individual impact of each development, appropriate 'with development' and 'without development' DS and DS mitigation scenarios were chosen for comparison. Table 6.3 outlines a broad description of each qualitative rating category, while Table 6.4 summarises the individual impact of each development.

RAG rating	Description
	Overall significant impact in terms of travel time increases on a number of key routes in the vicinity of the development compared with the DS and DS mitigation scenarios without the development
	Overall moderate impact in terms of travel time increases on a number of key routes in the vicinity of the development compared with the DS and DS mitigation scenarios without the development
	Overall slight impact in terms of travel time increases on a number of key routes in the vicinity of the development compared with the DS and DS mitigation scenarios without the development

Table 6.3: RAG rating description

Development	Comparison	DS RAG rating	With Mitigation RAG rating	Bletchley Bypass Removal	Comments
Shenley Park	DS2 (with development) vs DS4 (without development)				There are moderate increases in journey times along the A421 corridor when the development is included.
Salden Chase Extension	DS3 (with development) vs DS (without development)				There are moderate increases in journey times along the A421 corridor when the development is included.
Eaton Leys	DS2 (with development) vs DS (without development)				The development has a slight impact on journey times along the A421 corridor and A5 corridor.

Table 6.4: Individual development impacts summary table

Reviewing the extracted plots and overall traffic patterns in the models shows that of the developments that were assessed, Eaton Leys has the least impact on traffic in the NE of the Aylesbury Vale district.

6.3 Conclusions

The Countywide Model has been used to indicate how three additional Local Plan developments in Aylesbury Vale near to Milton Keynes impact on the local highway network. The results show that there are likely to be no further negative impacts in terms of increased journey times and congestion in the area, than was observed as in the previous Phase 3 work.

The model has also been used to indicate the extent to which proposed transport improvement measures are likely to mitigate the impacts of the local plan development. The extent to which the mitigation measures have been successful varies, with general increases along the A421, due to increased demand flow facilitated by the Bletchley Bypass and the new grid road. There is however a general decrease in travel time along Stoke Road.

The results of the removal of the Bletchley Bypass show that there is an increase in congestion on roads in close proximity to where the proposed Bypass would join the existing infrastructure, such as Stoke Road. There is slightly more congestion along the A421 corridor specially in the PM peak.

It should be noted that when assessing impacts and the extent to which they are mitigated, there is no universal definition of how to define an impact, and what impacts are considered “acceptable” and “unacceptable”. It should also be noted that given the strategic nature of the Countywide model the impacts identified are appropriate for a qualitative assessment. The model has been used to provide a relatively high level indication of the potential impacts of the local plan and proposed mitigations, commensurate with the requirements of local plan evidence base. A RAG analysis of the potential impacts has been provided for NE Aylesbury Vale District, which is appropriate given the nature of the strategic model, but the quantification of the scale of impact based on the model (beyond the terms slight, moderate and significant) should be avoided.

Appendix A. Phase 3 Methodology and Assumptions (taken from the Phase 3 Technical Note, Section 2)

A.1.1 Modelling methodology

Overview

This section sets out the modelling methodology adopted to develop the phase three forecast scenarios. Three forecast scenarios were originally developed during the first and second phases of the work. For phase three this has been reduced to a DM (carried over from phase two) and a DS scenario, which reflects the revised local plan development scenario and omits the new settlement at both Haddenham and Winslow.

Forecast model updates

Revised forecast scenarios

The land use assumptions for the DM scenario remain unchanged from the previous phases of work, however a number of revisions have been made to the development growth assumptions in the DS forecast scenarios. Further details of these changes are provided in section A.1.3 of this technical note.

The methodology for producing the revised forecast matrices is for the most part consistent with phase one and two, as outlined in their respective modelling reports**Error! Bookmark not defined.Error! Bookmark not defined.**. However, the DS scenario will now be comprised of the revised phase three local plan development quantum provided by the four districts. In addition, the phase 2 trip distributions used for the DS local plan development sites have been reviewed, and in some cases revised, where a more suitable donor zone is available.

For the previous phases of work two separate DS scenarios were developed. These scenarios included the same mix of local plan development but the location of a new settlement near Haddenham, included in the DS1 scenario, was instead moved to Winslow in the DS2 scenario. For phase three both these sites have been removed, and therefore only a single DS land use scenario is required to be developed.

Crossrail and East West Rail (EWR)

As with phase two, the impacts of Crossrail and East West Rail (EWR) have been modelled in the phase three DS forecast scenario in the form of a reduction in car journeys (to represent a mode shift from car to rail) in impacted areas. The extent of the reduction in car journeys has been derived using the following assumptions:

- Only car journeys which start or end within 1,500m of a Crossrail or EWR station are considered (for stations that fall within the London zones, all car journeys have been considered).
- 10% of these journeys will switch from car to rail in relation to EWR.
- 35% of these journeys will switch from car to rail in relation to Crossrail.

The assumed percentage reductions and radii were calibrated such that the outturn reduction in car trips approximated the reductions calculated by separate third party modelling of those schemes. This was to ensure that the modelling assumptions/trip impacts were consistent across the different modelling exercises for business case development for these national strategic infrastructure schemes. This modelling data was provided by Transport for London in regards to Crossrail and Atkins in relation to EWR.

A.1.2 Modelling the mitigation options

For phase three two separate mitigation scenarios have been developed known as run 1 and run 2, which include a different combination of mitigation options, but the same land use assumptions as with the DS

scenario. Section A.1.4 of this note provides further detail of the sifting process and options identified for each run. The following subsections summarise the methodology adopted to model the mitigation options in the DS forecast network.

Highway schemes

A number of highway schemes have been added to the DS scenario in consultation with BCC and the districts. The majority of these schemes were already modelled for phase two, and as a result the network coding has been carried over for this phase of work. However, several of the schemes included where not previously modelled, and in these cases detailed descriptions or concept designs have been used instead.

Where information has been unavailable for a specific scheme or if a scheme is in the early stages of conception, sensible assumptions have been made, in consultation with BCC, to ensure each mitigation scheme is represented as accurately as possible within the model.

Public/ sustainable transport schemes

To account for the public transport and sustainable transport schemes in the model, a similar methodology has been adopted as with phase two, where a reduction in car journeys has been calculated for impacted areas. Several such schemes have been considered as part of the mitigation options. These include a number of bus corridor schemes, Wycombe Bus Station Upgrade, improvements to Aylesbury Town Centre, and Grand Union Triangle improvements (further detail of all these schemes is provided in Table 6-I).

The extent of the reduction in car journeys has been based on evidence from the sustainable travel towns' evidence base[4], as agreed with BCC. The schemes in that evidence base are of a similar nature to the proposed mitigation measures. To calculate the reduction in car journeys the following assumptions have been used:

- *The location and extent of the schemes has been defined using the provided concept drawings.*
- *Only car journeys which start and end within 1,000m of a public transport scheme are considered (for the Aylesbury Town Centre improvements* car *journeys which start or end within 1,000m of the scheme have been considered, to account for the likely wider impact that may be experienced).*
- *A total of 3% of all car journeys in the 2033 forecast which met the above criteria were assumed to switch from car to sustainable transport. This is in-line with the percentage reduction observed in the sustainable travel town's evidence base.*

A.1.3 Development scenarios

Overview

This section sets out the revisions made to the DS forecast scenario, in line with the updated land use information provided by BCC. For each development scenario, forecast housing and employment growth has been added to the existing 2013 base land use information to generate a new development quantum.

Development summary

The DM scenario remains unchanged from the previous phase of work; however, at the request of BCC and the districts the following amendments have been made to the DS forecast scenario for the four districts of Buckinghamshire.

[4] Department for Transport. 2010. The effects of Smarter Choice Programmes in the Sustainable Travel Towns: full report. https://www.gov.uk/government/publications/the-effects-of-smarter-choice-programmes-in-the-sustainable-travel-towns-full-report.

- Aylesbury Vale – A reduction in overall HELAA housing growth but the same level of job growth across the district.
- Chiltern and South Bucks – An increase in overall job growth to reflect the preferred greenbelt option, but the same level of housing growth across the two districts.
- Wycombe – An increase in both Local Plan housing and job growth across the district.

Table 6-E provides a summary of the DM land use assumptions and the absolute differences between the phase two and phase three employment and housing figures for the DS scenario. Further details of the total housing and employment figures can be found in sections 0 and 0.

Future scenario (2033)	Summary details
Do Minimum (DM) 'No development'	• Unchanged from phase two and comprised of: • 9,416 houses and 24,265 jobs in Aylesbury Vale; • 1,278 houses and 0 jobs in Chiltern; • 1,297 houses and 1,619 jobs in South Bucks; and • 2,180 houses and 6,011 jobs in Wycombe. • Total: 14,171 houses and 31,895 jobs.
Do Something (DS)	• As phase two but; • A reduction of 2,143 houses in Aylesbury Vale; • An additional 522 jobs in Chiltern; • An additional 2199 jobs in South Bucks; and • An additional 1,360 houses and 1,070 jobs in Wycombe district. • Total: 52, 373 houses and 48,624 jobs.

Table 6-E Revised forecast scenarios

Compared with phase two, there is a reduction of 783 houses and an increase of 3,791 jobs in the DS forecast scenarios, across the county. The reductions in housing in Aylesbury Vale (compared with the phase two work) offsets the increase observed in Wycombe. This leads to an overall housing reduction from the phase two figures, when compared across the county as a whole. Chiltern, South Bucks and Wycombe all experience an overall increase in jobs, leading to a net gain at the county level compared with phase two.

Figure 6-A and Figure 6-B illustrates the phase three DS housing and job growth by model zone, respectively.

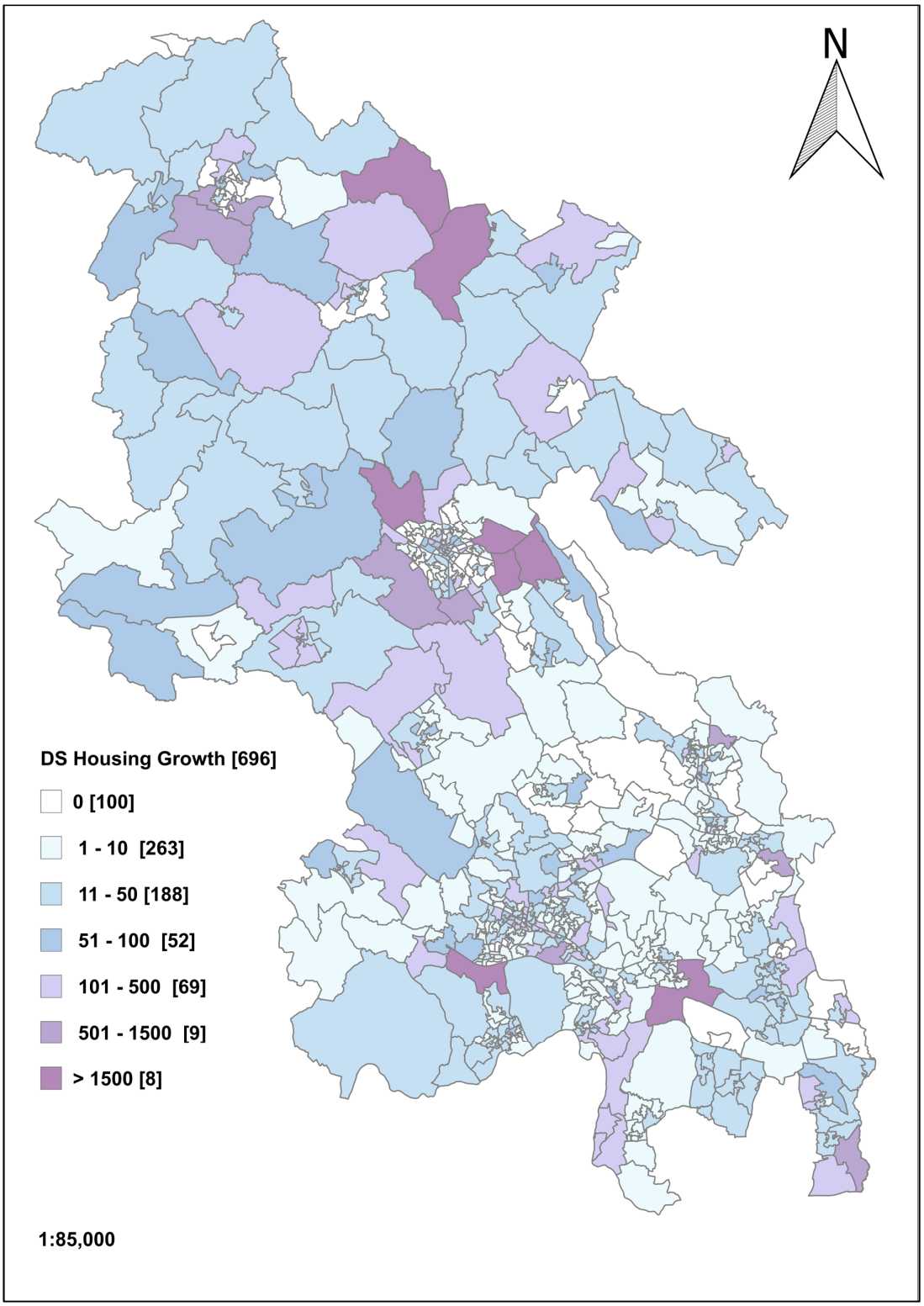


Figure 6-A DS housing growth (including DM) by model zone

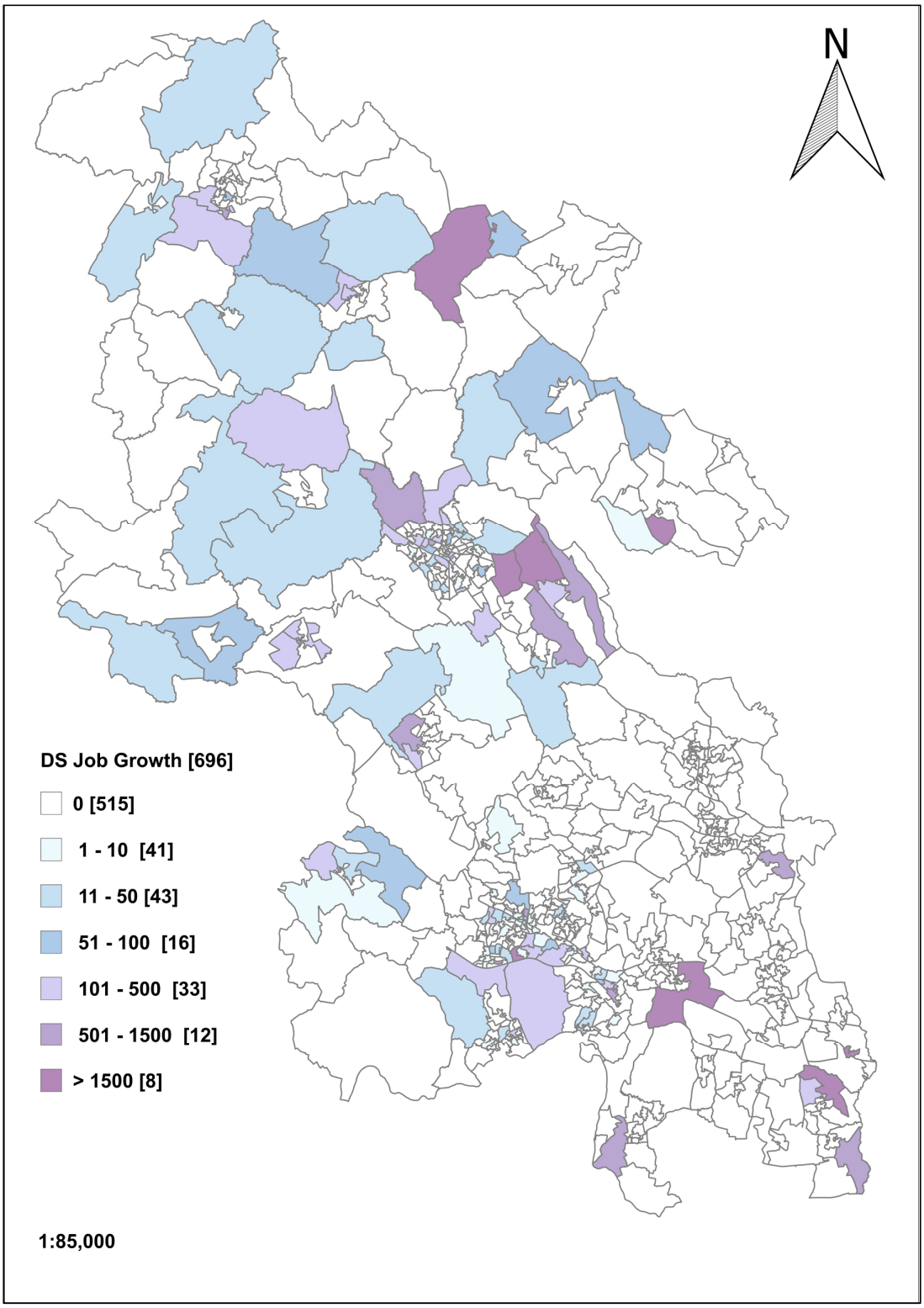


Figure 6-B DS jobs growth (including DM) by model zone

Do Something

Within the county the DS scenario contains the DM land use quantum plus the revised local plan development scenario for phase three. For all areas outside of Buckinghamshire, growth in employment and housing is consistent with NTEM levels of growth. Table 6-F provides a summary of the DS scenario.

Location	Totals
Aylesbury Vale District	• DM commitment plus 20,207 houses and 6,069 jobs
Chiltern District	• DM commitment plus 3,847 houses and 522 jobs
South Bucks District	• DM commitment plus 4,324 houses and 6,578 jobs
Wycombe District	• DM commitment plus 9,824 houses and 3,560 jobs
Outside of Buckinghamshire	• Capped to NTEM growth levels
Total within Buckinghamshire	• DM commitment plus 38,202 houses and 16,728 jobs

Table 6-F Do Something 3 growth

Revised forecast traffic growth

Table 6-G provides a summary of the changes in total trips for cars for each district in DS scenario between phase two and phase three as a percentage.

District	AM peak trip change		IP trip change		PM peak trip change	
	Origin	Destination	Origin	Destination	Origin	Destination
Aylesbury Vale	-3%	-2%	-4%	-5%	-2%	-3%
Chiltern	0%	1%	0%	0%	1%	0%
South Bucks	2%	5%	4%	4%	5%	3%
Wycombe	1%	1%	1%	1%	2%	1%

Table 6-G Change in Car total trip ends from phase two DS scenario to the phase 3 DS scenario

As a result of the revised land use information and changes to trip generation included in phase two, the total trip generation has fallen in Aylesbury Vale but increased in the other three districts, compared with the previous phase of work. This reflects the land use changes described in Table 6-E.

Comparison with NTEM

Table 6-H provides a summary of the total household and job growth for the 2033 forecast scenario. The table also includes NTEM growth figures for the period 2013 to 2033, from version 6.2 of the dataset, for comparative purposes.

Consistency with NTEM growth figures is a requirement for all WebTAG compliant models to be used for major scheme business cases. However, because the purpose of this modelling is for a local plan assessment rather than a business case, it is not necessary to constrain growth to NTEM. Indeed, because the local plan growth is generally in excess of NTEM levels (particularly in South Bucks), it was decided that capping to NTEM growth would not be appropriate.

Nonetheless, a comparison of the model against NTEM is useful as it helps to identify the scale of difference between NTEM and the local plan assumptions, and thereby understand how the districts' local plan growth differs from the levels of growth mandated by the Department for Transport for use in transport scheme business cases. As can be seen from the below table, the level of growth in houses and jobs in the DS forecast

scenario is higher than NTEM growth levels for the same period overall. However, NTEM provides a higher number of households for Aylesbury Vale, and higher number of jobs for Chiltern and Wycombe than the DS growth figures. The amount of jobs growth assumed as a whole for the DS scenario represents a 'worst case' for traffic impacts in that they represent the maximum possible amount of anticipated employment growth

District	NTEM		DM		DS	
	HH	Jobs	HH	Jobs	HH	Jobs
Aylesbury Vale	32,243	11,172	9,416	24,265	29,623	30,334
Chiltern	4,549	3,297	1,278	0	5,125	522
South Bucks	924	2,497	1,297	1,619	5,621	8,197
Wycombe	7,289	14,683	2,180	6,011	12,004	9,571
Total	**45,004**	**31,649**	**14,171**	**31,895**	**52,373**	**48,624**

Table 6-H 2033 modelled scenario growth and NTEM growth

A.1.4 Mitigation options

Overview

This section describes the development of the mitigation scenarios and the selection of the schemes tested. Table 6-I presents the final mitigation options included in each run of the mitigation model.

Option generation

As part of the phase two work, a long list of schemes was put together by BCC in collaboration with the districts. This included a variety of highway improvements (upgraded roads, junction improvements, relief roads etc.) and an assortment of public transport schemes with the aim of encouraging a mode shift from car to sustainable transport (upgraded bus and rail facilities, improvements to the cycling network, public transport initiatives etc.).

The options were designed to address strategic issues identified in the phase two modelling, as well as concerns of a more localised nature, tackling areas and facilities that could be enhanced and developed in order to reduce congestion and delay arising from the additional housing and employment developments across the county.

In addition, several new schemes were also added to the long list for the phase three work which weren't considered for phase two, as at that stage there was not enough information available to model the schemes. These schemes include Iver Relief Road and Queensway Link.

Option sifting

A workshop was held with BCC and the districts during phase two to sift schemes from the long list. A number of these schemes were aspirational in nature with minimal scheme development or design, and as a result were excluded from the final short list of mitigations. The schemes that were shortlisted were then assessed as part of the phase two work to understand the effect that they may have in regards to alleviating the impacts of the proposed housing and employment sites. It should be noted that a number of these schemes are still at the concept stage and would require significant additional work to develop into deliverable schemes.

The list of mitigation options previously shortlisted for the Countywide Local Plan forecasting Phase 2 work was carried over for this phase of the work. However, in some cases mitigation measures were not included due to changes in the development scenario e.g. mitigation measures linked to the new settlements at Haddenham or Winslow were excluded as these proposals were no longer part of the development scenario for Phase 3. In a

few cases new mitigation measures were added, although these, on the whole, reflected the results of more detailed Local Plan modelling undertaken for Chiltern and South Bucks and for Wycombe District Councils.

For phase three, BCC requested that two separate mitigation scenarios be developed, referred to as run 1 and run 2. The mitigation measures vary between each of the runs in Aylesbury Vale and Chiltern and South Bucks districts to enable a comparison between the different effects of combinations of mitigation measures.

The mitigation schemes included for phase two (and generated for phase three) have been reviewed in collaboration with BCC and the districts, and a number of the schemes have been selected to be tested in run 1 and run 2 of the mitigation scenarios.

Options for appraisal

Table 6-I outlines each mitigation option taken forward for appraisal in each mitigation scenario after the sifting process was completed. Table 6-J summarises the main differences between the two mitigation scenarios by district.

District	Scheme name	Scheme description	Run 1	Run 2
Aylesbury Vale	North-East Link Road (NELR)	This scheme consists of a new east-west single carriageway link road to the north-east of Aylesbury, between the A413 and A418.	No	Yes
	Eastern Link Road (South)	The southern section of the Eastern Link Road will complete a new north-south, single carriageway road between the A418 Aylesbury Road and A41 Aston Clinton Road, to the east of Aylesbury. The scheme will provide access to the Woodlands Development, and will include an upgraded A41 Roundabout.	Yes	Yes
	Southern Link Road (upgrade)	The Southern Link Road between the A41 Aston Clinton Road and A413 Wendover Road is already included in the without mitigation scenarios. However as a mitigation option, this scheme was upgraded to dual carriageway standard, and includes a new roundabout and left-in left-out access junction.	Yes	Yes
	Stoke Mandeville Bypass Extension	This scheme seeks to extend the planned Stoke Mandeville bypass (A4010 realignment) with a new single carriageway road to meet the Southern Link Road at the A413 Wendover Road.	Yes	Yes
	South Western Link Road	The South Western Link Road scheme will connect the A418 Oxford Road to the planned realigned A4010 (Stoke Mandeville bypass) with a new single carriageway road. It will include a new roundabout on the new Stoke Mandeville bypass and a new entry to the A418 roundabout.	No	Yes
	Western Link Road	This scheme consists of a new NW-SE single carriageway link road to the west of Aylesbury linking the A418 and A41 at Fleet Marston, west of the A41 Berryfields junction. This scheme will finish a complete orbital of Aylesbury.	No	Yes
	A41 Berryfields Junction	Signal timing optimisation has been carried out to better accommodate demand at this junction.	No	Yes

District	Scheme name	Scheme description	Run 1	Run 2
	Willows Capacity Reduction	The scheme tests a reduction in capacity on the Willows to encourage traffic to use the A41 at Berryfields.	**No**	**Yes**
	A41 Bicester Road PPTC	The scheme includes implementing bus priority measures (e.g. bus lanes and priority at traffic lights). The improvement will aim to significantly improve journey time reliability and increase the public transport mode share.	**Yes**	**Yes**
	A41 Tring Road PPTC Improvements	The scheme includes implementing bus priority measures (e.g. bus lanes and priority at traffic lights). The improvement will aim to significantly improve journey time reliability and increase the public transport mode share.	**Yes**	**Yes**
	Stoke Road Signalised Junction	Signal timing optimisation has been carried out to better accommodate demand at this junction.	**Yes**	**Yes**
	Traffic calming between A418 and Stoke Mandeville	Traffic calming on Prebendal Avenue to reduce rat-running between A418 and Stoke Road.	**Yes**	**Yes**
	A413 Buckingham Road Improvements	This scheme seeks to improve the approach to the Horse and Jockey junction by dualling the route and optimising the signals at the junction to reduce the level of queuing on the A413 Buckingham Road. The junction with Oliffe Way has also been upgraded to a priority junction.	**No**	**Yes**
	Aylesbury Town Centre Pedestrian Network Improvements	This improvement aims to increase safety and enhance the public realm in Aylesbury Town Centre.	**Yes**	**Yes**
	Grand Union Triangle	This scheme is designed to provide cost-effective off-road walking and cycling routes in an area of major growth. The project includes improving existing towpaths, the upgrade of a public footpath to a bridleway and then implementation of connecting routes and some small scale improvements.	**Yes**	**Yes**
	Buckingham Western Link	This scheme includes a new link road between the A421 and A422.	**No**	**Yes**
	Buckingham Area Transport Strategy	Three separate mitigations have been included as part of the transport strategy. • Route downgrade between High St and West St to reduce traffic flows through the town centre • Additional left turn slip at the A422 Stratford Rd/ A413 roundabout • Route upgrade on the A421 and A413 to dual – 2 lane standard	**No**	**Yes**
	A421 Roundabout Capacity Improvements	Capacity improvements at the London Rd/ A421 Rbt and Gawcott Rd/ A421 Rbt to increase capacity.	**Yes**	**No**
	A421 Corridor Capacity Improvements	A421 route upgrade to dual-2 lane standard between Buckingham and Milton Keynes.	**No**	**Yes**

District	Scheme name	Scheme description	Run 1	Run 2
	New Grid Road in Milton Keynes	This scheme will implement a new grid road to the A421 adjacent to the V1 to discourage rat running through Whaddon.	**Yes**	**Yes**
	Bletchley By-Pass	This scheme consists of a new single-carriageway road joining the A421 and A4146 South West of Bletchley.	**Yes**	**No**
Wycombe	Princes Risborough Infrastructure Package	This package includes two separate improvements. The first is a road to the west of the existing A4010. Alignment option 11b has been included in the model in this case. The second includes a number of improvements to the A4010 including traffic calming and the introduction of a number mini-roundabouts.	**Yes**	**Yes**
	Daws Hill - Sports Centre Public Transport Bus Link	This scheme involves upgrading the school drop off area and a new public transport route with improved frequencies.	**Yes**	**Yes**
	Heath End Road / Abbey Barn Lane Junction Improvements	This scheme includes relocating and replacing the current junction with a roundabout to the west.	**Yes**	**Yes**
	A404/A4155 Westhorpe junction Improvements	This project will support the development of an integrated package of measures to improve junction capacity at the Westhorpe junction. In this case it includes measures to improve capacity on the northbound exit slips of the A404 only.	**Yes**	**Yes**
	A40 corridor improvement	This includes a number of separate mitigations to improve traffic conditions on the A40 through High Wycombe (excludes Genoa Link).	**Yes**	**Yes**
	Gomm Valley Spine Road	This scheme includes a new link road to the east of High Wycombe, associated with the Gomm Valley development.	**Yes**	**Yes**
	PPTC: Desborough Avenue / A404 Marlow Hill	The scheme includes implementing bus priority measures (e.g. bus lanes and priority at traffic lights). The improvement will aim to improve journey time reliability and increase the public transport mode share.	**Yes**	**Yes**
	Wycombe Bus Station Upgrade	Improvements to Wycombe Bus Station to improve the service provided.	**Yes**	**Yes**
	Holland Farm Spine Road	This scheme involves the introduction of a single carriageway spine road through the Holland Farm development from Hedsor Road to Princes Road.	**Yes**	**Yes**
	New Link at Queensway	Adds a new link road to the north-east of the Hazelmere Crossroads to alleviate congestion at the junction.	**Yes**	**Yes**

District	Scheme name	Scheme description	Run 1	Run 2
Chiltern and South Bucks	Gore Hill Roundabout Improvements	Capacity improvements at the junction to reducing queueing.	No	Yes
	A416 congestion management corridor	A series of new signalised junctions through Chesham to improve signal coordination through the town centre.	No	Yes
	Berry Hill Junction Improvements	This scheme includes signal optimisation, an additional eastbound traffic lane on Bath Road and a right turn ban into Berry Hill.	No	Yes
	A412 Improvement	This scheme aims to improve the geometry and lines of sight at the A412 Five Points roundabout through widening and partly signalising the junction.	Yes	Yes
	Beaconsfield Transport Strategy	This scheme includes traffic calming on several roads in Beaconsfield including Wattleton Road, Burkes Lane, Holtspur Top Lane, Gregories Road and Candlemass Lane. It also includes a ban of right turns at the A40/ Broad Lane junction.	Yes	Yes
	A412/ Bangors Road North Capacity Improvements	Capacity improvements including widening to two lanes to reduce queuing on the northbound approach.	No	Yes
	Land North of Denham Rbt	This scheme moves the site access for the Land North of Denham Roundabout from Priory Close to Denham Court Drive to alleviate congestion at Denham Rbt.	Yes	Yes
	Iver Relief Road	This scheme adds a new relief road between Thorney Lane South to Mansion Lane to provide an alternate route for HGVs currently using Iver High Street.	No	Yes

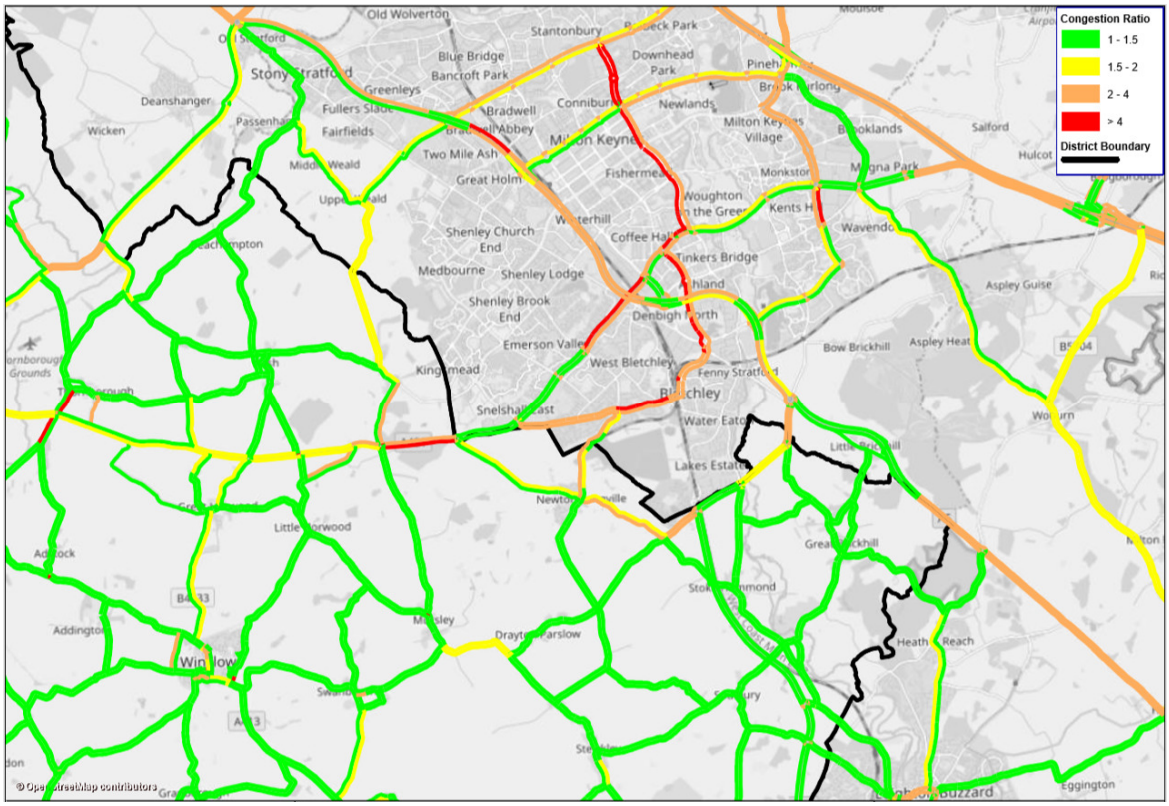
Table 6-I List of options to include in the DS with mitigation forecast scenarios

District	Run 1	Run 2
Aylesbury Vale	**Aylesbury** Run1 includes the majority of schemes with the exception of the link roads to the north and west, improvements at the A41 Berryfields junction and on the A413. **Buckingham/ Milton Keynes** Run 1 does not include any schemes in Buckingham except the A421 roundabout improvements but includes the Bletchley Bypass.	**Aylesbury** Run 2 includes the complete circle of link roads as well as the improvements at the A41 Berryfields Junction and on the A413. **Buckingham/ Milton Keynes** Run 2 includes the majority of mitigation schemes in Buckingham but excludes the Bletchley Bypass and A421 roundabout improvements and instead includes dualling the A421 between Buckingham and Milton Keynes instead.
Wycombe	All mitigations schemes are included in both runs.	All mitigations schemes are included in both runs.
Chiltern and South Bucks	Run 1 of the mitigation includes the 5 Point Roundabout improvements, Beaconsfield Transport Strategy and the relocation of the site access for the Land North of Denham Roundabout.	Run 2 includes all schemes from run 1 plus the Iver Relief Road, Bangors Road North improvements, Chesham congestion management corridor, Berry Hill junction improvements and the Gore Hill Roundabout improvements.

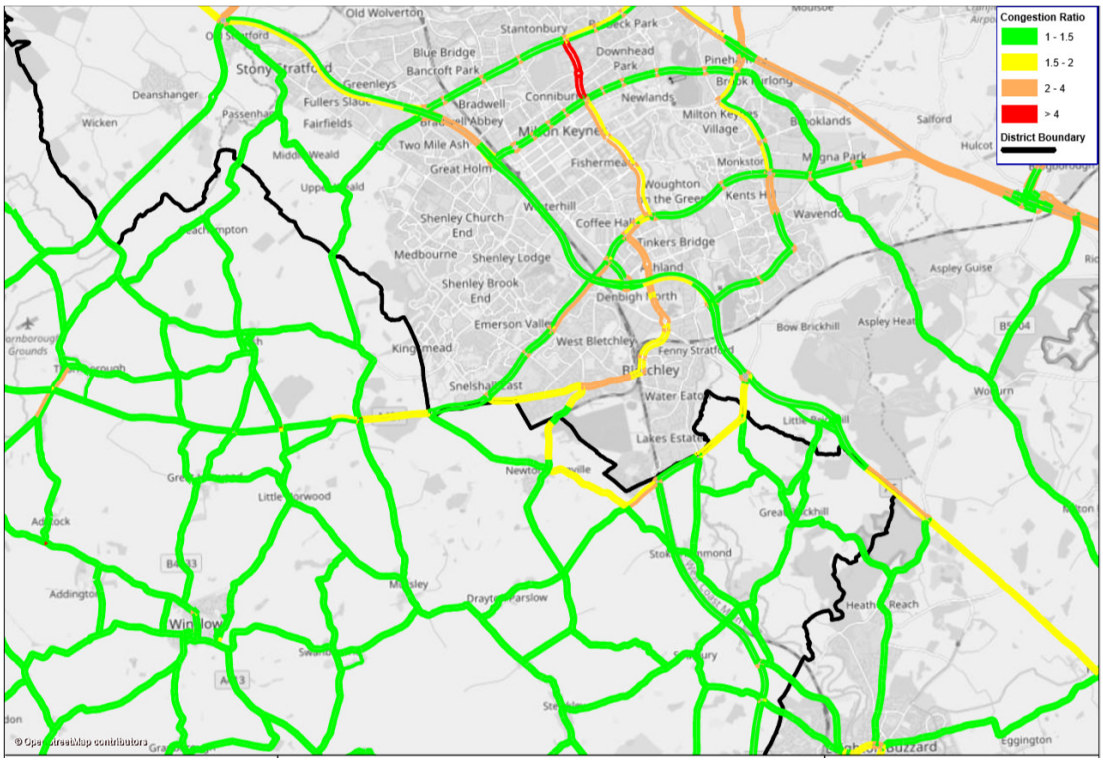
Table 6-J Summary of mitigation schemes included in each mitigation forecast scenario

Appendix B. Congestion Ratio Plots

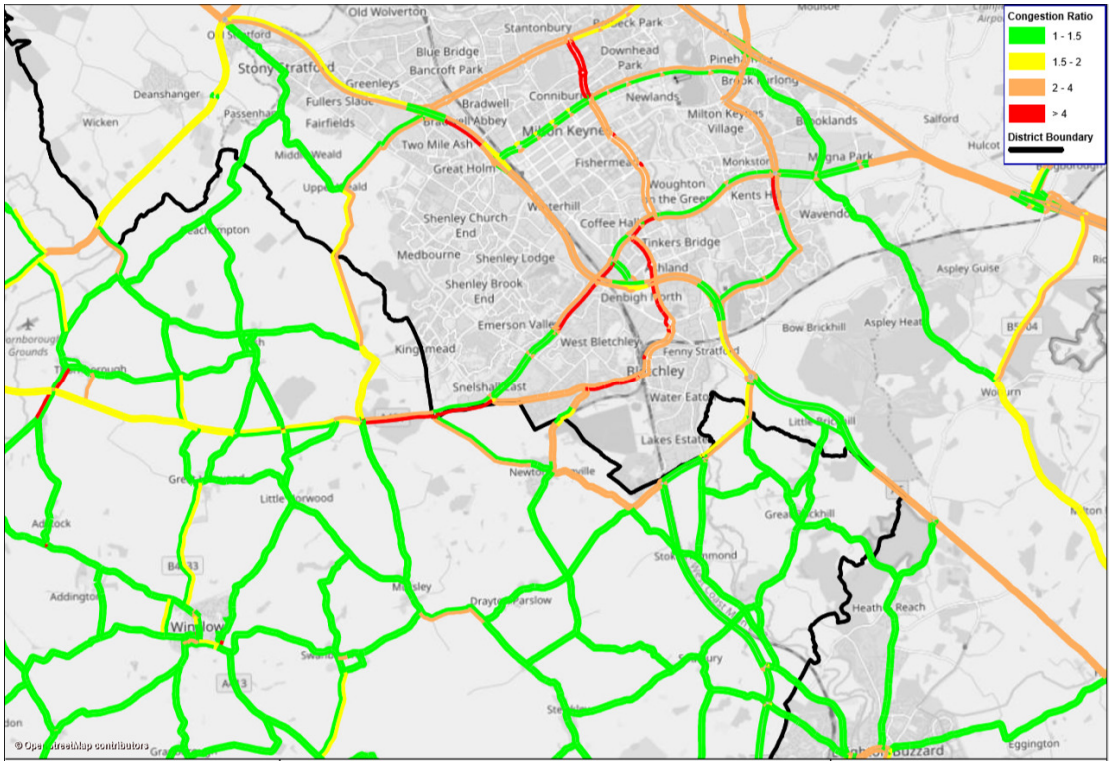
B.1 DM Congestion Ratio Plots



Congestion Ratio DM AM



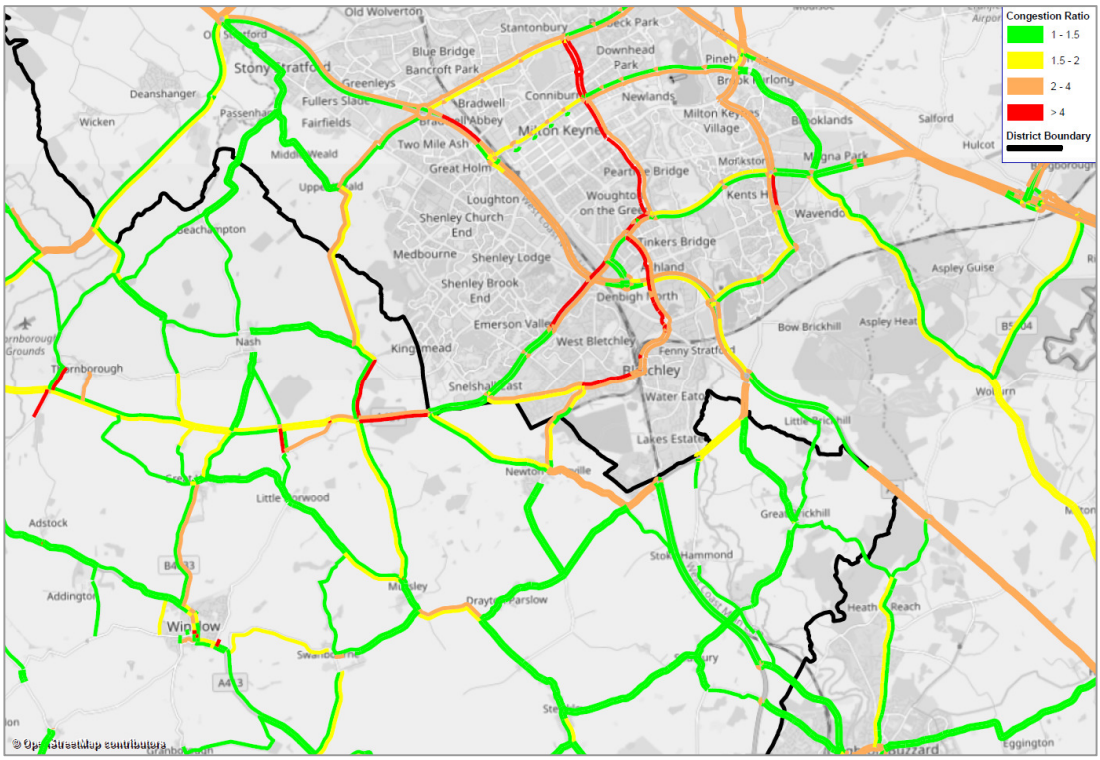
Congestion Ratio DM IP



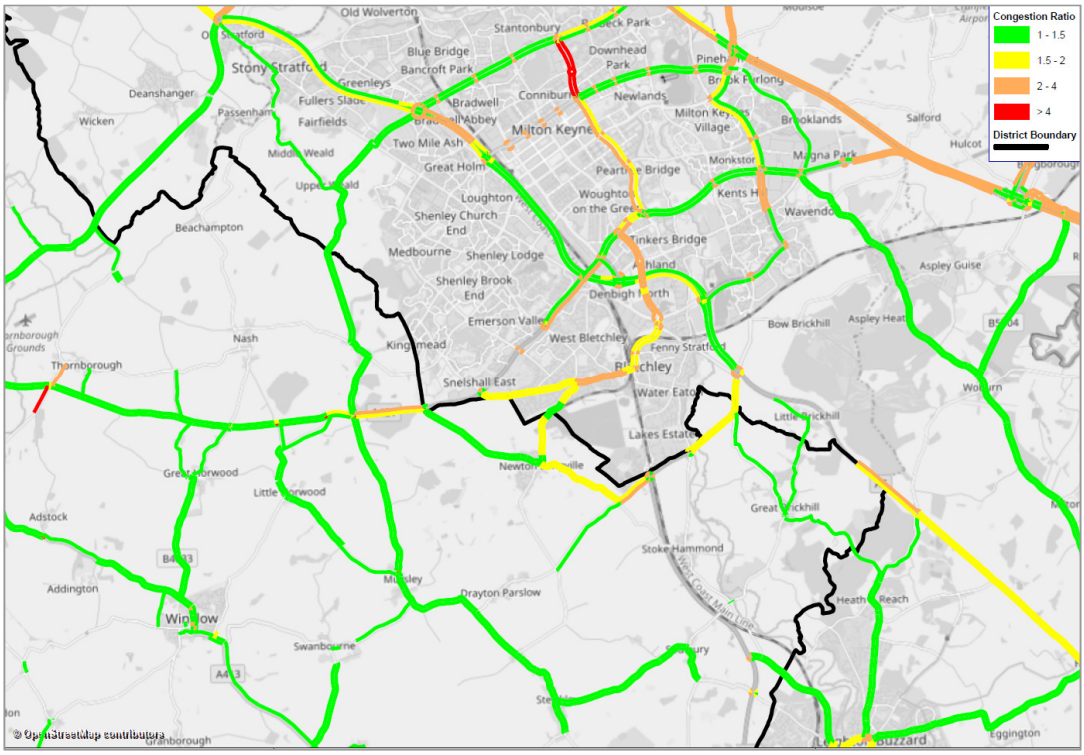
Congestion Ratio DM PM

B.2 DS Congestion Ratio Plots

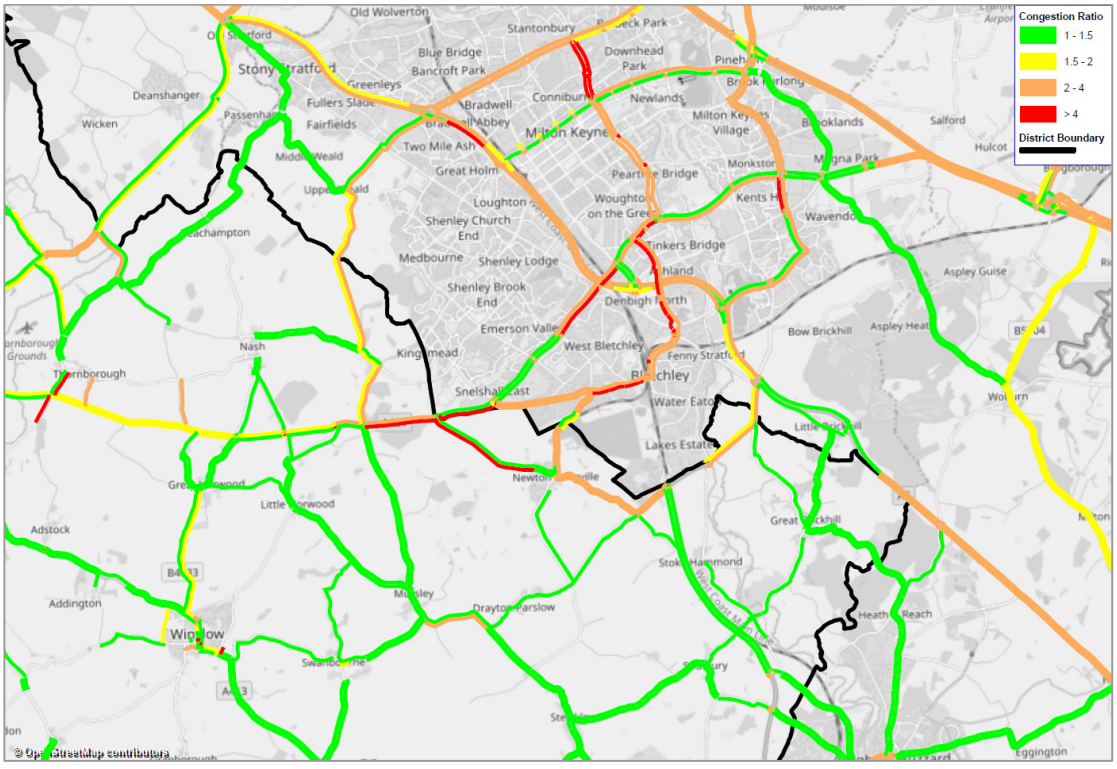
B.2.1 DS



Congestion Ratio DS AM

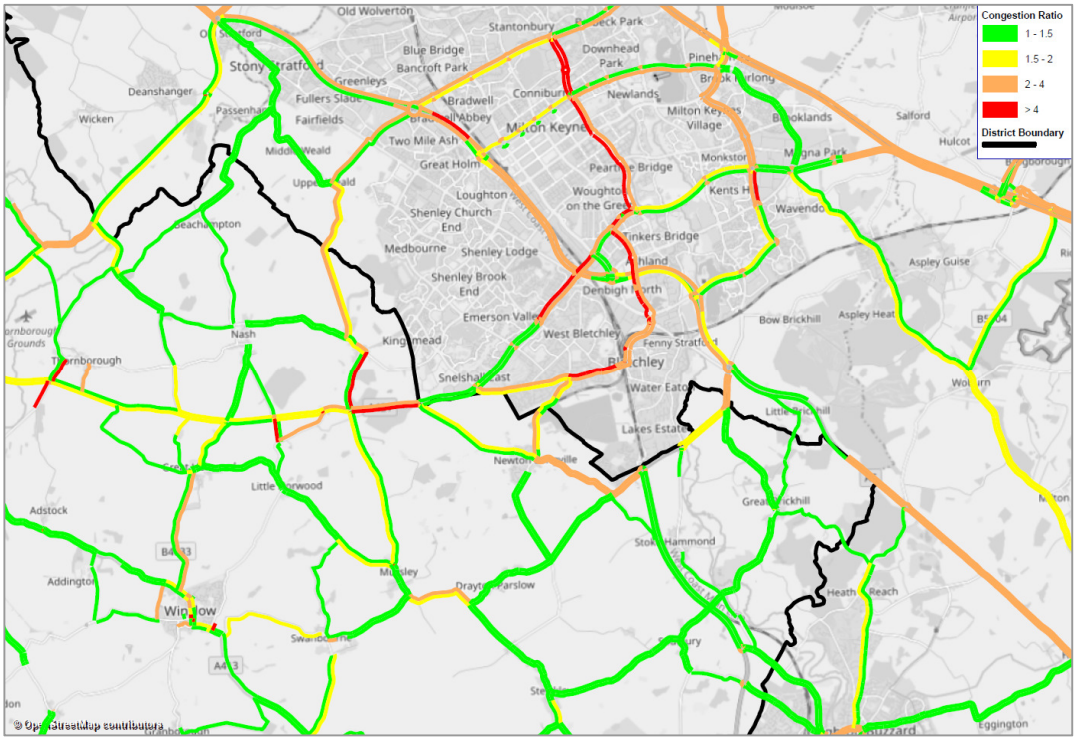


Congestion Ratio DS IP

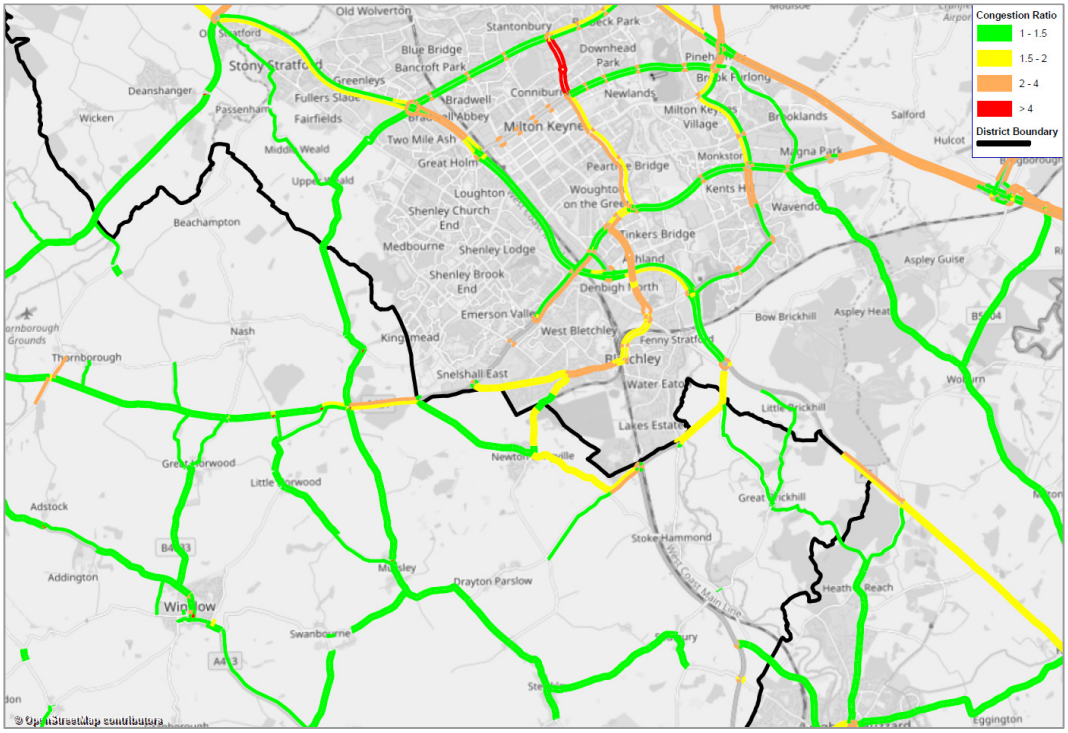


Congestion Ratio DS PM

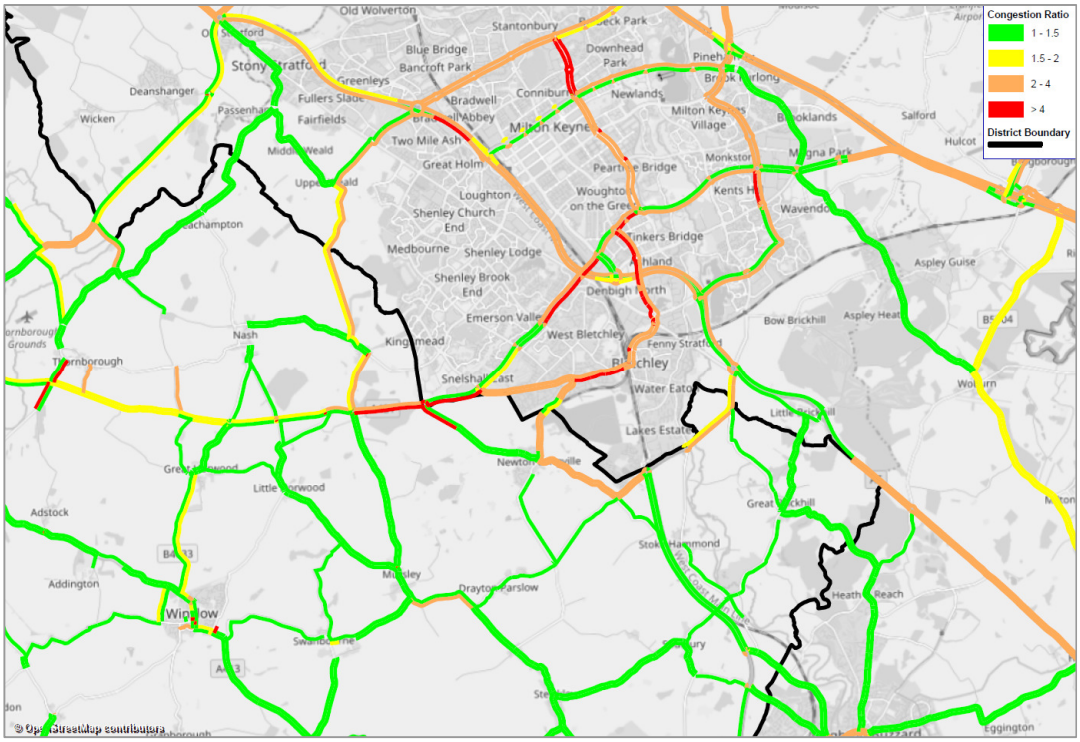
B.2.2 DS1



Congestion Ratio DS1 AM

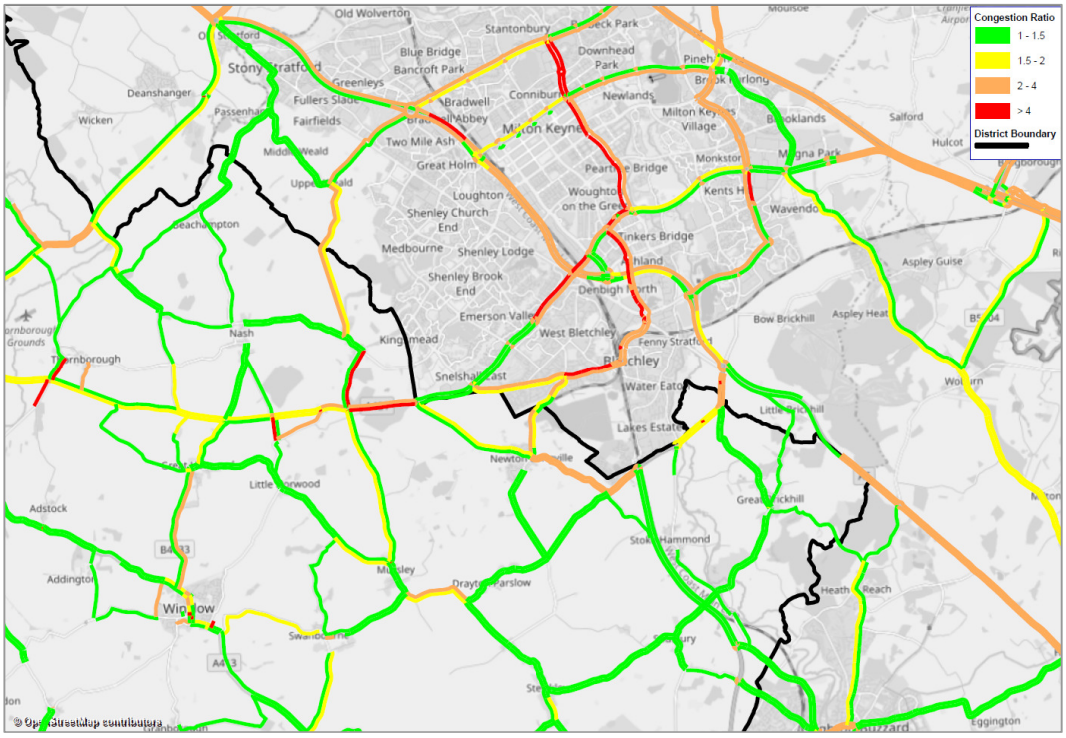


Congestion Ratio DS1 IP

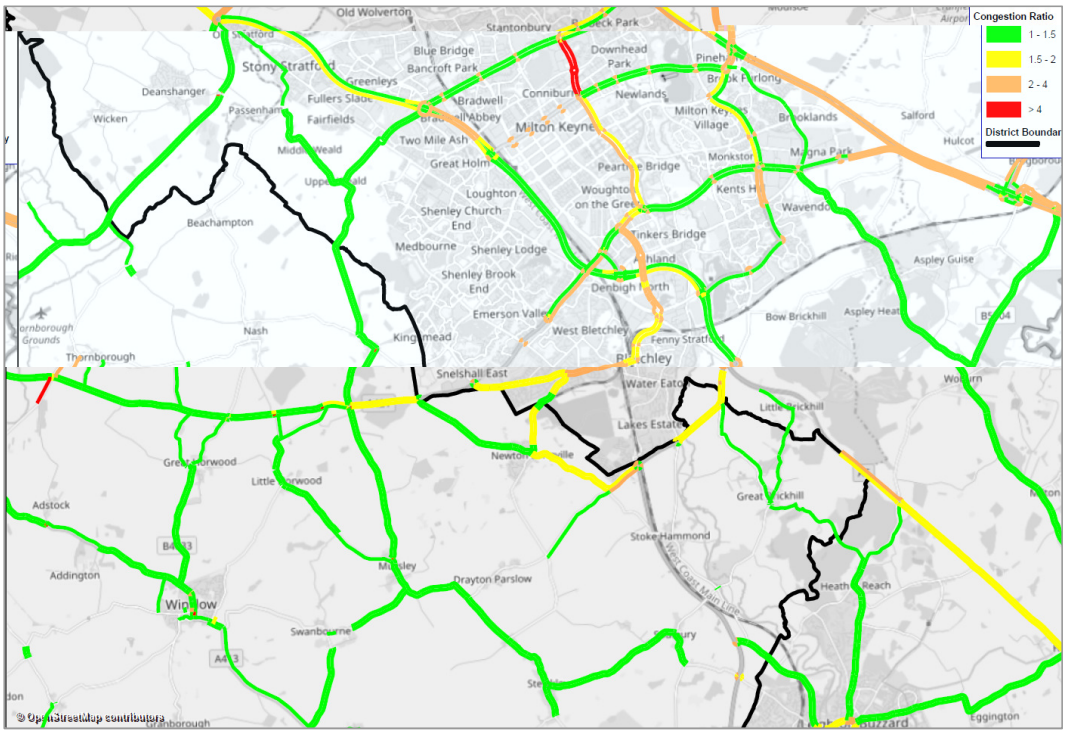


Congestion Ratio DS1 PM

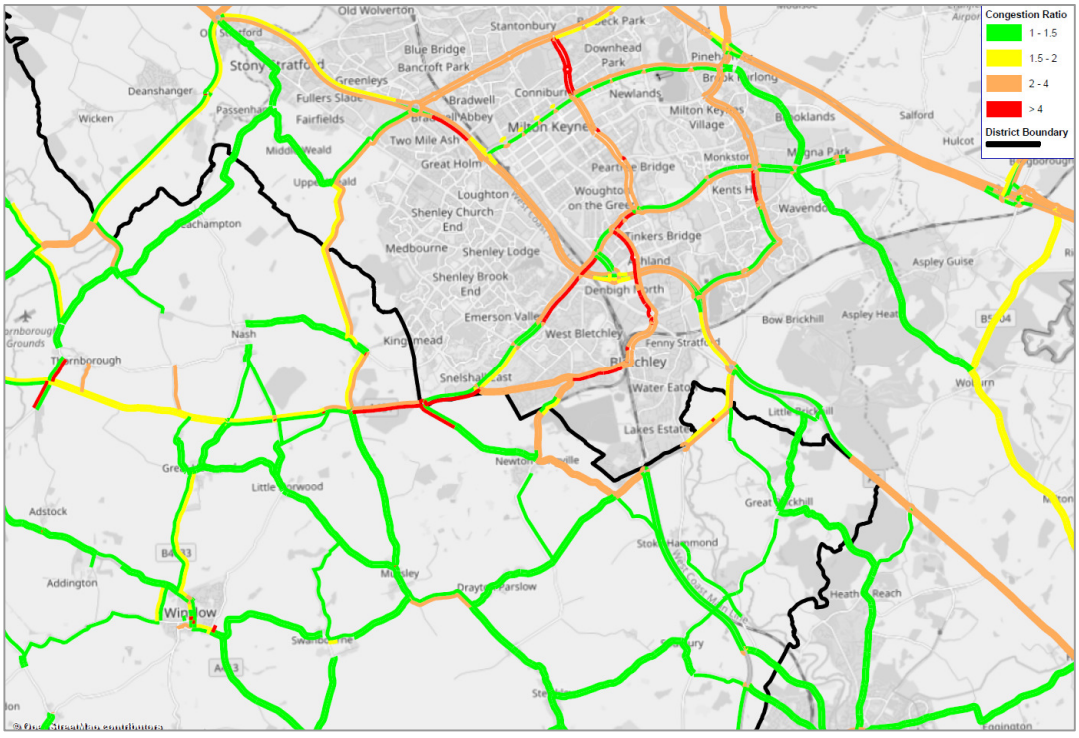
B.2.3 DS2



Congestion Ratio DS2 AM

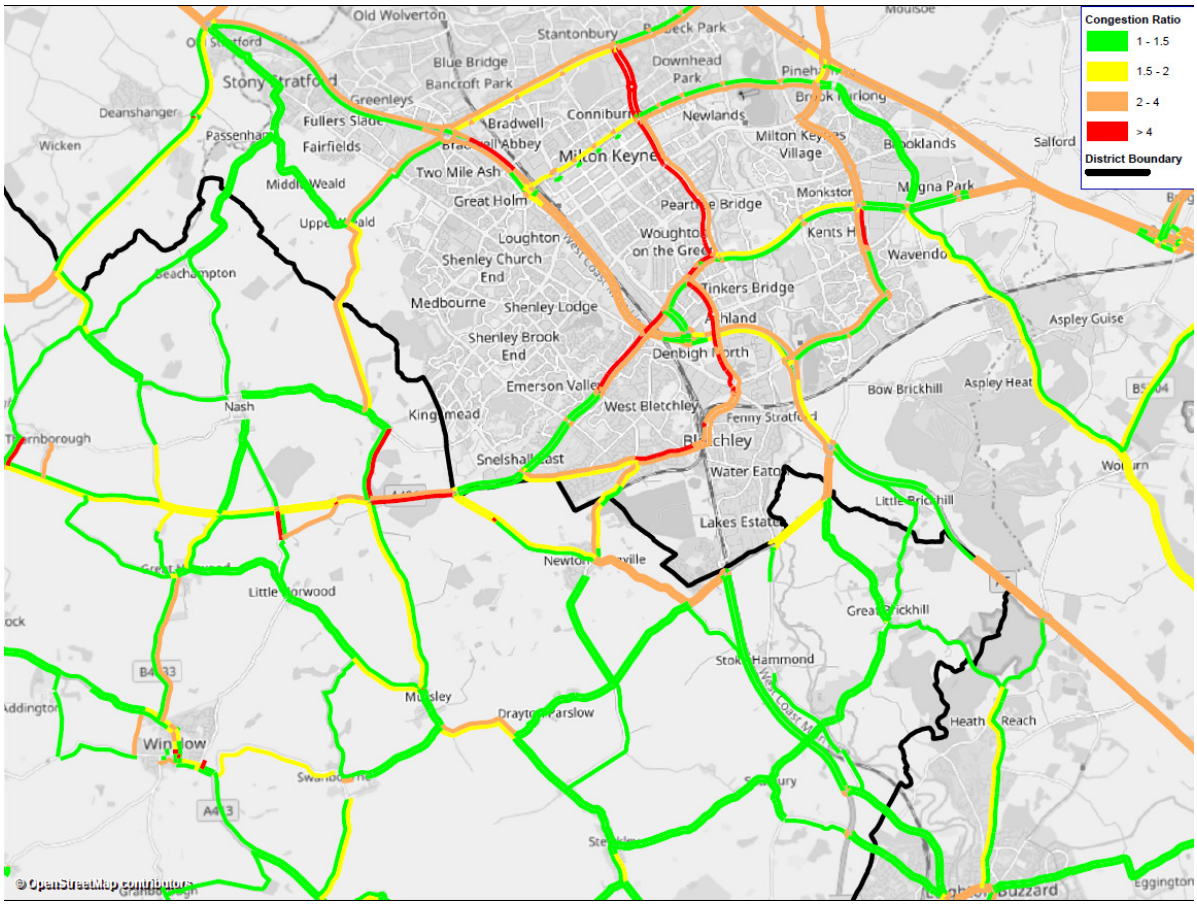


Congestion Ratio DS2 IP

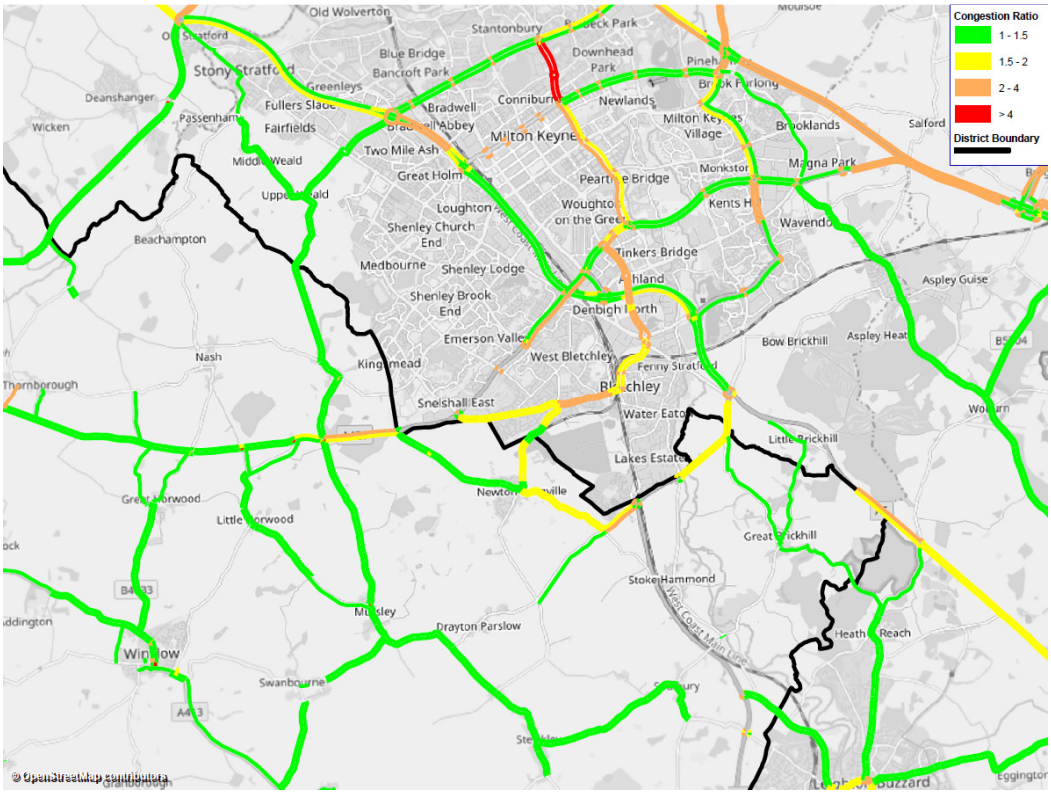


Congestion Ratio DS2 PM

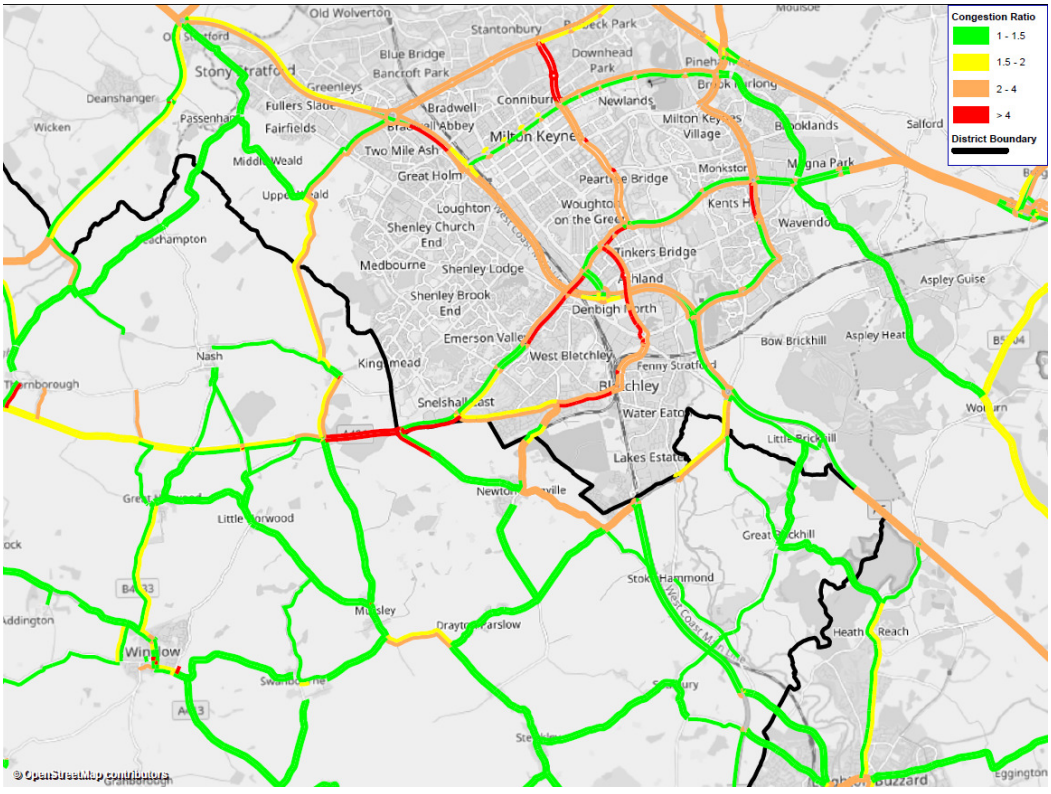
B.2.4 DS3



Congestion Ratio DS3 AM

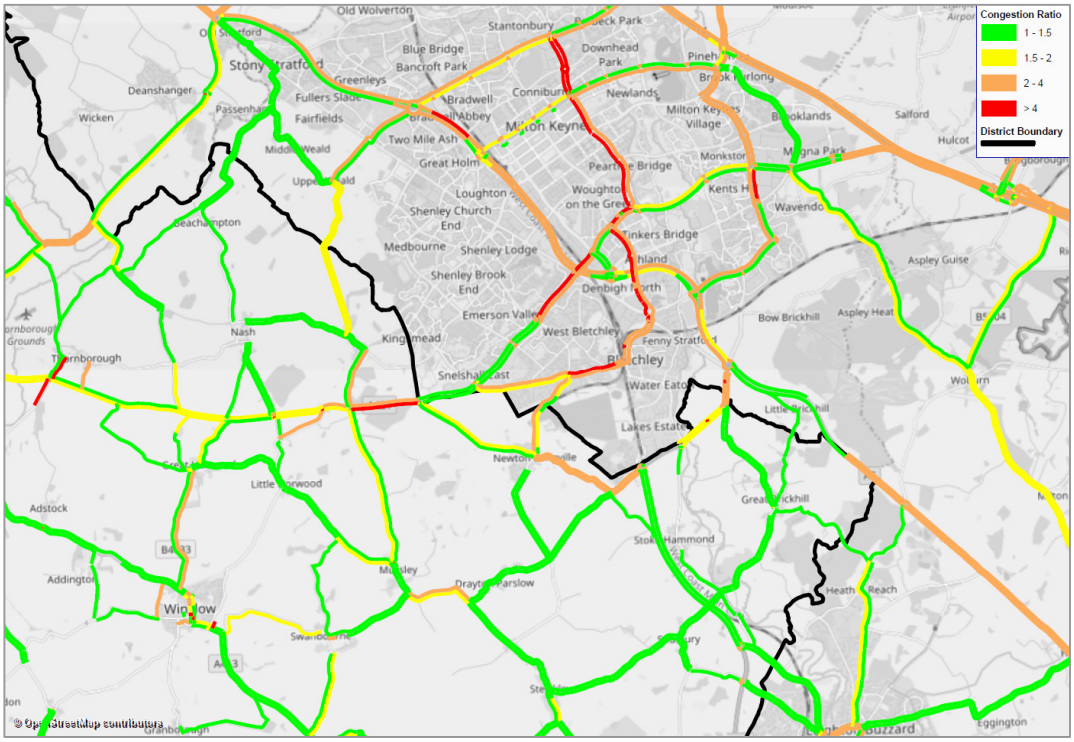


Congestion Ratio DS3 IP

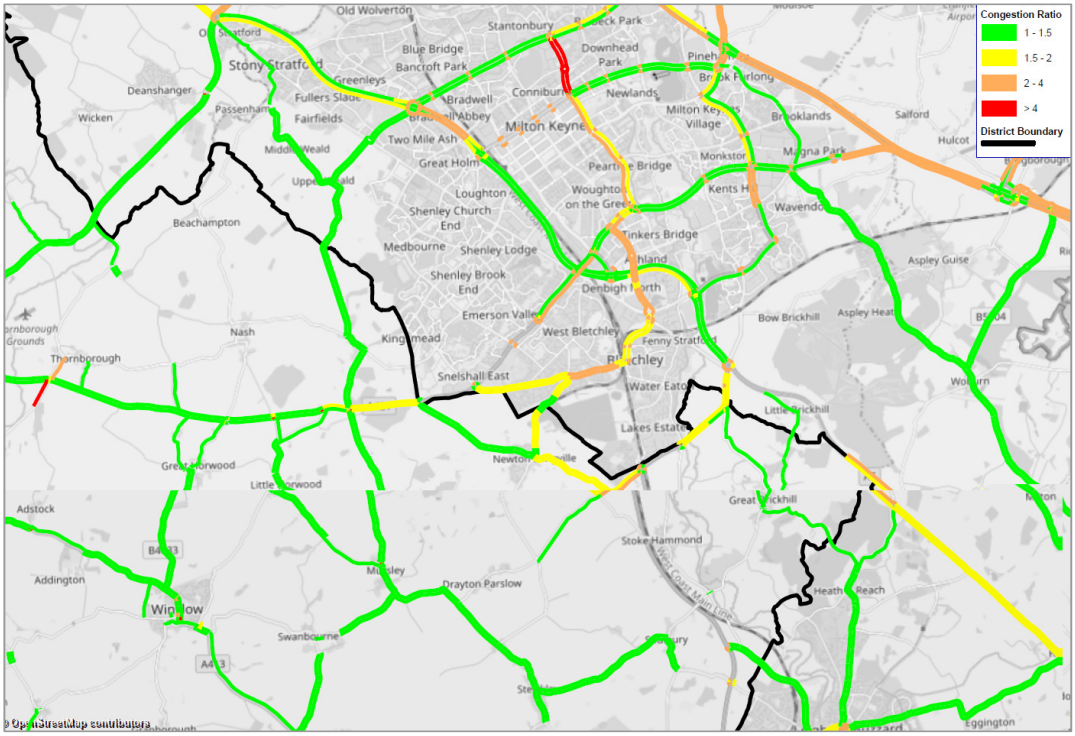


Congestion Ratio DS3 PM

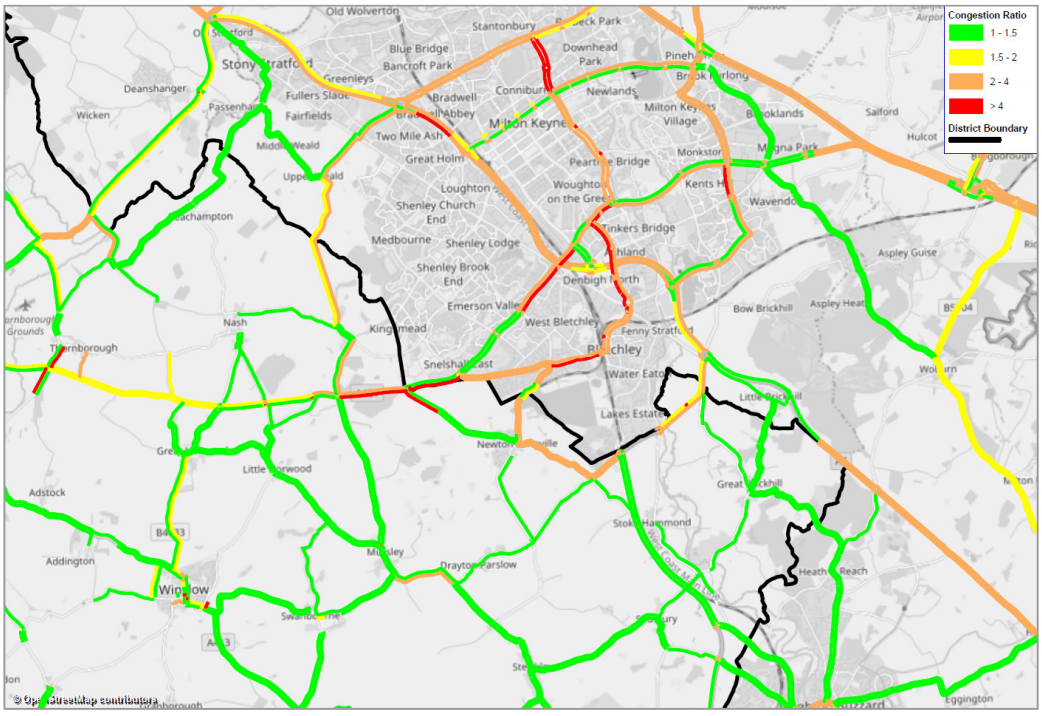
B.2.5 DS4



Congestion Ratio DS4 AM

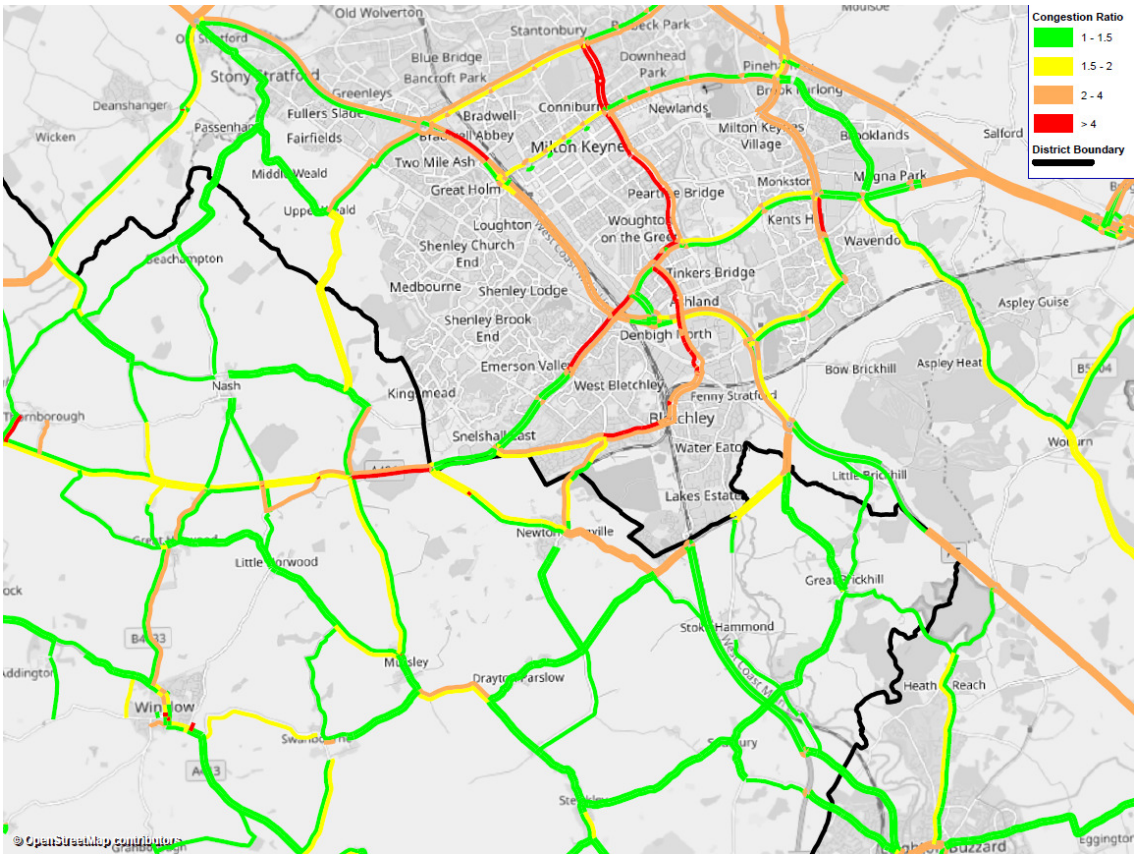


Congestion Ratio DS4 IP

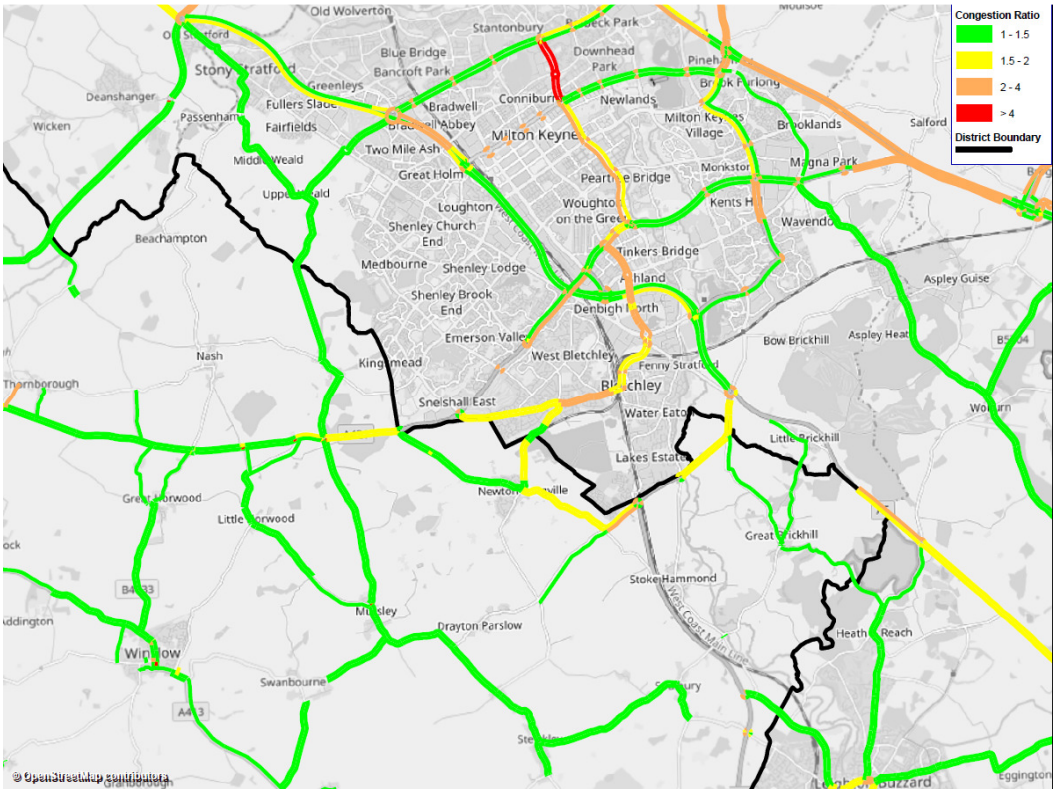


Congestion Ratio DS4 PM

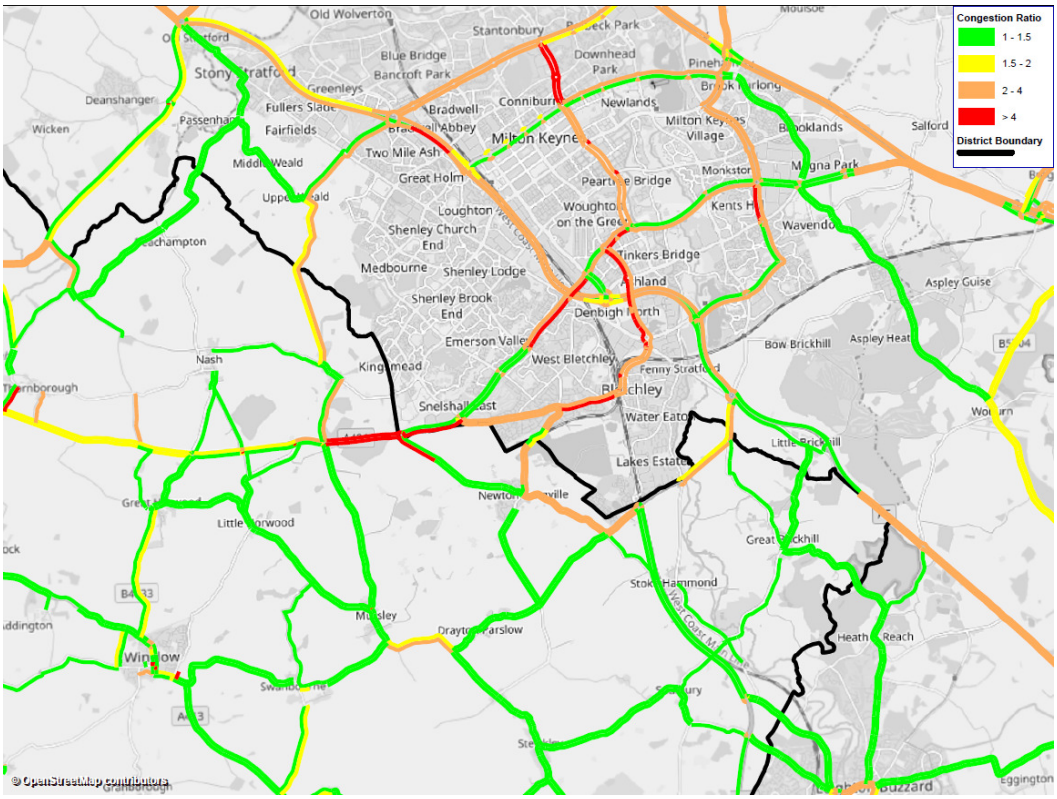
B.2.6 DS5



Congestion Ratio DS5 AM



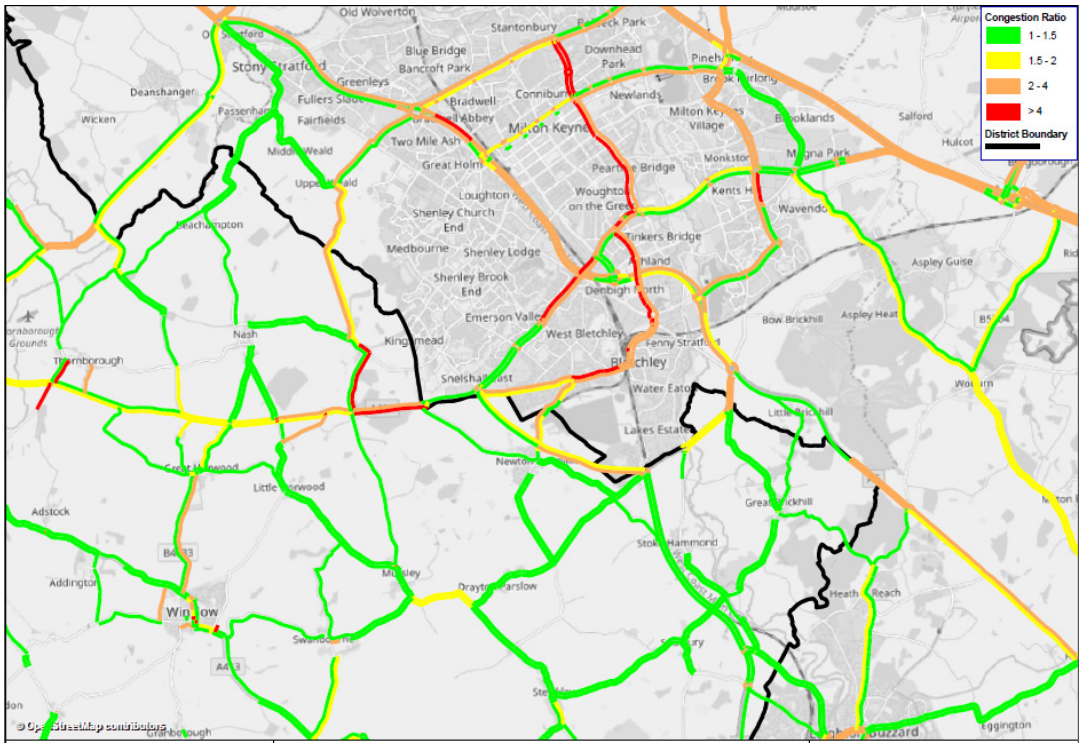
Congestion Ratio DS5 IP



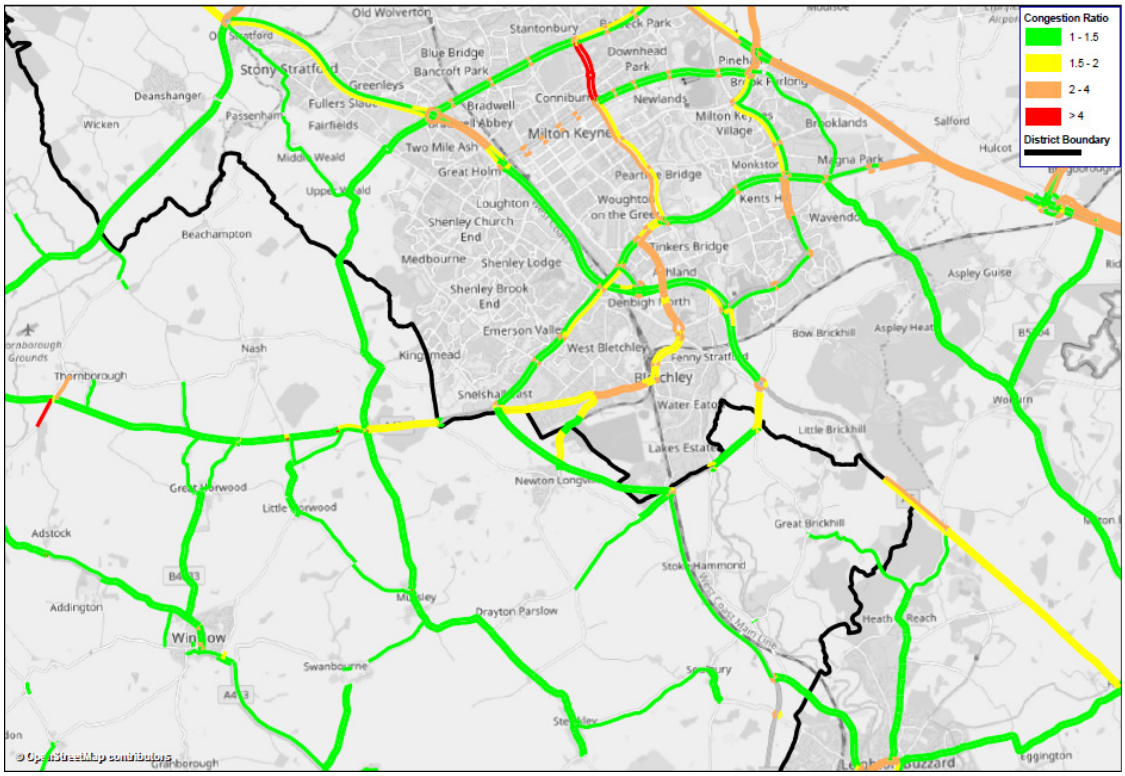
Congestion Ratio DS5 PM

B.3 DS Mitigation Congestion Ratio Plots

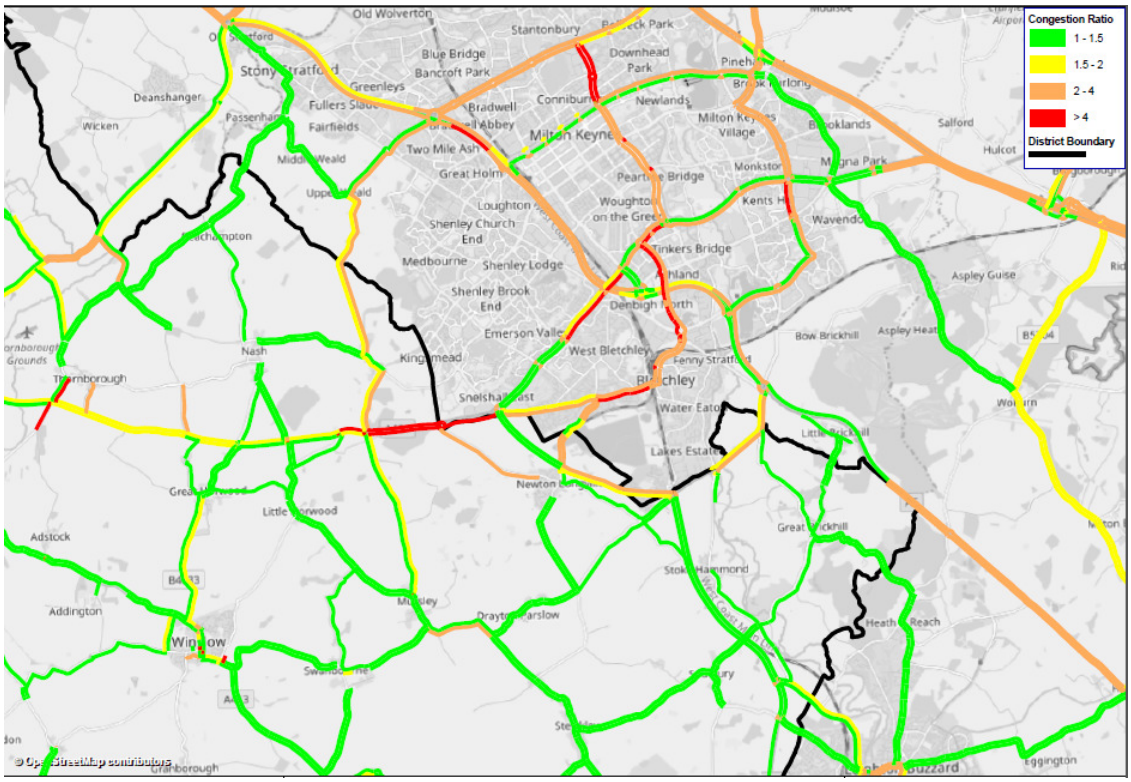
B.3.1 DS



Congestion Ratio DS Mitigation AM

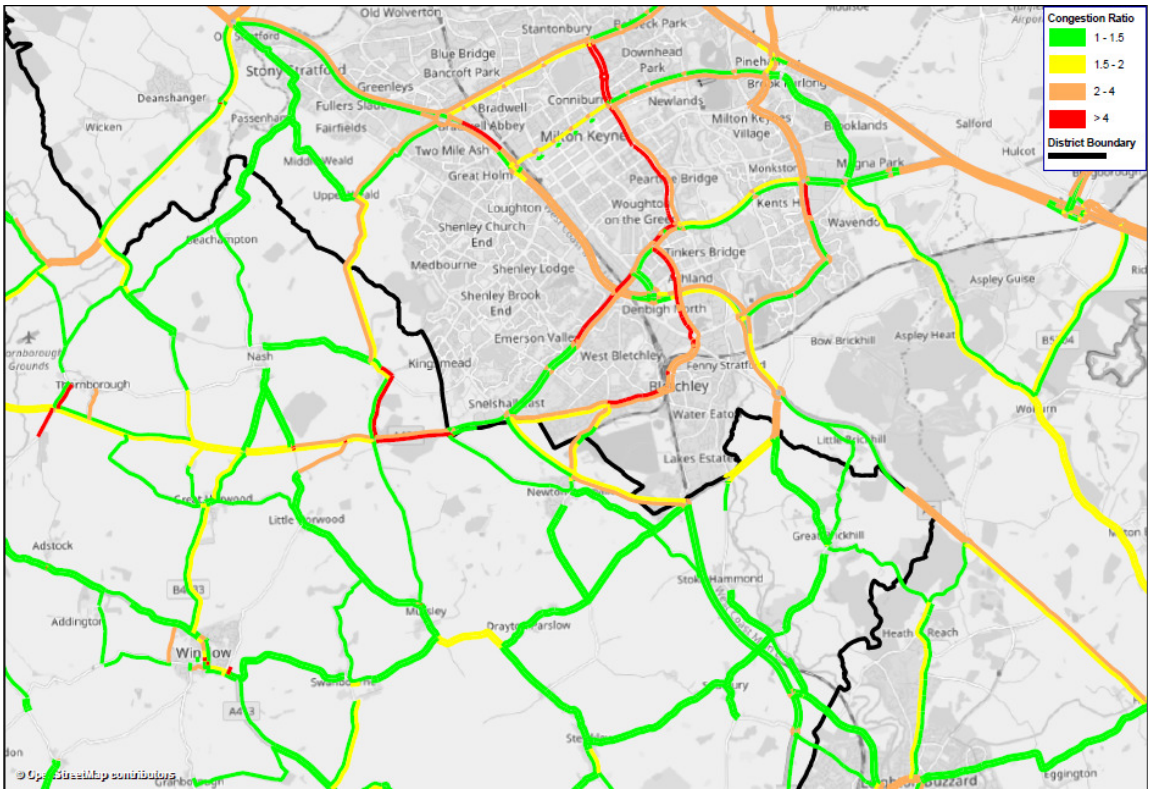


Congestion Ratio DS Mitigation IP

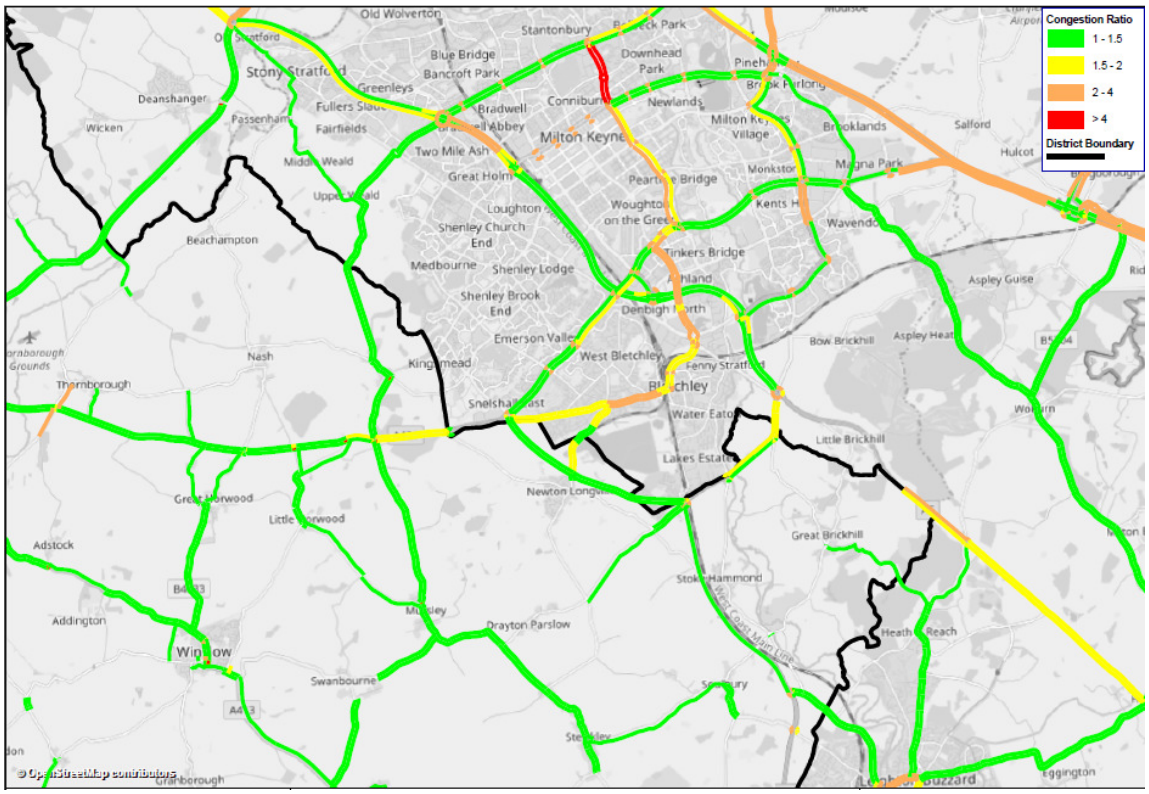


Congestion Ratio DS Mitigation PM

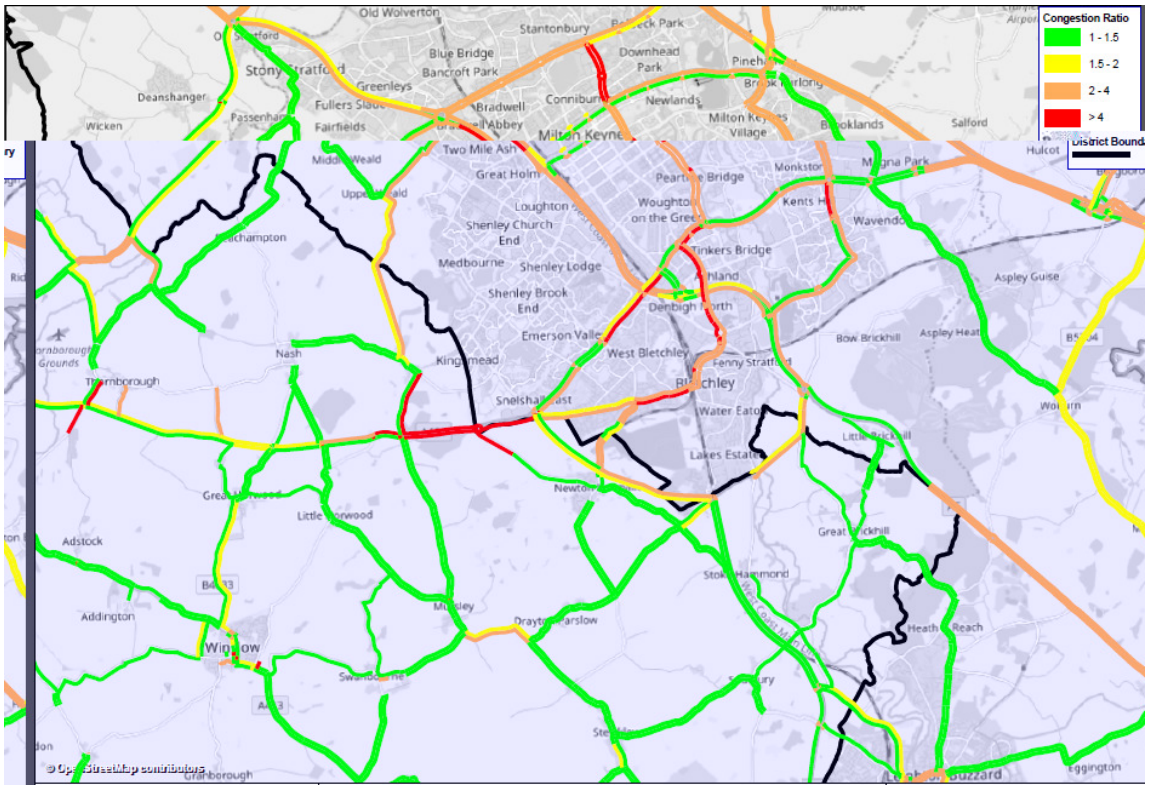
B.3.2 DS1



Congestion Ratio DS1 Mitigation AM

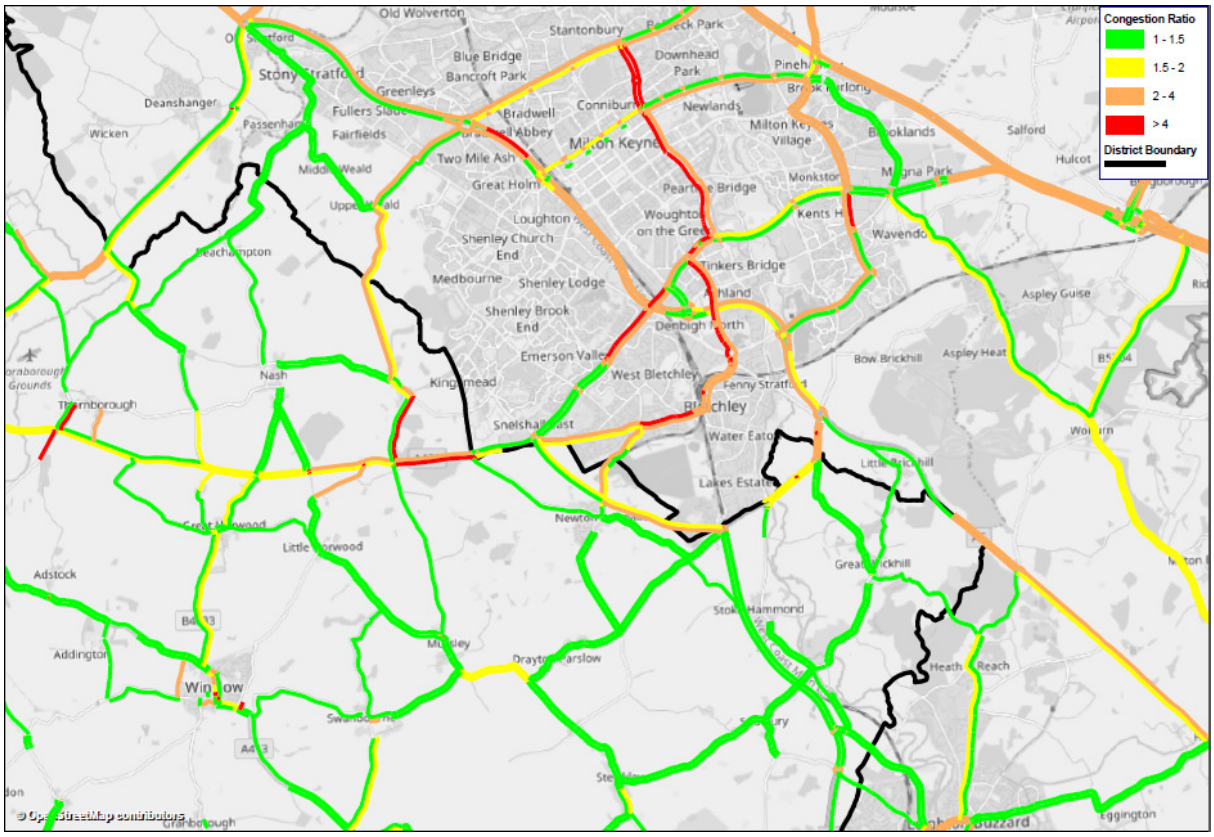


Congestion Ratio DS1 Mitigation IP

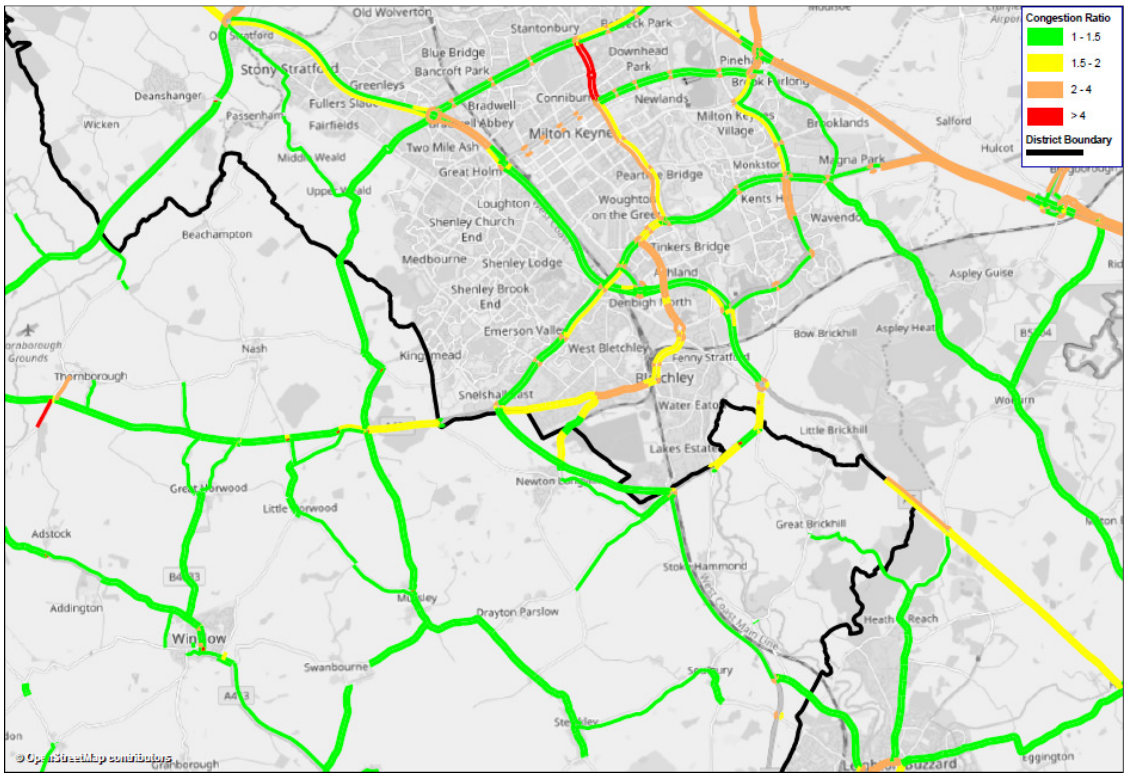


Congestion Ratio DS1 Mitigation PM

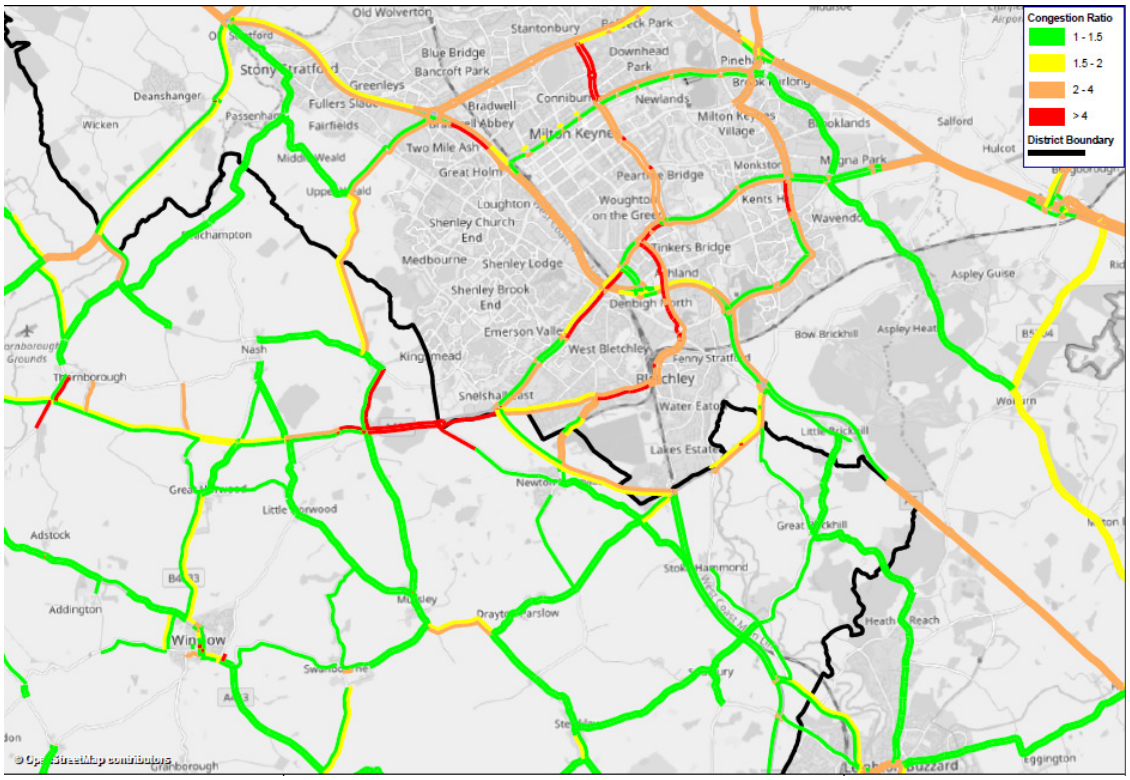
B.3.3 DS2



Congestion Ratio DS2 Mitigation AM

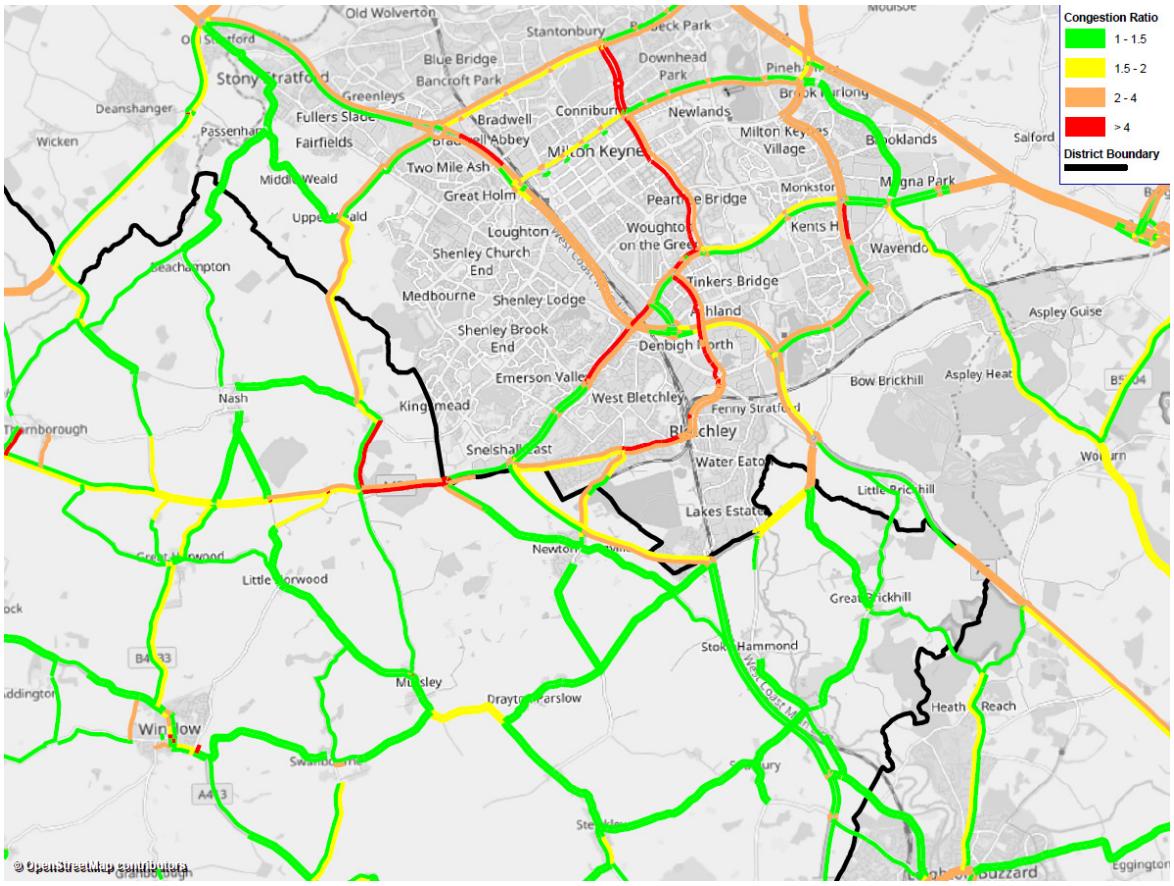


Congestion Ratio DS2 Mitigation IP

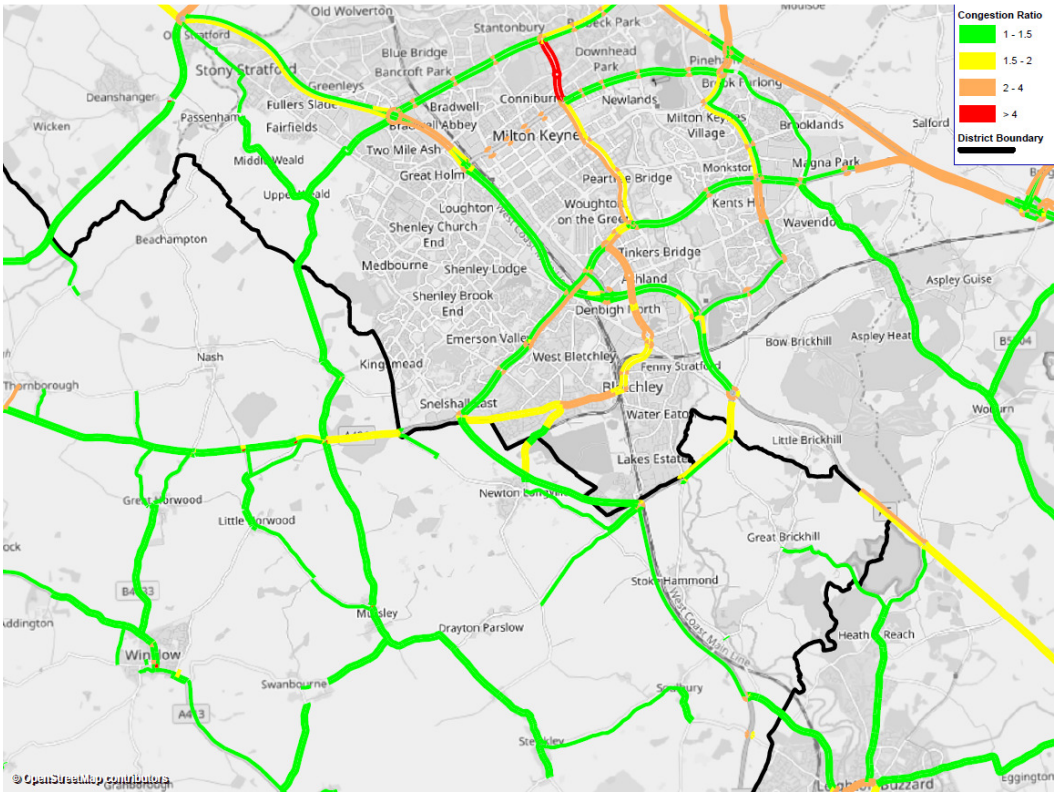


Congestion Ratio DS2 Mitigation PM

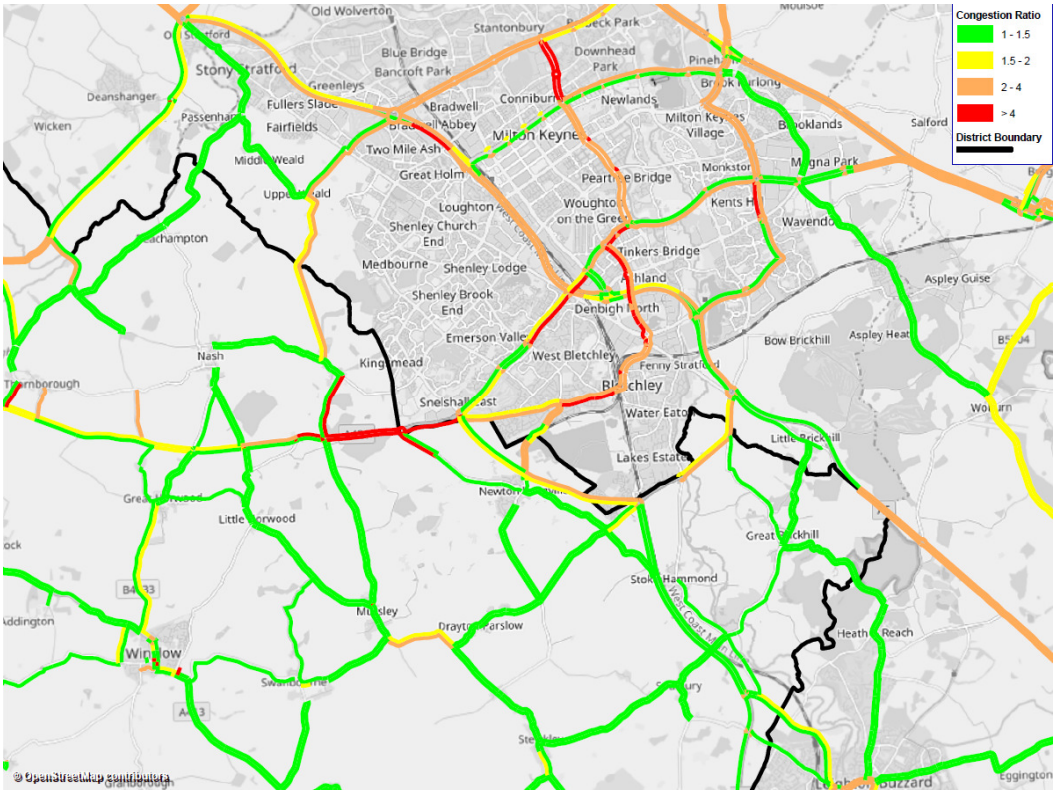
B.3.4 DS3



Congestion Ratio DS3 Mitigation AM

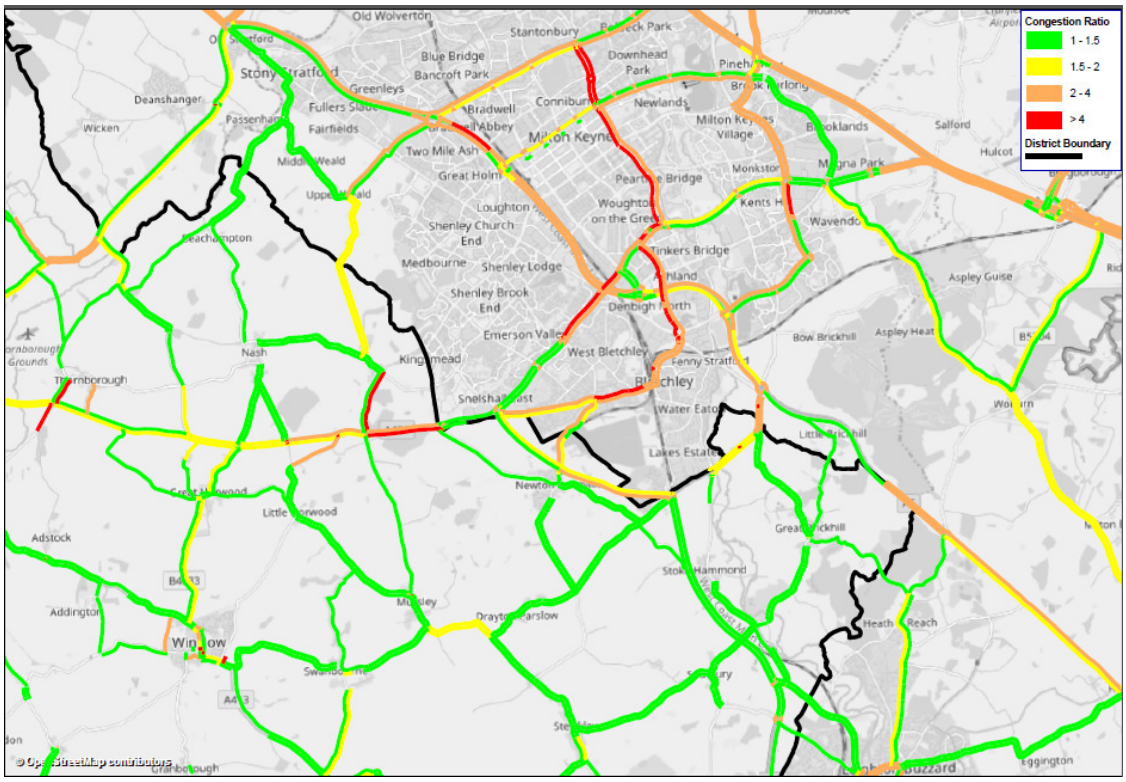


Congestion Ratio DS3 Mitigation IP

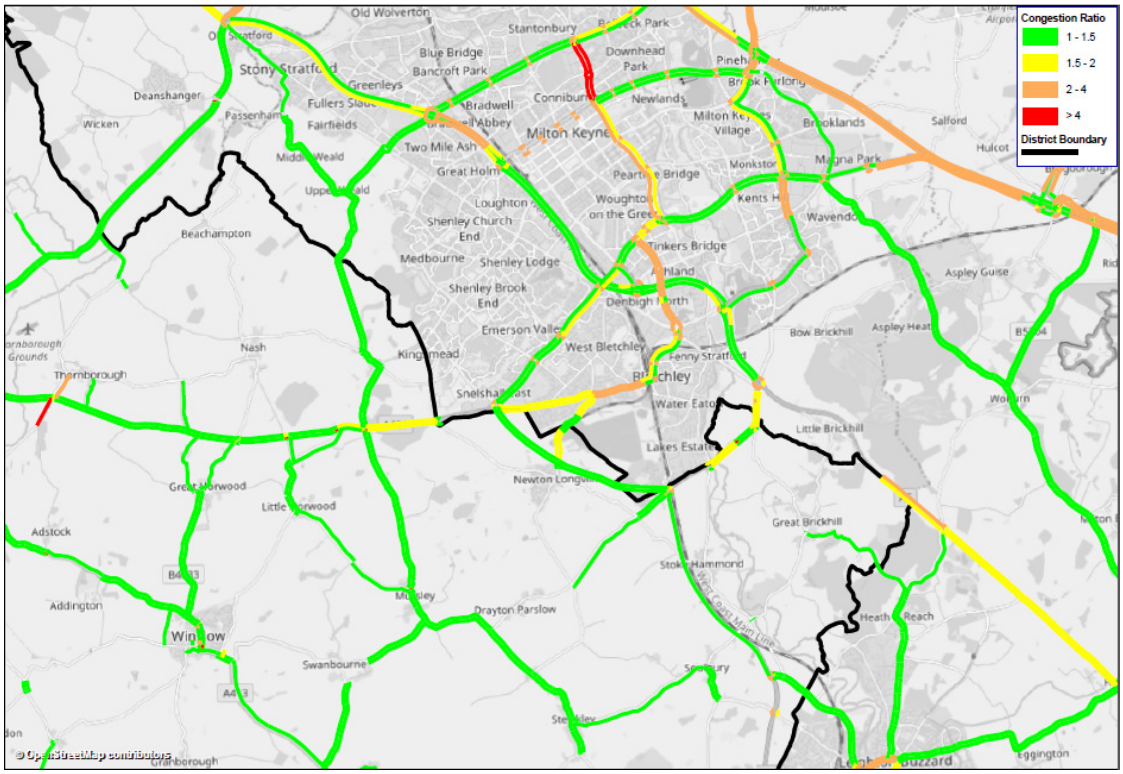


Congestion Ratio DS3 Mitigation PM

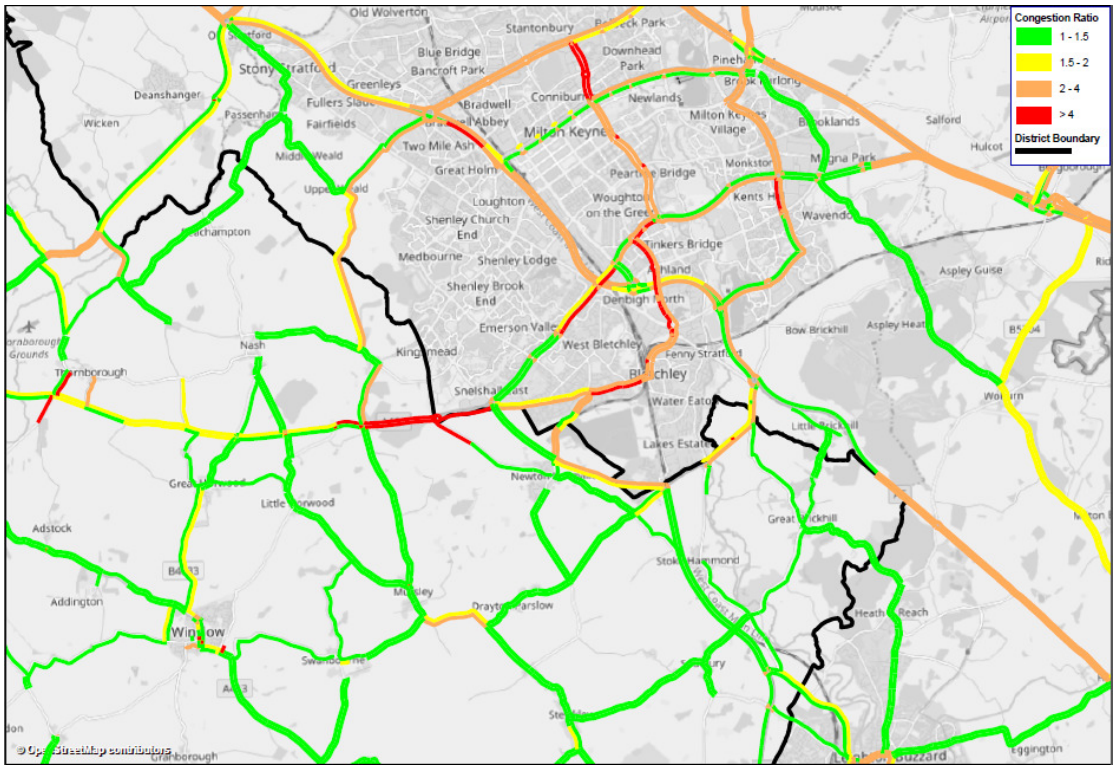
B.3.5 DS4



Congestion Ratio DS4 Mitigation AM

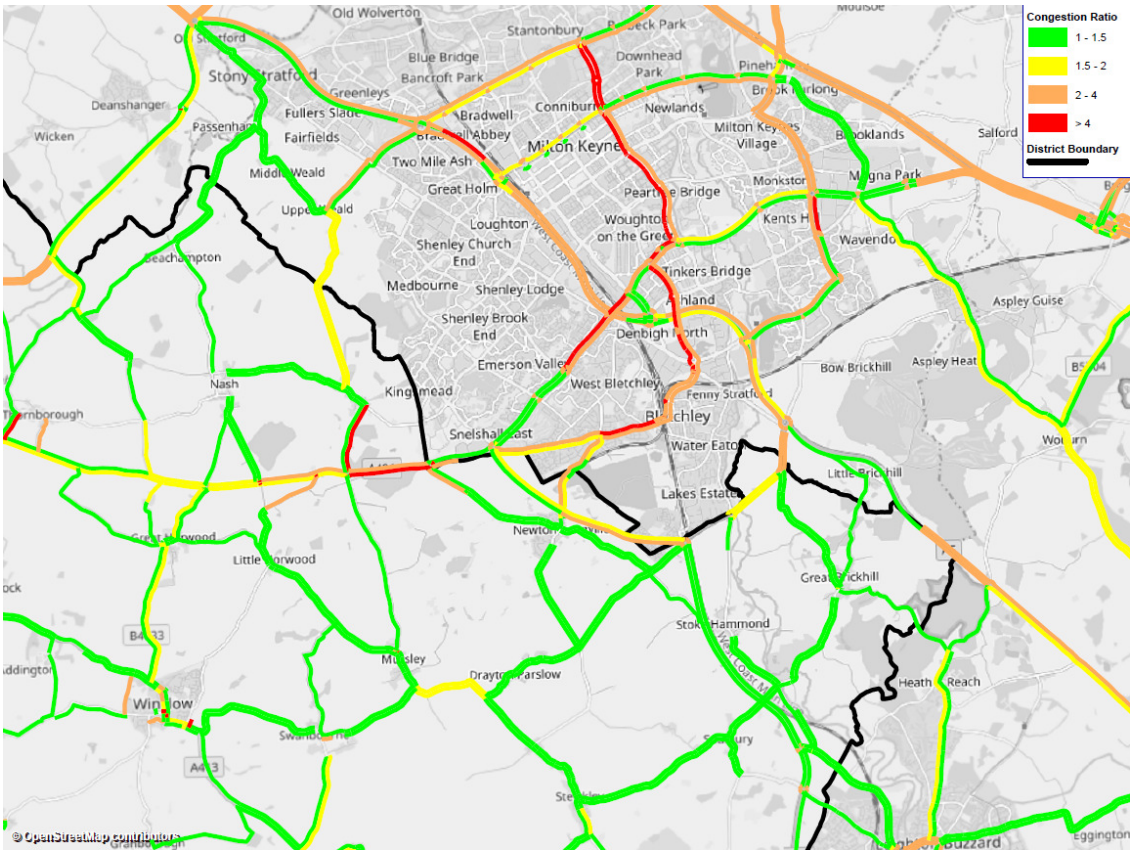


Congestion Ratio DS4 Mitigation IP

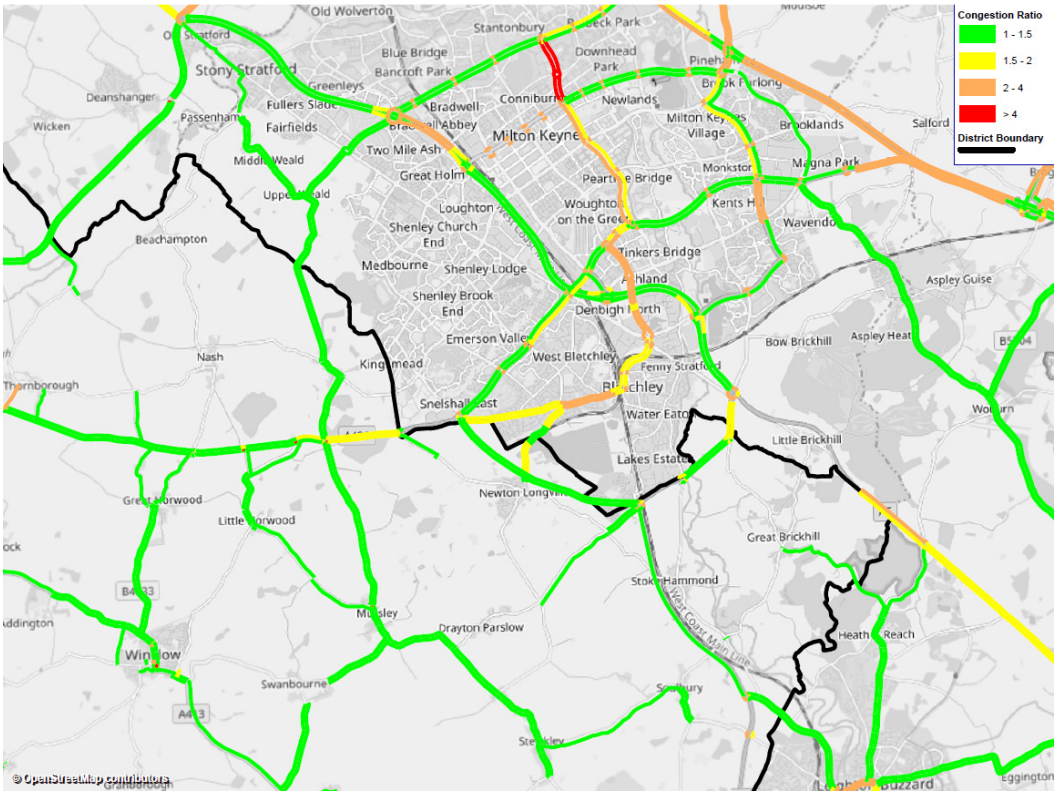


Congestion Ratio DS4 Mitigation PM

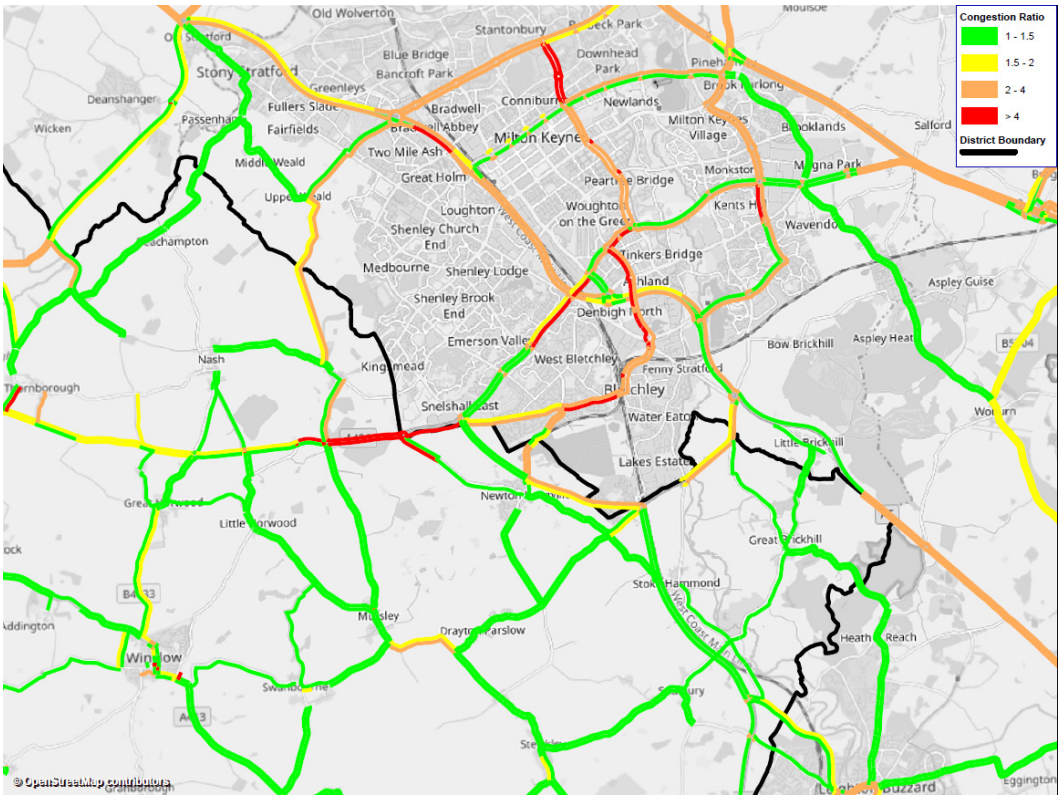
B.3.6 DS5



Congestion Ratio DS5 Mitigation AM



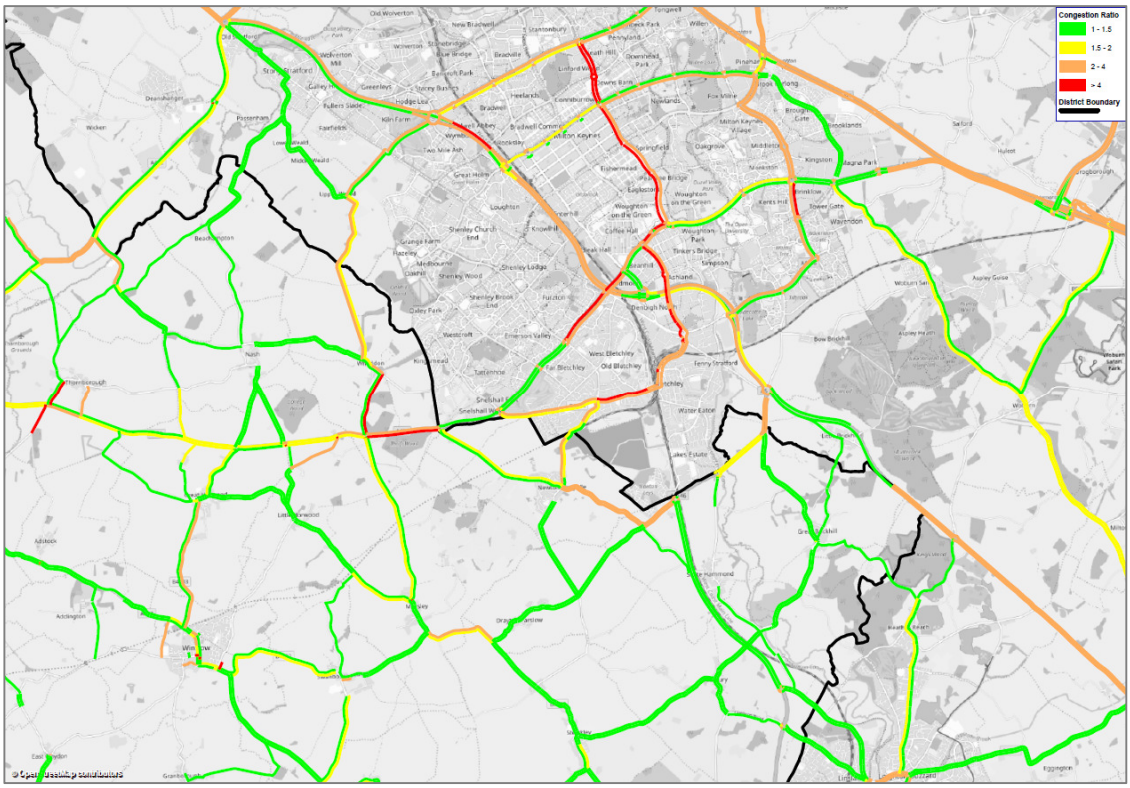
Congestion Ratio DS5 Mitigation IP



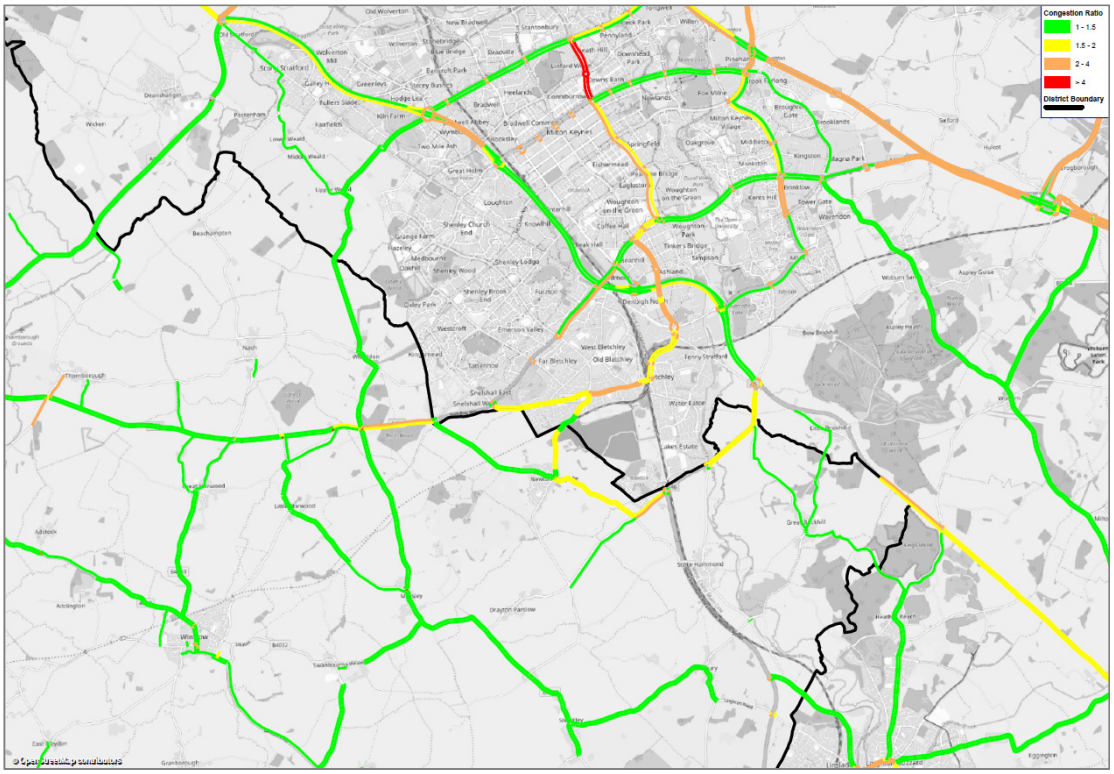
Congestion Ratio DS5 Mitigation PM

B.4 DS Bletchley Bypass Removal Sensitivity Test Congestion Ratio Plots

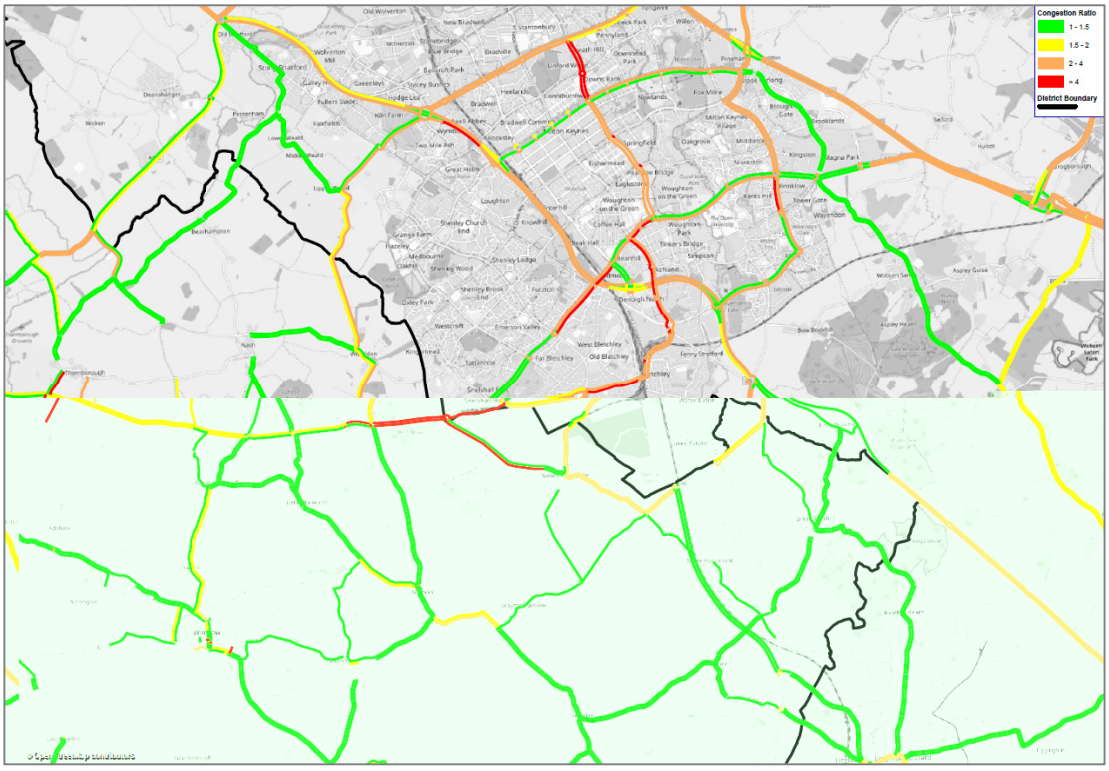
B.4.1 DS



Congestion Ratio DS Bletchley Bypass removal sensitivity test AM

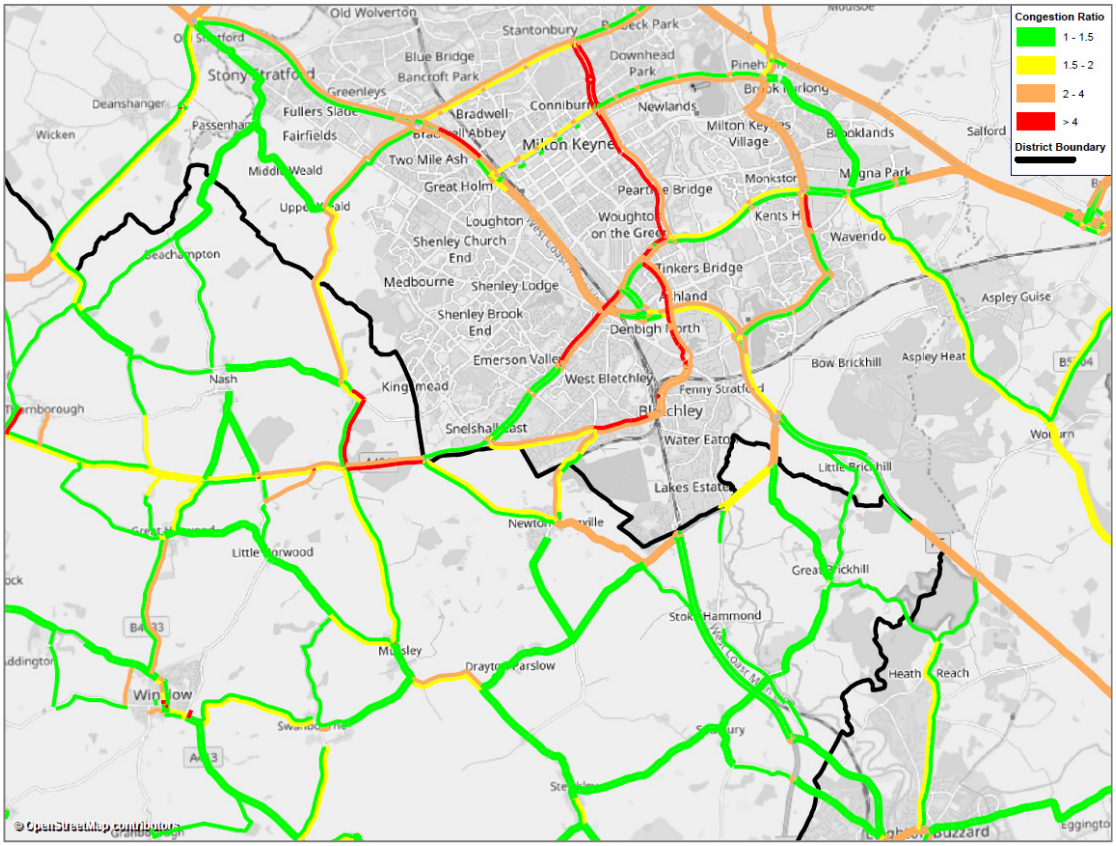


Congestion Ratio DS Bletchley Bypass removal sensitivity test IP

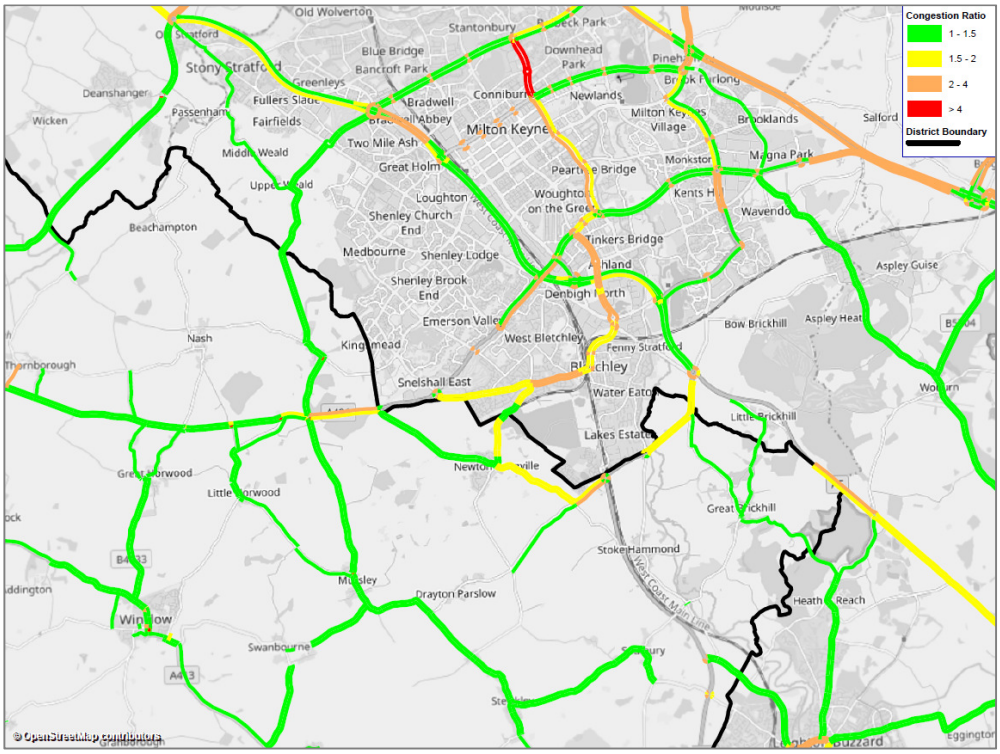


Congestion Ratio DS Bletchley Bypass removal sensitivity test PM

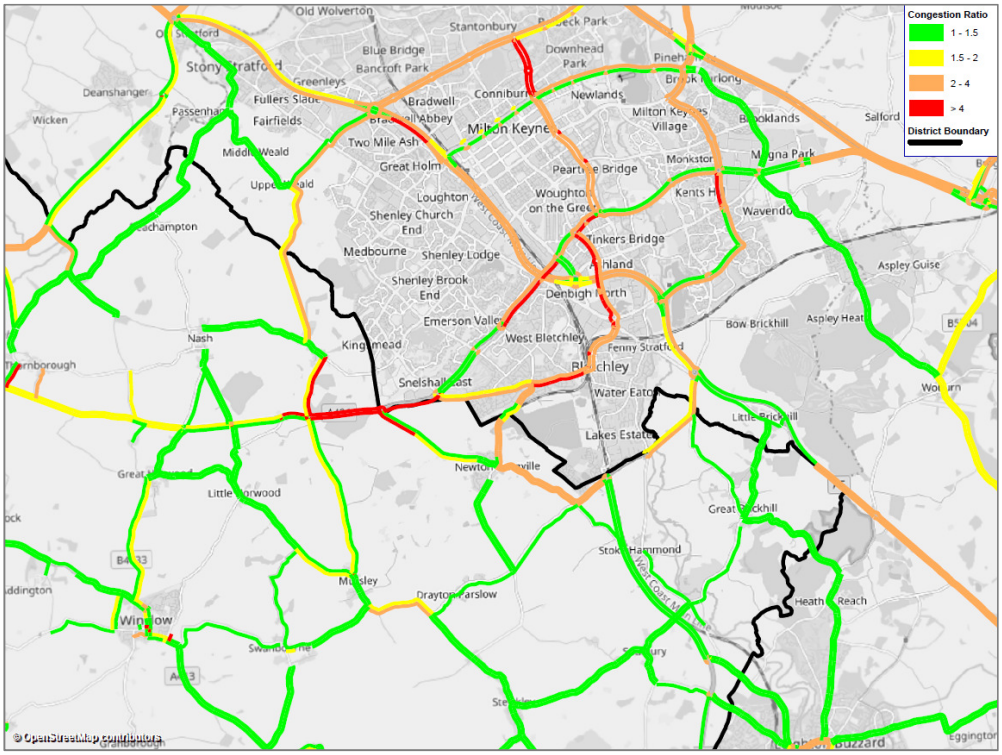
B.4.2 DS1



Congestion Ratio DS1 Bletchley Bypass removal sensitivity test AM

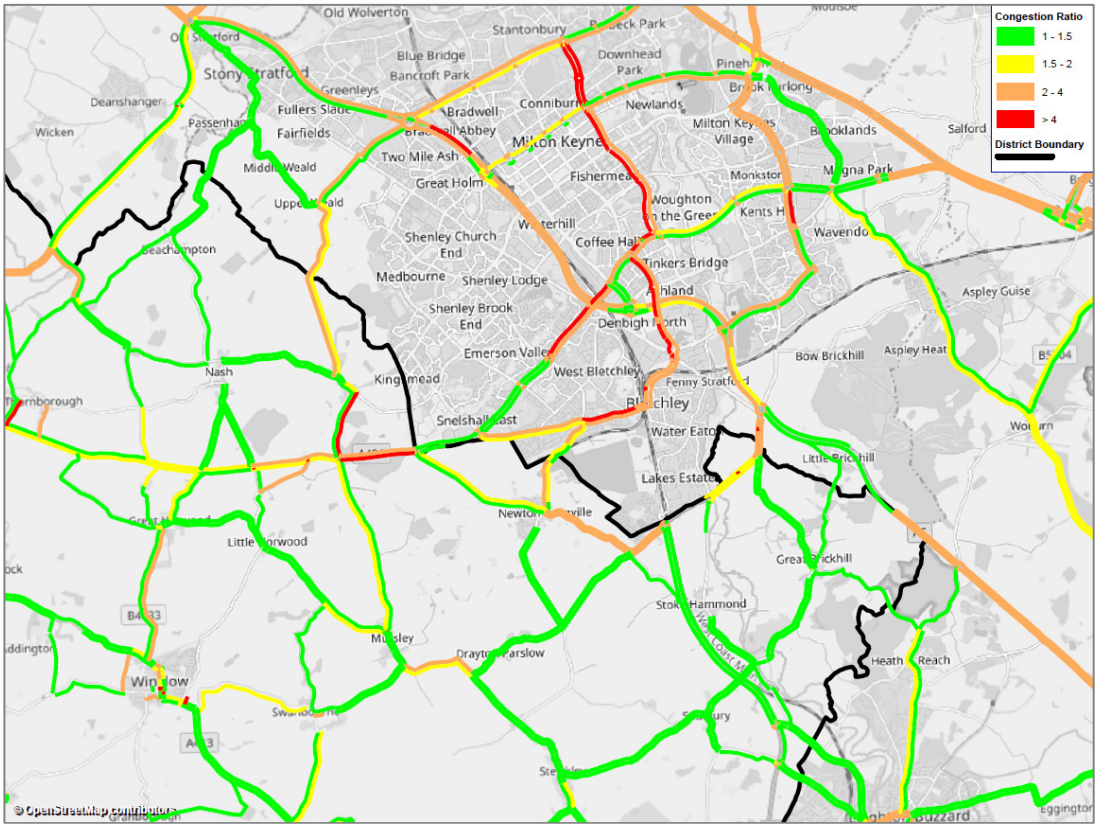


Congestion Ratio DS1 Bletchley Bypass removal sensitivity test IP

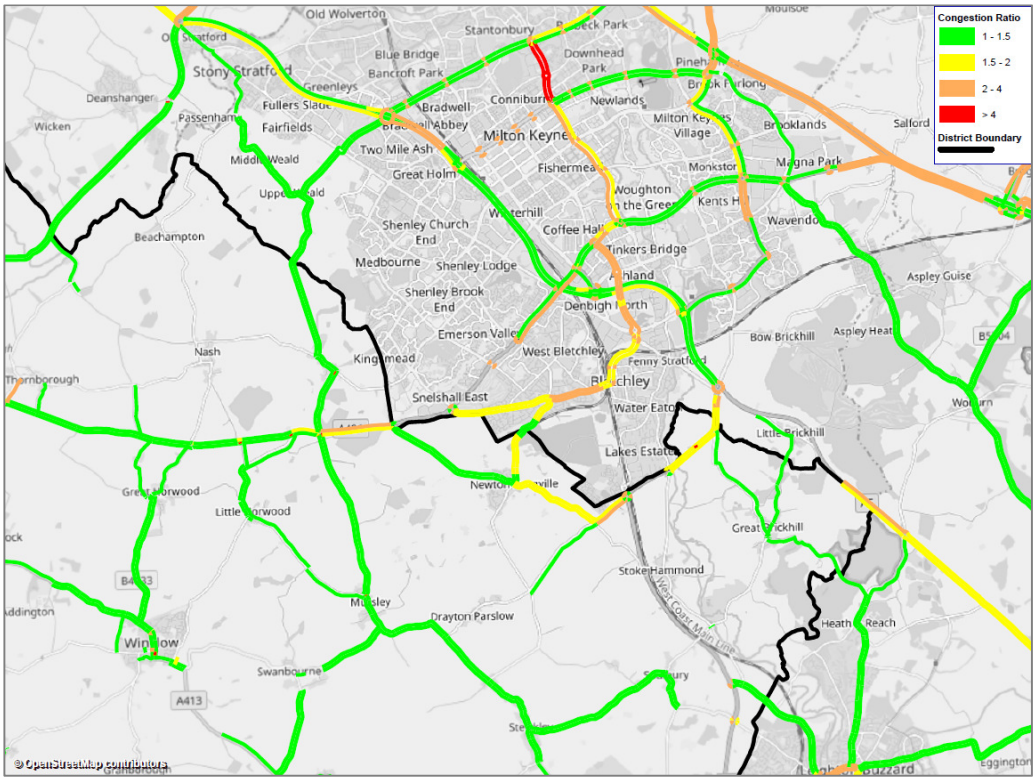


Congestion Ratio DS1 Bletchley Bypass removal sensitivity test PM

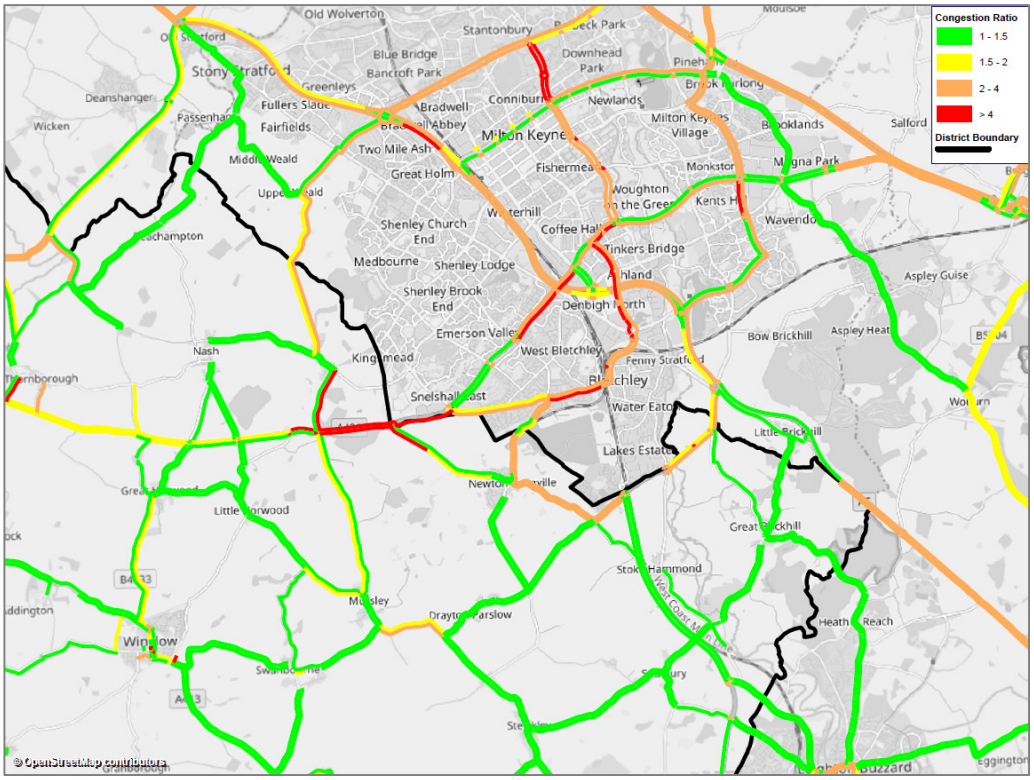
B.4.3 DS2



Congestion Ratio DS2 Bletchley Bypass removal sensitivity test AM

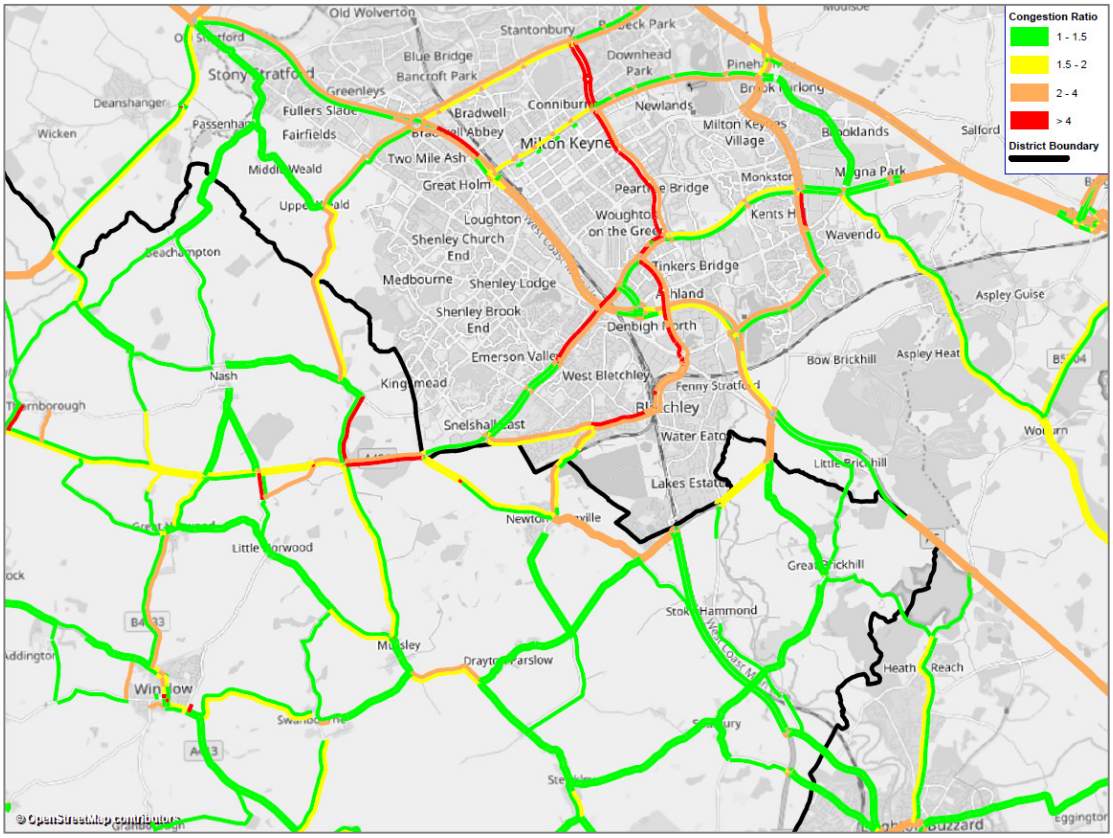


Congestion Ratio DS2 Bletchley Bypass removal sensitivity test IP

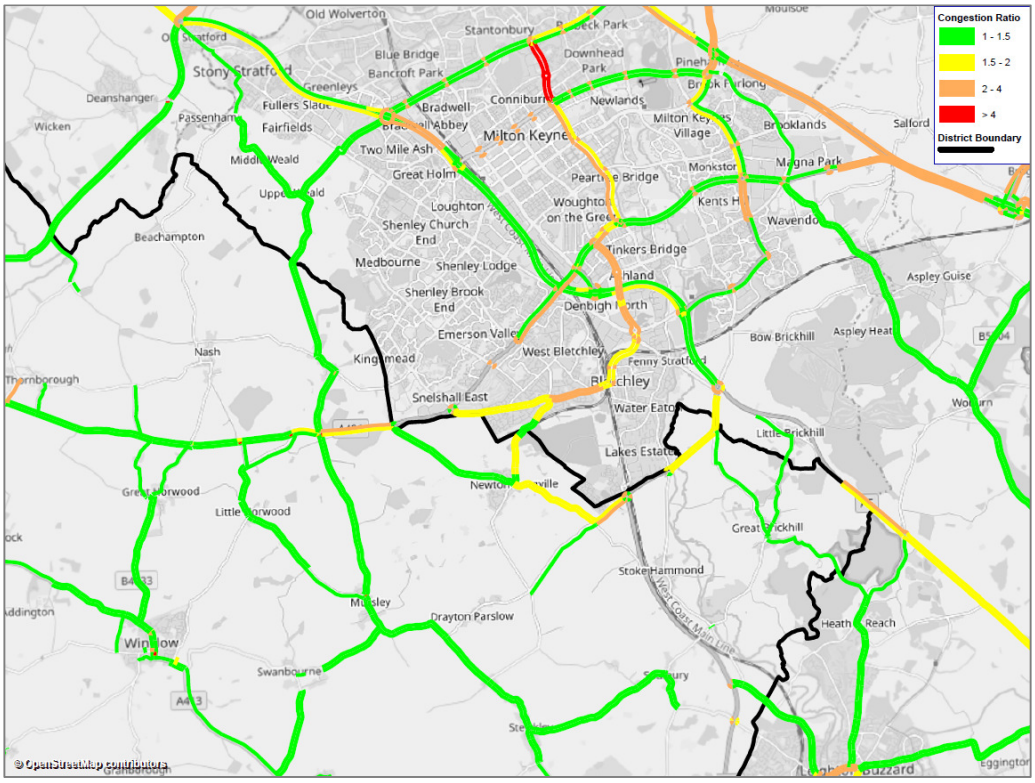


Congestion Ratio DS2 Bletchley Bypass removal sensitivity test PM

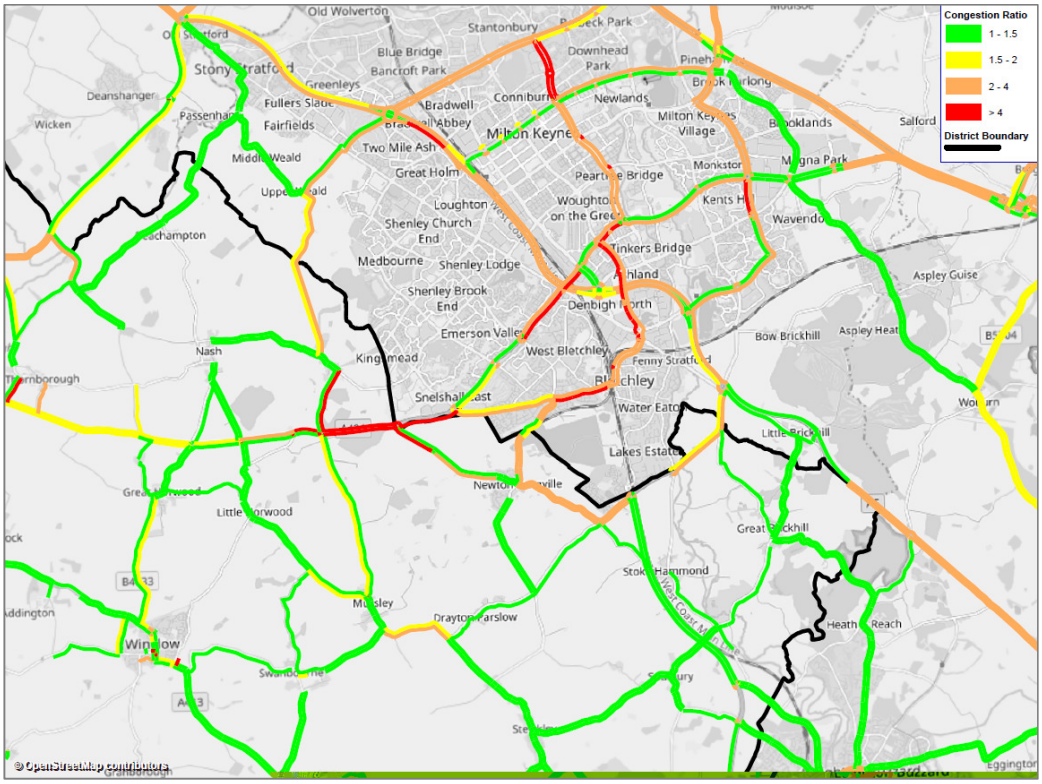
B.4.4 DS3



Congestion Ratio DS3 Bletchley Bypass removal sensitivity test AM

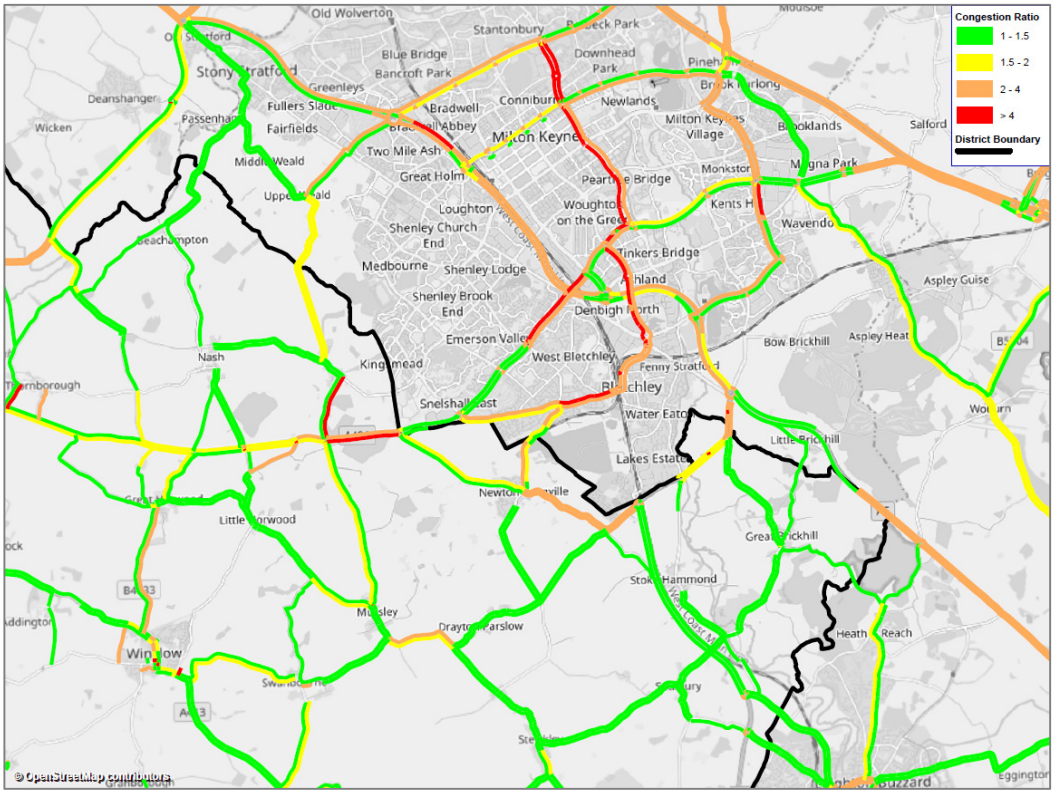


Congestion Ratio DS3 Bletchley Bypass removal sensitivity test IP



Congestion Ratio DS3 Bletchley Bypass removal sensitivity test PM

B.4.5 DS4



Congestion Ratio DS4 Bletchley Bypass removal sensitivity test AM