



National Highways

M5 Junction 12

Stroud District Local Plan Capacity Assessment





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WSP

Kings Orchard
1 Queen Street
Bristol
BS2 0HQ

Phone: +44 117 930 6200

WSP.com

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Signature				
Checked by	Iain McNeill	Iain McNeill		
Signature				
Authorised by	Stephen Bailey	Stephen Bailey		
Signature				
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1 Introduction

1.1 Background

This report has been prepared to detail the effective capacity of M5 Junction 12 (M5 J12) Quedgeley Interchange.

M5 J12 is located to the south east of Gloucester, approximately 5.5 miles/8.8km from the city centre and in the Stroud District Council administrative area of Gloucestershire. The junction connects the M5 motorway with the A38 providing access north west into Gloucester and via the B40083 South East towards Stonehouse, in particular the employment areas located to the east of the M5.

Recent anecdotal comment and video evidence suggests the M5 J12 southbound off-slip experiences periodical, short lived queues extending back to the M5 motorway mainline during peak periods. This is a safety concern to National Highways, a result of mixing high speed and stationary traffic on the motorway mainline.

The motorway junction comprises a single overbridge of the M5 motorway with small roundabouts (dumbbells) at each end of the bridge with the motorway sliproads. The junction layout is shown in Figure 1-1.

Figure 1-1 – Form of M5 J12 Quedgeley Interchange



2 Local Plans

2.1 Emerging Stroud District Local Plan

The current Stroud District Local Plan was adopted in 2015 and provides the local policy guidance through to 2031.

The Stroud District Local Plan Review Pre-submission Draft Plan (Regulation 19 Consultation) May 2021 (SDLPR) will take that time horizon forward to 2040 and was proposed to include 12,600 new dwellings. The Plan was presented at an Examination in Public (EIP) in summer 2024. The Plan included proposed development allocations that would have a traffic impact at M5 J12. However, the Examination was delayed due to concerns regarding the transport evidence base, which included concerns raised by National Highways, in order to allow Stroud time to submit updated evidence.

On 7 February 2025 the Inspectors ([in id-018](#)) directed withdrawal of the SDLPR from Examination principally based on the lack of clarity of how M5 J12 and J14 schemes would be funded and delivered (both junctions had been identified for improvement to provide an all-movement grade separated roundabout junction similar to M5 J13). Without funding and delivery of capacity schemes, the inspectors concluded "...that a significant proportion of the Plan's allocated sites do not have a realistic or reasonable prospect of being delivered during the plan period."

The Council wrote to the Inspectors on 3 March 2025 asking them to reconsider their decision. The Inspectors on replied 9 April 2025 stating that they still considered that "...withdrawal of the Stroud District Local Plan Review from Examination is the most appropriate way forward."

Despite the request to withdraw the SDLPR, National Highways has continued with traffic modelling to inform the operation of M5 J12 with the SDLPR housing delivery. This modelling has been prepared with the support and cooperation of Stroud District Council (SDC).

2.2 A new Local Plan for Gloucester, Cheltenham and Tewkesbury

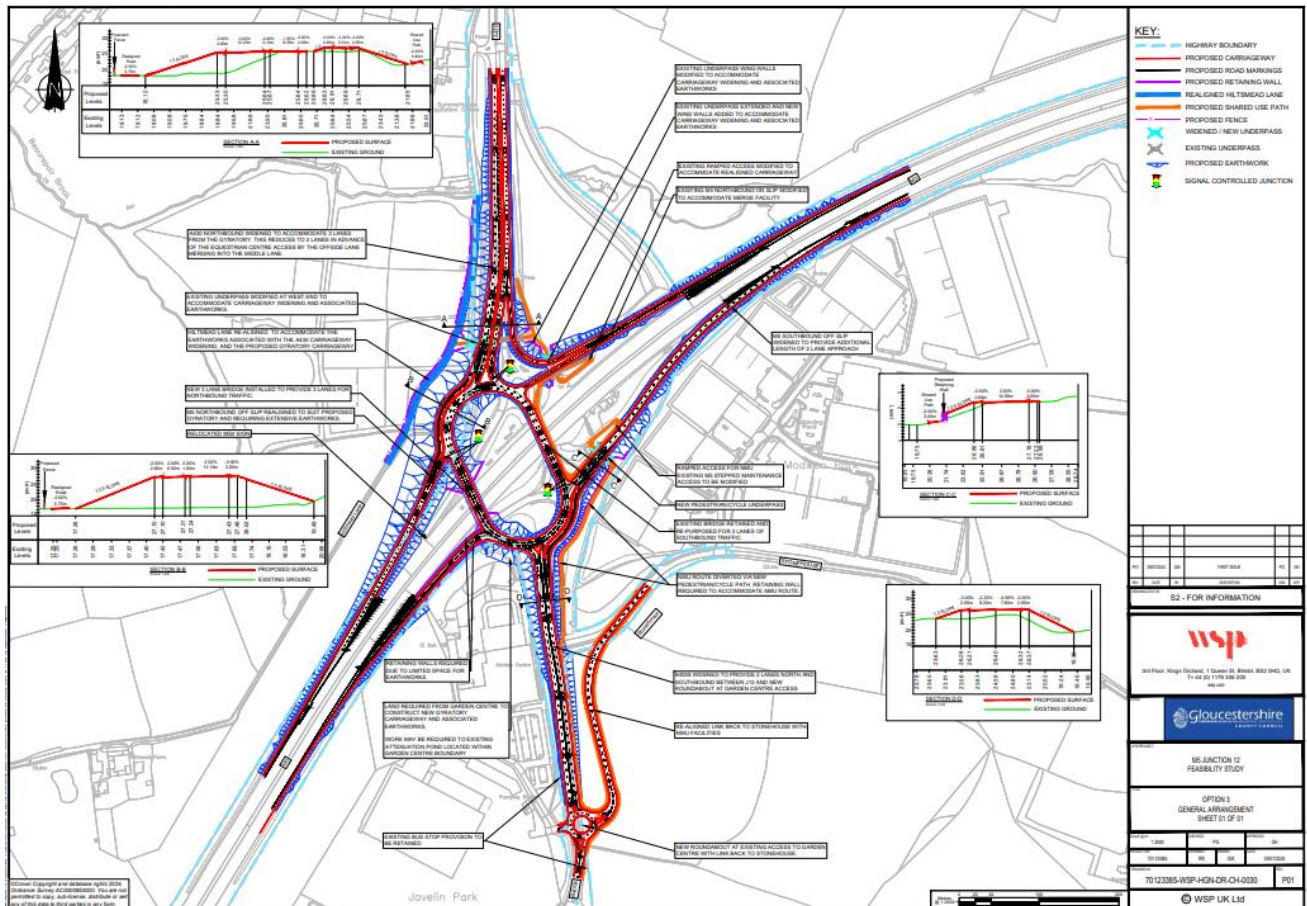
A new Local Plan for Gloucester, Cheltenham and Tewkesbury is in the early stages of preparation. No details were available at the time of preparing this report. No development or traffic assumptions have been made or included in the traffic modelling in this report at M5 J12 for the GCT Local Plan.

2.3 SDLPR Mitigation at M5 J12

The SDLPR Infrastructure Delivery Plan (IDP, EIP Document Library Ref.110, pp.2-3) proposed an upgrade to M5 J12 to provide an all-movement grade-separated roundabout to enable and support the SDLPR draft allocations.

The M5 Junction 12 Stage 2: Optioneering Report provided an indication of the all-movement grade-separated roundabout. The scheme is shown in Figure 2-1. The scheme has an Order of Cost Estimate of c.£140m-210m (including optimism bias).

Figure 2-1 – Suggested M5 J12 All-movement Grade-separated Roundabout



It is important to note that this report considers the operation of only the *existing junction arrangement* to identify *when* a grade-separated scheme may be required. The only change made to the existing layout is to include the proposed Symmetry Park-related mitigation which is shown below in Figure 3-2.

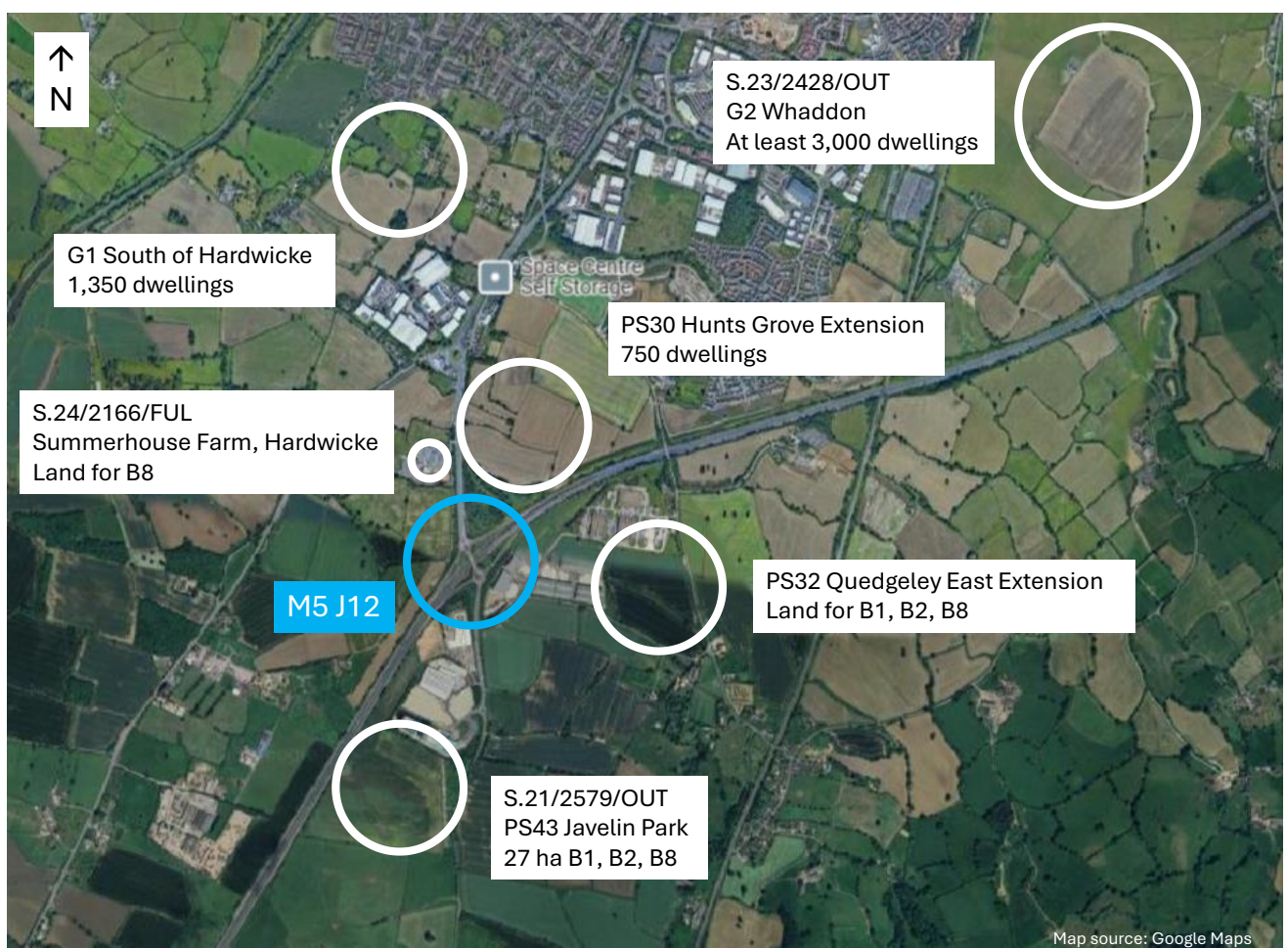
3 Proposed Development impacting M5 J12

3.1 Development at M5 J12

Those developments with current planning applications, consents and included in the SDLPR most closely located to M5 J12 are shown in Figure 3-1.

Stroud District Council has provided traffic data from its strategic traffic modelling for these sites and other draft allocations and current planning applications that are considered to have an identifiable traffic impact at the junction. These developments are outlined below.

Figure 3-1 – Proposed Development impacting M5 J12



3.2 SDLPR Draft Allocations impacting at M5 J12

The draft allocations in the SDLPR most significantly impacting M5 J12 are those clustered around the junction, notably:

- PS30 Hunts Grove Extension (SDLPR pp.145-146) for approximately 750 dwellings.
- PS32 Quedgeley East Extension (SDLPR p.147) for B1, B2 and B8 employment land.
- PS43 Javelin Park (SDLPR p.148) comprising 27 hectares of office, B2 and B8 employment land.
- G1 South of Hardwicke (SDLPR pp.150-152) (also known as Land South of Green Lane) for approximately 1,350 dwellings.
- G2 Land at Whaddon (SDLPR pp.158-159) for at least 3,000 dwellings.

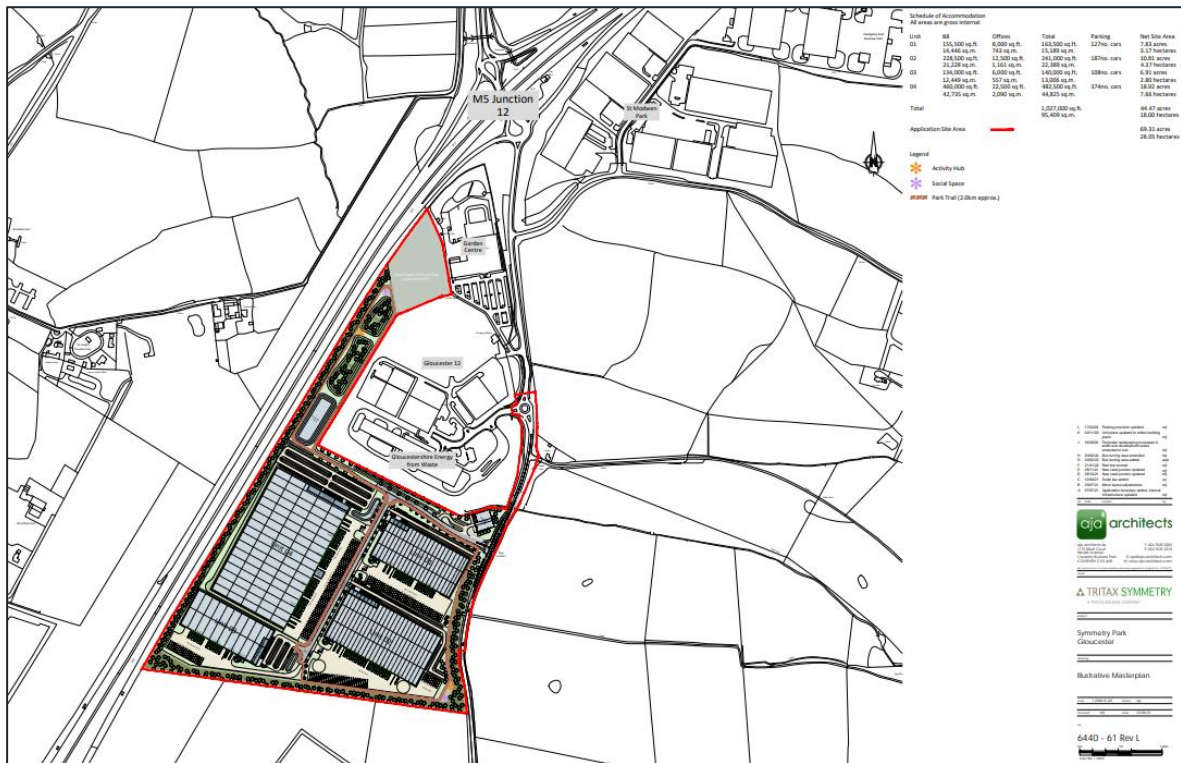
The SDLPR EB135 Appendix 1 details housing delivery assumptions for the draft allocations and is contained in Appendix A to this report. This housing trajectory was not supported by any traffic modelling at EIP. National Highways identified the need for traffic modelling to identify the amount of reserve capacity currently available at the junction process prior to any mitigation being required at each of M5 J12, J13 and J14. In the absence of SDLPR modelling, National Highways has now agreed to undertake this modelling and this report provides this information for M5 J12.

Note that Site G2 is not included in the housing trajectory provided by Stroud DC as it is a Gloucester City Council allocation.

PS43 Javelin Park

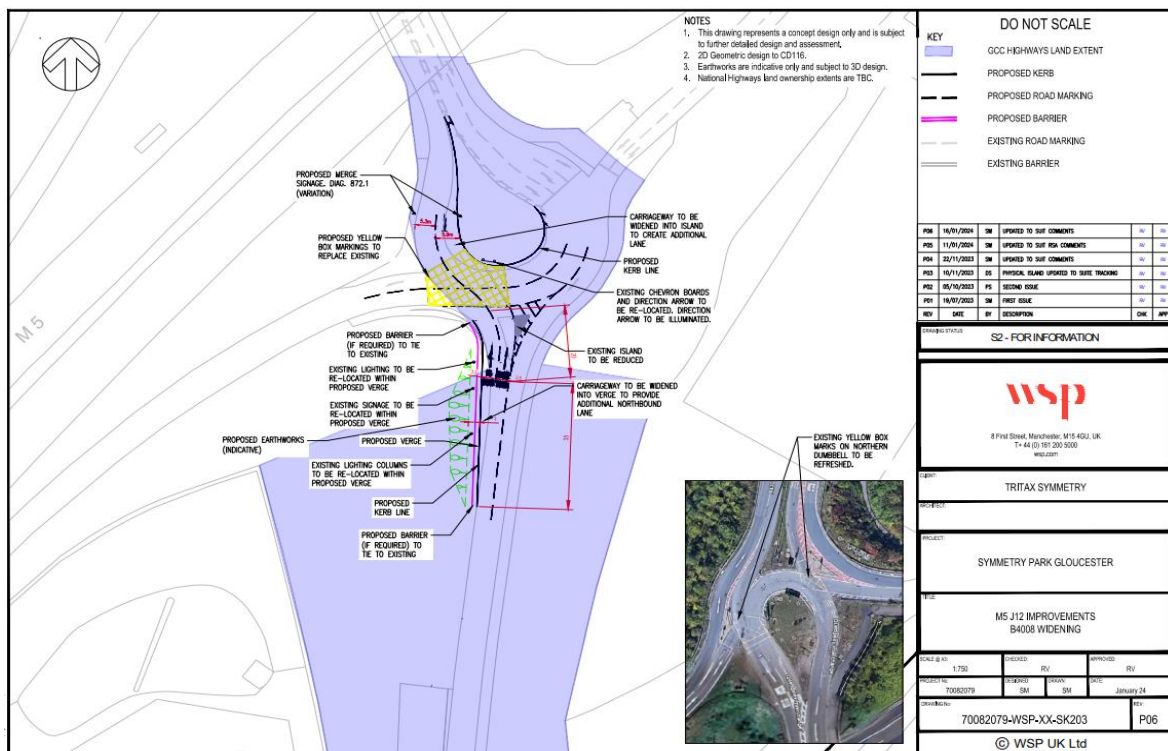
Planning application reference S.21/2579/OUT Symmetry Park (referred to as PS43 Javelin Park in the SDLPR) has permission to provide B8 (Storage or Distribution) Uses and ancillary offices. The site masterplan is shown in Figure 3-2.

Figure 3-2 – Javelin/Symmetry Park Illustrative Masterplan



The application is supported with the mitigation shown at M5 J12 in Figure 3-3. The trigger point testing has assumed implementation of this mitigation and that it is open to traffic.

Figure 3-3 – Proposed Symmetry Park Mitigation at M5 J12



PS30 Hunts Grove Extension

Draft allocation PS30 is included in the SDLPR as an extension to the 1,750-dwelling Hunts Gove development area with an allocation for up to 750 additional dwellings. The site is located on the southern edge of Gloucester directly to the south of Haresfield Road, to the east of housing and fields fronting the A38/A430/B4008 and to the north of fields fronting the M5 carriageway. It is within 1 km of M5 J12.

Planning application S.24/2024/OUT forms part of the PS30 draft allocation and is for up to 620 dwellings.

G1 Hardwicke

SDLPR Policy G1 Hardwicke is located on the south-western edge of Gloucester. The 70.3 ha site currently formed of agricultural land lies to the west of the A38 and the B4008 Bristol Road, to the south of Hardwicke, and approximately 1 km to the northeast of the M5 motorway.

Planning application S.23/1348/OUT has been submitted as Land South of Green Lane for up to 1,350 new dwellings, a new primary school, a local centre and community uses as well as supporting infrastructure. A new traffic signal-controlled junction will be formed on the A38 just to the south of the existing junction between the A38 and the B4008, which will provide for all movements.

G2 Whaddon

Allocated as Policy G2 in the draft SDLPR, Whaddon is a development of at least 3,000 dwellings to the east of Gloucester and north of M5 J12. Planning application S.23/2428/OUT is for up to 2,550 dwellings.

The application site is located on the south-eastern edge of Gloucester and within the SDC administrative area. The 130.7 ha site, currently formed of agricultural land, lies to the west of the M5 and the A4173 and to the east of the main rail line between Bristol and Birmingham. To the west of the rail line are the residential and employment areas of Hunts Grove, Quedgeley and Hardwicke and to the north is to the built-up area of Gloucester. The site is adjacent to the M5 motorway and just over 2 km to the north of the M5 J12.

The application is for up to 2,550 new dwellings, a new primary school, a local centre, and community uses as well as supporting infrastructure. Access will be taken primarily from the A4173 on the north-eastern boundary of the site but with a further access from Naas Lane on the south-west boundary of the site. The A4173 runs north-west from the site into Gloucester, linking with the A38 which runs around the eastern side of the city to meet the A417 at the C&G roundabout in the north and M5 J12 to the south. From the C&G roundabout the A417 runs east to the M5 Junction 11a and north to the A40 Elmbridge Court roundabout that then runs north-east to the M5 Junction 11.

Although the site is geographically 2km from M5 J12, it is approximately 7km *driving distance* via the rural roads to the south and along Haresfield Lane from M5 J12, and 9km via the A38. M5 J11a is 8km driving distance to the north.

The application was received in December 2023 and (at the time of report preparation) was still awaiting a decision. The most recent NHPR is dated February 2025 and directs that the application should not be approved for a period of six months to allow the applicant to provide more information.

3.3 Other Development impacting M5 J12

Summerhouse Farm

Summerhouse Farm (S.24/2166/FUL) is seeking (at December 2024) planning permission for the demolition of the existing Prestige Equestrian facility and construction of employment development, comprising erection of four buildings (Use Class B8) with ancillary office space (Use Class E).

The 6.6 ha site is on the west side of the A430 and is currently surrounded by open agricultural/pasture land. Land to the east of the A430 is proposed to form part of the Hunts Grove urban extension in the SDLPR. The application is for the redevelopment of an existing equestrian and training centre for a 27,592 m² B8 warehousing and distribution development comprising four buildings, with one building split into two units.

The proposed site access is of Hiltmead Lane which runs from a priority 'T' junction with the A430 dual carriageway around the east and south of the site before connecting with the A38 to the west of the site. The Hilton Lane junction is approximately 300m south of the A38 Cross Keys Roundabout and 400m north of M5 J12. The A430 is a dual two-lane carriageway with a wide kerbed central reserve which runs between the M5 J12 and the A38 Cross Keys roundabout. The junction provides for all movements except the right turn out of Hiltmead Lane towards the M5 J12 and has a 100 m long right turn lane within the A430 southbound central reserve.

The development is forecast to generate 47 vehicles movements in the AM peak hour and 44 in the PM peak hour. This development is not included in the capacity modelling at M5 J12. The most recent NHPR is dated January 2025 and directs that the application should not be approved for a period of three months to allow the applicant time to discuss its distribution with SDC.

4 National Highways M5 Junction 12 Traffic Model

4.1 The Traffic Model

National Highways has developed a Vissim microsimulation model to support the understanding of network performance of M5 J12, and to enable future assessment of planned development and infrastructure improvements. The model utilises VISSIM 2022 as the micro-simulation package and PCMOVA3 for traffic signals operation. The model has a validated 2022 AM and PM Base Year.

4.2 Assumed Junction Improvements and Mitigation

National Highways has carried out microsimulation modelling using assuming the Symmetry Park mitigation scheme shown in Figure 3-3. The mitigation involves:

- Narrowing the southern dumbbell to widen the carriageway.
- Reducing the island size on the B4008 south approach to create a two-lane approach.

4.3 Development Turning Movements at M5 J12

Stroud District Council provided development turning matrices at M5 J12 for all of the proposed allocations listed in the SDLPR. These matrices are included in Appendix B.

The turning matrices of particular interest at M5 J12 are:

- PS30 Hunts Grove Extension for up to 750 dwellings;
- PS32 Quedgeley East Extension for B1, B2 and B8 employment uses;
- PS43 Javelin Park which has permission to provide B8 (Storage or Distribution) Uses and ancillary offices; and
- G1 Hardwicke (also known as South of Green Lane, Hardwicke) for 1,350 dwellings.

A matrix was not provided for Site G2 as it is a Gloucester City Council allocation.

M5 J12 Matrices are also provided for background traffic and 'Local Site Allocations and Small Windfall'.

The matrices show traffic at M5 J12 for each local plan allocation, cumulatively for all other Local Plan allocations in a single 'Local Site Allocations and Small Windfall' matrix, and of background growth in the period 2022-2040.

WSP applied the housing trajectory in Appendix A to derive a demand matrix at M5 J12 for SDLPR and other traffic growth impacts for every year in the period 2022 to 2040.

The matrices were then used in the model to test the point when the IDP M5 J12 layout 'failed'. The primary consideration was to determine when the M5 J12 sliproad queues extended onto the motorway mainline, which is considered to be a safety and operational

risk resulting from the conflict of slow-moving and stationary vehicles and with those travelling at motorway speeds.

The timing of any mitigation being required to be open to traffic is determined as the first interim year when any queue on either motorway off slip extends onto the motorway mainline carriageway. It should be noted that no consideration has been given to the operation of the local highway network other than to ensure that it does not affect the robustness of the assessment of M5 J12.

4.4 Cumulative Traffic and Background Growth at M5 J12

Table 4-1 shows the growth in traffic at M5 J12 from the 2022 base year to 2040, assuming the full build out of all Local Plan policy sites:

- Direct traffic totals are for those sites listed in Section 3 (PS30, PS32, PS43, G1, G2);
- Indirect traffic totals are for all other Local Plan policy sites included in Appendix B (PS19a, PS20, PS24, PS25, PS34, PS36, PS37, PS47);
- Local Site Allocations and Small Windfall sites; and
- Background traffic growth.

Table 4-1 shows traffic growth in the period 2023 to 2040 of 51% in the AM and PM peak hours. If background growth is excluded, the data shows the SDLPR to increase traffic at M5 J12 by 29% and 31% respectively when compared with traffic volumes in 2023.

Figure 4-1 indicates traffic growth at M5 J12 by year from 2025. This has been derived using the development delivery profiles provided in Appendix A and working back from the 2040 turning movements at M5 J12 included in Appendix B for each of the Local Plan policy sites and background traffic:

The graphs show that SDLPR would start to impact M5 J12 from 2025 if adopted and developments had secured planning permission and started to build out. As expected, it shows that the occupations of housing closest to the junction have the greater traffic impact by volume at M5 J12. Cumulatively, an increase from 2025 traffic flows of around 950 vehicles is seen in both peak periods by 2030, increasing to 1,400 vehicles by 2035 with around 1,800 additional vehicles using M5 J12 by 2040.

Figure 4-2 shows the cumulative housing numbers from the SDLPR with traffic impacting M5 J12 by year.

Table 4-1 –Traffic Growth from 2022 to 2040 at M5 J12 (excluding the motorway mainline)

Data	AM Peak Hour	PM Peak Hour
2022	3,475	3,542
Direct Development traffic (PS30, PS32, PS43, G1, G2)	859	892
Indirect Development traffic (PS19a, PS20, PS24, PS25, PS34, PS36, PS37, PS47)	112	167
Local Site Allocations and Small Windfall traffic	22	23
Total Development Traffic in 2040	993	1,082
Cumulative 2022 + Development Traffic in 2040	4,468	4,624
<i>Change from 2022</i>	+29%	+31%
Background traffic growth 2022-2040	786	731
Total in 2040 including background traffic	5,254	5,355
<i>Change from 2022</i>	+51%	+51%

Figure 4-1 – Cumulative Traffic Growth by Year at M5 J12, AM and PM Peak Hour

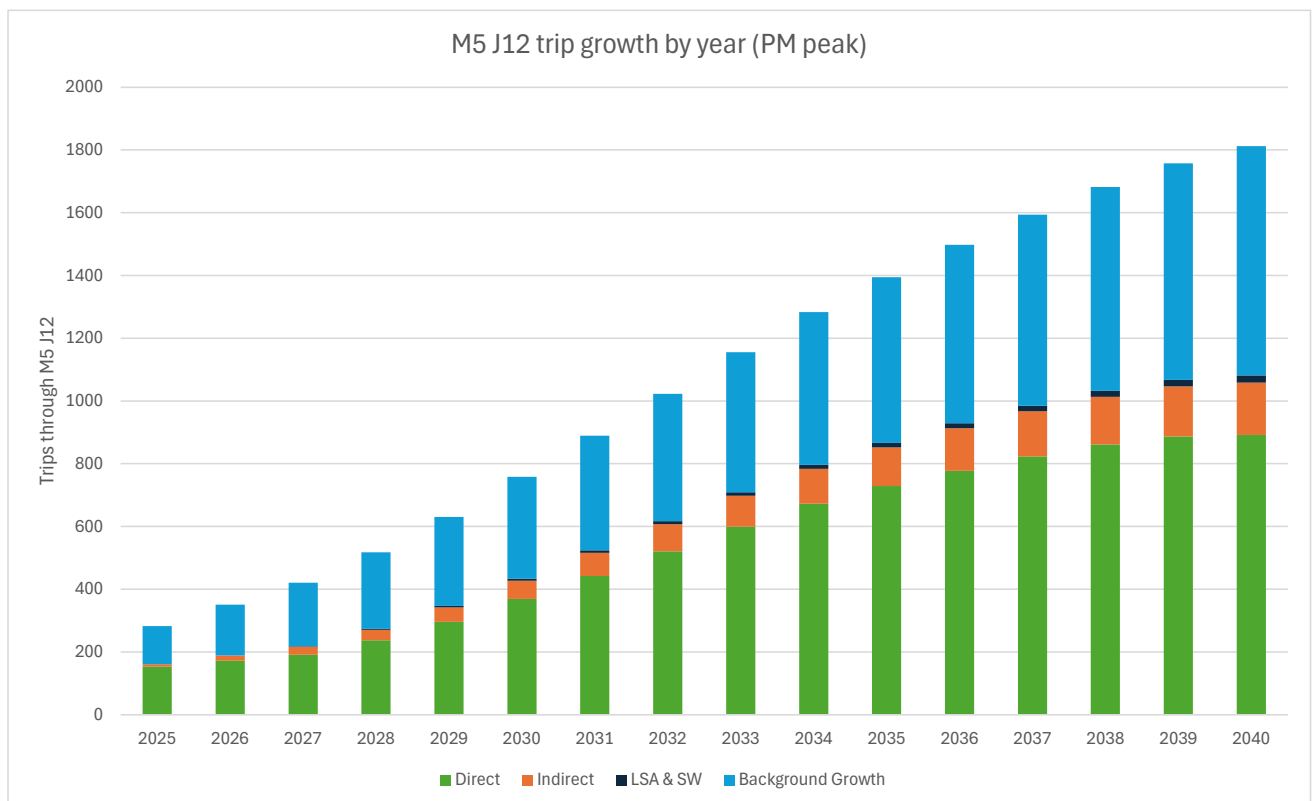
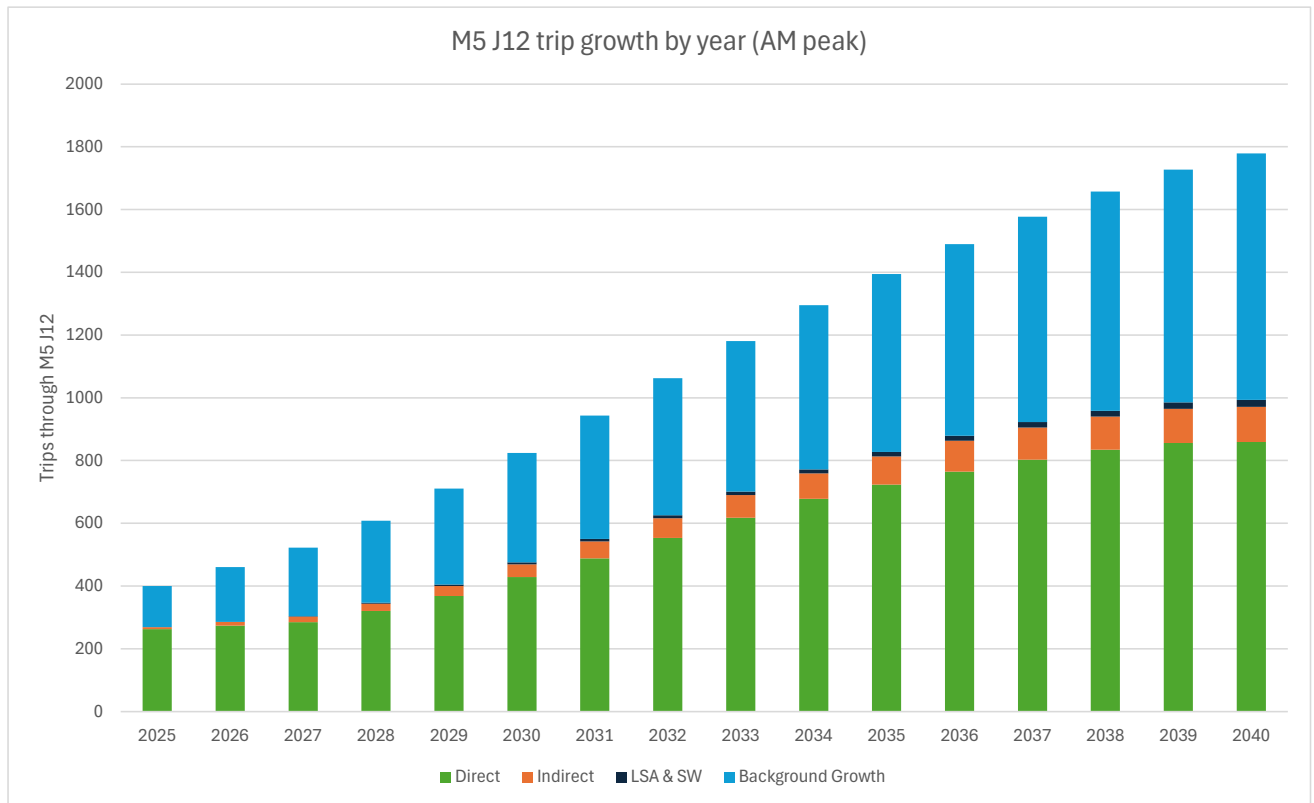
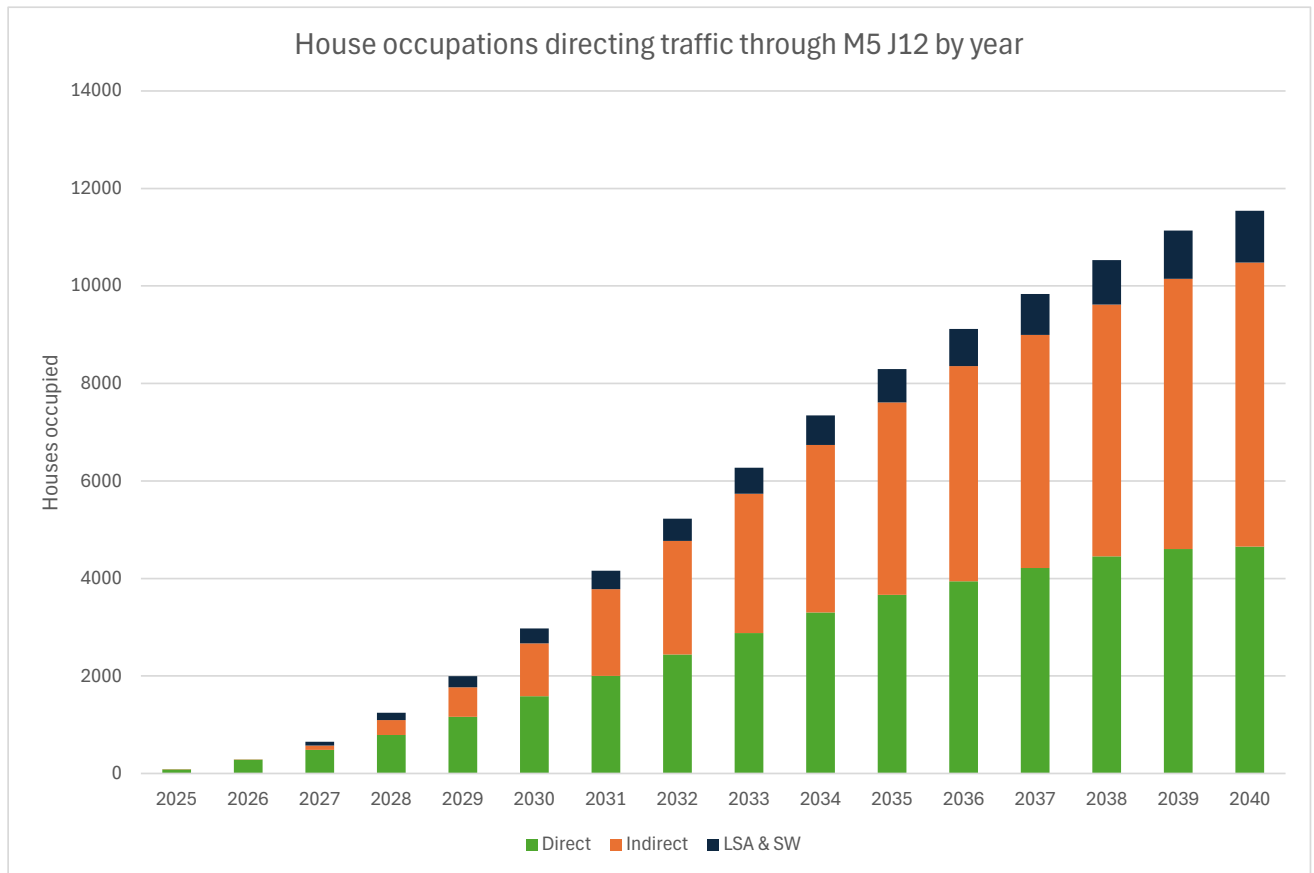


Figure 4-2 – Cumulative House Occupations by Year affecting M5 J12



5 Traffic Modelling Results

5.1 Introduction

It is important to note that the findings of this report are based on the traffic scenario provided by Stroud District Council for the SDLPR, which is derived from the traffic evidence presented at EIP. Changes in the rate of development delivery (Appendix A) and effective traffic management and active travel plans singularly and cumulatively may result in a different outcome.

The M5 J12 operational tests do not include background growth at the junction due to the significant growth of around 30% from SDLPR development alone.

National Highways' main concern and the focus of the modelling is to identify in which year the predicted junction queues will extend beyond the motorway slip roads and onto the motorway mainline. As noted above, this is on the basis of SDLPR data provided by Stroud District Council.

5.2 Forecast Operation at M5 J12

Traffic modelling of M5 J12 for 2040 showed that off-slip road queues extended back into the motorway mainline. Further tests were therefore completed to determine the last year that the slip road traffic queues were predicted to still be contained within the length of the slip road. This indicated that after 2030, the sliproad queues M5 J12 would no longer be contained within the length of the sliproad and queueing would be likely to occur on the mainline carriageway which is unacceptable to concerns and disrupting the traffic flow.

Figure 5-1 shows modelled queue lengths on the M5 J12 southbound off-slip and Figure 5-2 for the northbound off-slip in 2029, 2030 and 2031 AM and PM peak periods.

M5 J12 Southbound Off-slip

The length of the southbound off-slip is around 400m. The queue is shown Figure 5-1 to exceed 400 m in length in the 2030 AM peak period and is around 400m at its maximum length in the 2030 PM peak period.

The queues reach or exceed 400m for the period between 07:45 and 08:10 in the 2030 AM peak and for a shorter duration between 17:35 and 17:45 in the PM peak period.

M5 J12 Northbound Off-slip

The length of the northbound off-slip is around 325m. Figure 5-2 shows that queues are not predicted to exceed 325 m on this slip road in 2029, 2030 or 2031.

The modelling therefore indicates that in order to avoid queueing traffic on the M5 mainline carriageway an improvement at M5 J12 is needed and open to traffic by 2030.

Figure 5-1 - Maximum queue lengths on the M5 J12 Southbound Off-slip

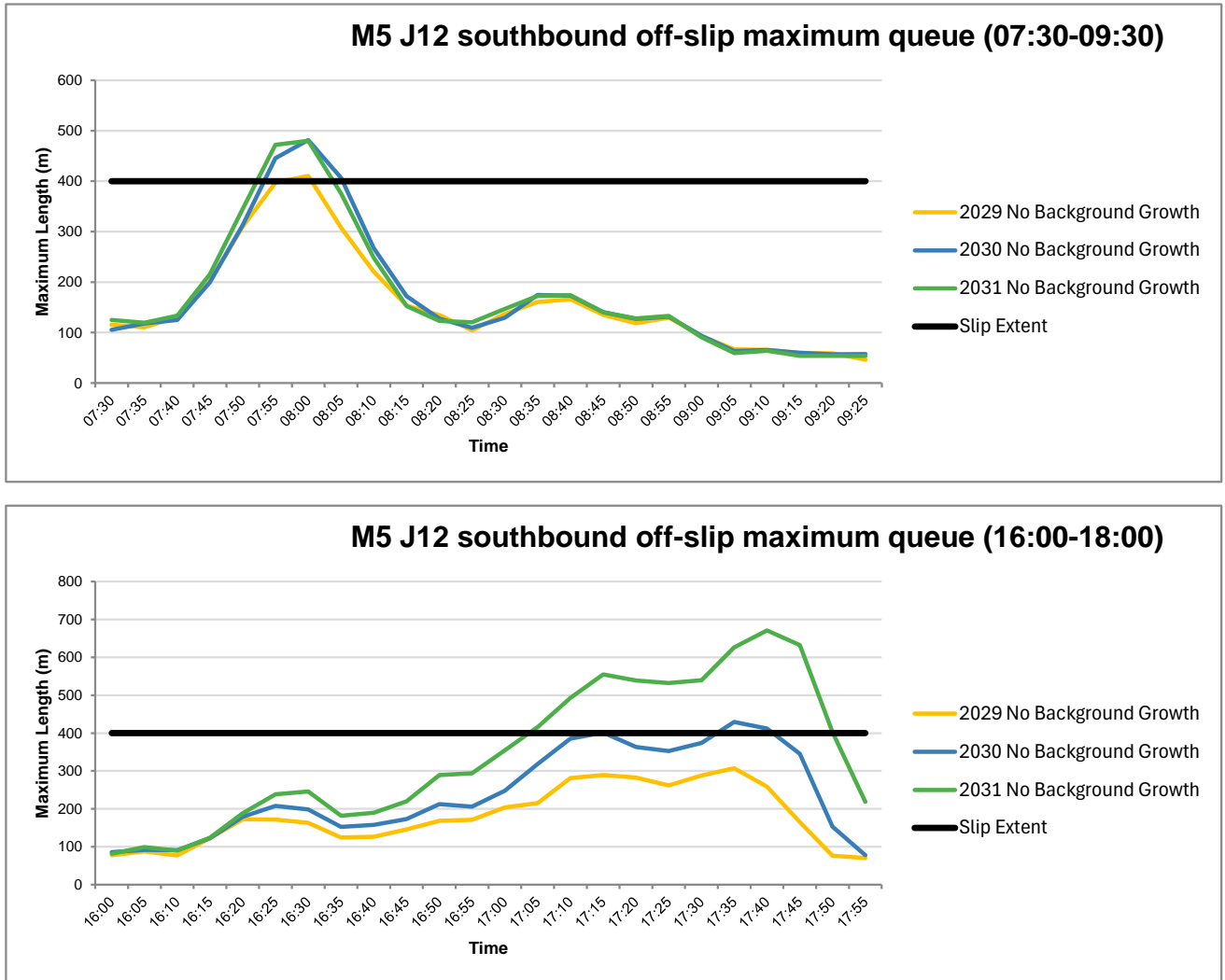


Figure 5-2 - Maximum queue lengths on the M5 J12 Northbound Off-slip

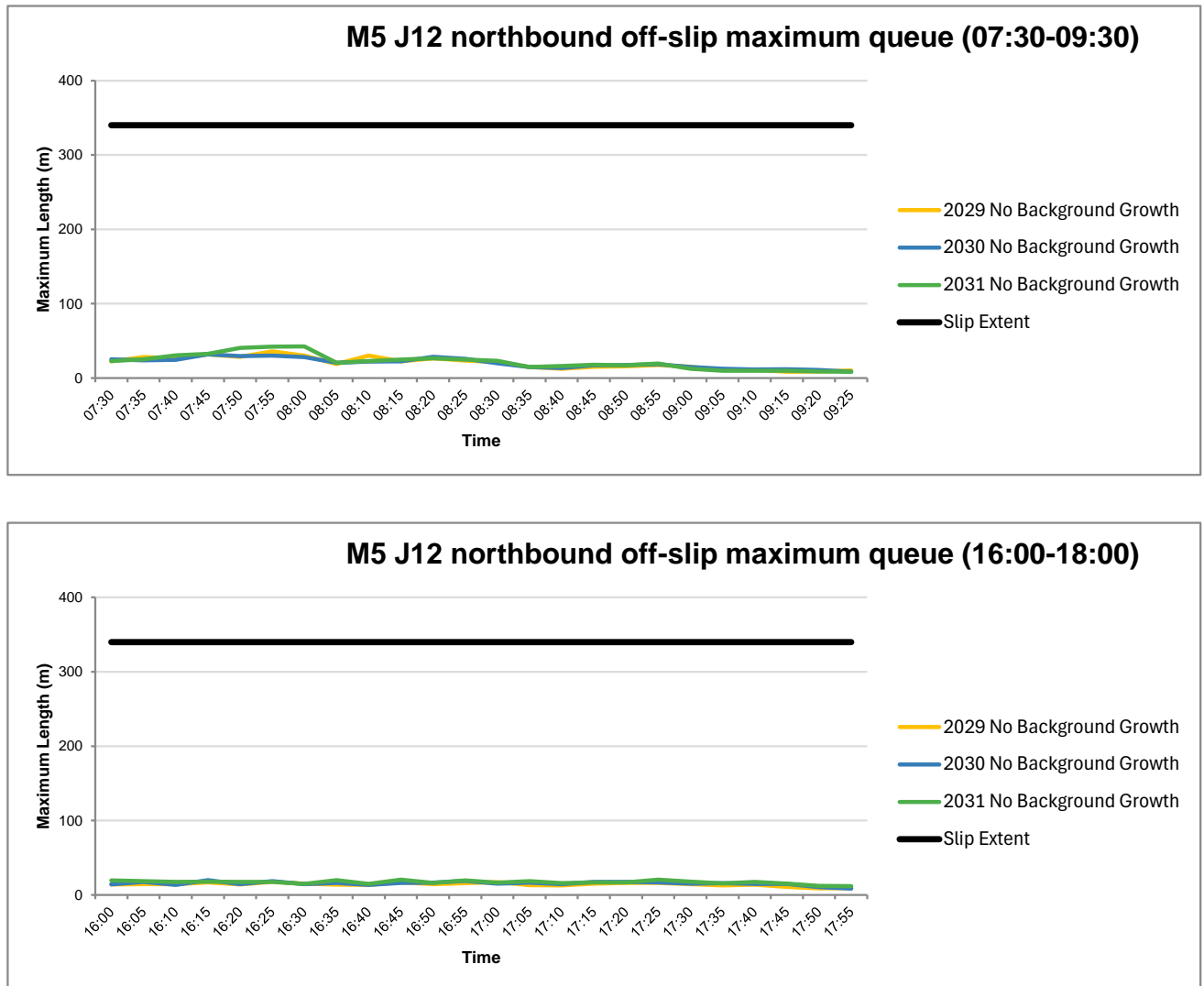
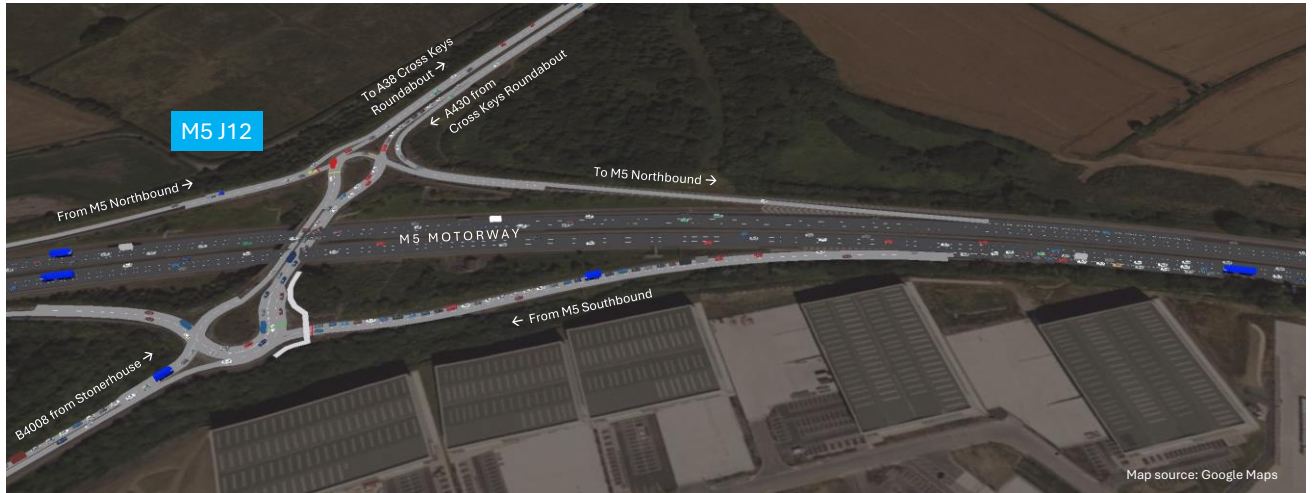


Figure 5-3 shows the predicted operation of the M5 J12 in the AM peak 2031 traffic model, reflecting the queueing extending beyond the length of the southbound off slip shown in Figure 5-1. The screenshot shows queueing traffic at the diverge of the slip road from the M5 extending along Lane 1 of the mainline carriageway and also impacting upon traffic using Lane 2. The queue is not shown as continuous along the full length of the slip road due to the operation of the traffic signals providing space for queueing vehicles to move forward into which creates larger gaps between vehicles than seen in stationary traffic.

Figure 5-3 – Screenshots of M5 J12, 2031 AM Peak



5.3 Local Road Network

Traffic congestion is noted on the local highway network to the west of M5 J12. This is illustrated in Figure 5-4 which shows a screenshot taken from the 2031 AM peak model run looking east from the A38 Cross Keys roundabout towards M5 J12. The image shows traffic queueing on the A38 southbound entry to the Cross Keys roundabout (traffic from Gloucester) and on Bristol Road leading from the Hunts Grove developments.

Figure 5-4 – Screenshot of the A38/A419 Cross Keys Roundabout, 2031 AM Peak



Table 5-11 shows the length of traffic queues approaching the A38 Cross Keys Roundabout in the 2031 traffic model.

Table 5-1 – A430 and B4008 queues extent in 2031

Junction arm	AM Peak		PM Peak	
	Average (m)	Maximum (m)	Average (m)	Maximum (m)
A430 eastbound	592	802	187	448
B4008 westbound	45	119	161	320

This represents a suppressed demand for vehicle trips through the M5 J12 which if released through a capacity improvement scheme at the Cross Keys roundabout could adversely impact upon the predicted operation of the M5 J12. If any improvement is proposed at the Cross Keys roundabout then this modelling exercise should be repeated to insured issues remain valid.

5.4 Traffic Demand in 2031

Traffic congestion on the local road network is indicated in the 2031 traffic models. Looking only at traffic growth in the period 2022 to 2031, Table 5-2 provides a comparison of the forecast traffic flow (the 'Demand' flow) at M5 J12 and the flow passing through the junction in the traffic model (the 'Actual' flow) in the AM and PM peak hours. It shows that the Demand and Actual flows are broadly comparable indicating the junction has adequate capacity in 2031.

Table 5-2 – Comparison of M5 J12 2031 Demand and Actual Peak Hour Traffic Flows

Junction arm	AM Peak, pcus/hr		PM Peak, pcus/hr	
	Demand flow	Actual flow	Demand flow	Actual flow
M5 southbound	167	160	166	148
B4008 westbound	95	91	124	124
M5 northbound	75	75	143	140
A430 eastbound	222	233	133	127
Total	559	560	566	539



However, this does not demonstrate that the junction has any further reserve capacity and should any suppressed traffic demand be released elsewhere on the local road network, this modelling exercise would need to be repeated.

6 Housing Supply Delivery before IDP improvements at M5 Junction 12

6.1 Background

The Stroud District Local Plan Review (SDLPR) Pre-submission Draft Plan (Regulation 19 Consultation), published in May 2021, outlines the allocation of 12,600 new dwellings by 2040.

In response to post-hearing action points (EIP Ref. SLP-AP-002), Stroud District Council submitted Appendix 2 AC6 (see Appendix C) in May 2023, estimating that 8,632 dwellings—approximately 70% of the total housing need—could be delivered without triggering the need for mitigation at M5 Junctions 12 and 14. However, this estimate lacked supporting traffic modelling. The sites excluded were those developments which had been identified in the IDP to fund the respective SRN improvement:

- At M5 J12, the excluded developments are G1 South of Hardwicke, G2 Land at Whaddon, and PS30 Hunts Grove Extension.
- At M5 J14, the excluded developments are PS34 Sharpness Docks, PS36 New Settlement at Sharpness and PS37 New Settlement at Wisloe.

National Highways raised concerns in June 2023 regarding the methodology and assumptions behind the Council's submission. In October 2023, the Inspectors requested further evidence to demonstrate that the proposed developments would not adversely impact the Strategic Road Network (SRN). Stroud District Council responded with a Technical Note and supplementary information, maintaining that the developments would not materially affect the SRN.

Despite this, National Highways concluded in November 2023 that the rationale remained unsubstantiated given that no new modelling had been conducted to assess the cumulative impact of non-IDP site allocations. National Highways committed to undertake this modelling as an extension of this study.

The assessment at M5 Junction 12 tests the impact of 8,632 dwellings and – in line with Appendix 2 AC - excludes SDLPR allocations G1 South of Hardwicke, G2 Land at Whaddon, and PS30 Hunts Grove Extension (these being the sites identified in the IDP to fund the improvement at M5 J12).

6.2 Traffic Modelling Results

Figure 6.1 and 6.2 shows the length of traffic queues on the M5 J12 southbound and northbound off-slips respectively in the AM and PM peak periods. They show that, with the exclusion of development at SDLP Policy Sites G1, G2 and PS30, traffic queues are retained within the 400m-length of each sliproad in 2040 indicating no disruption to the motorway mainline traffic flow.

Figure 6-1 – Appendix 2 AC6: Maximum queue lengths on the M5 J12 Southbound Off-slip (No development at G1, G2 & PS30)

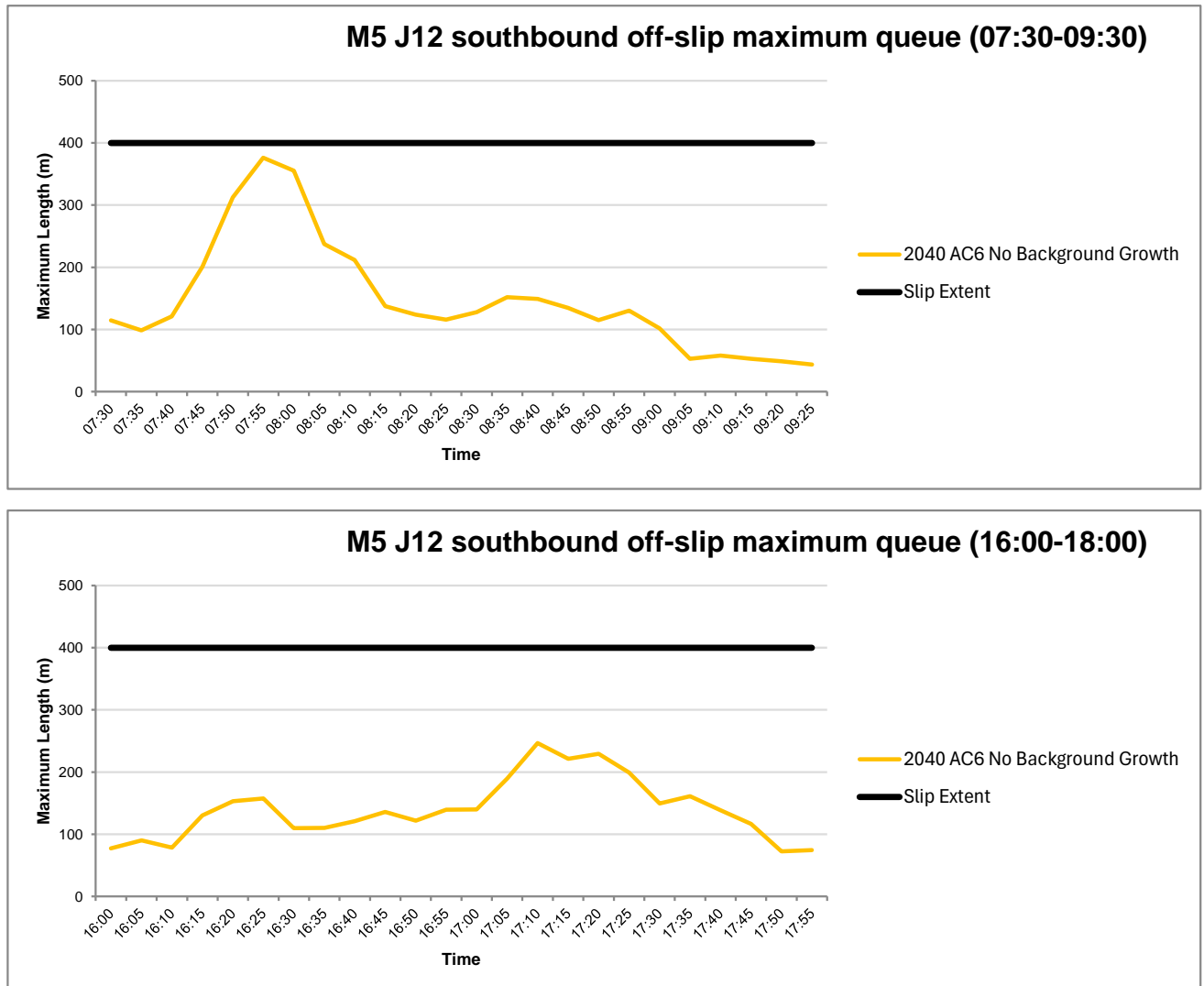
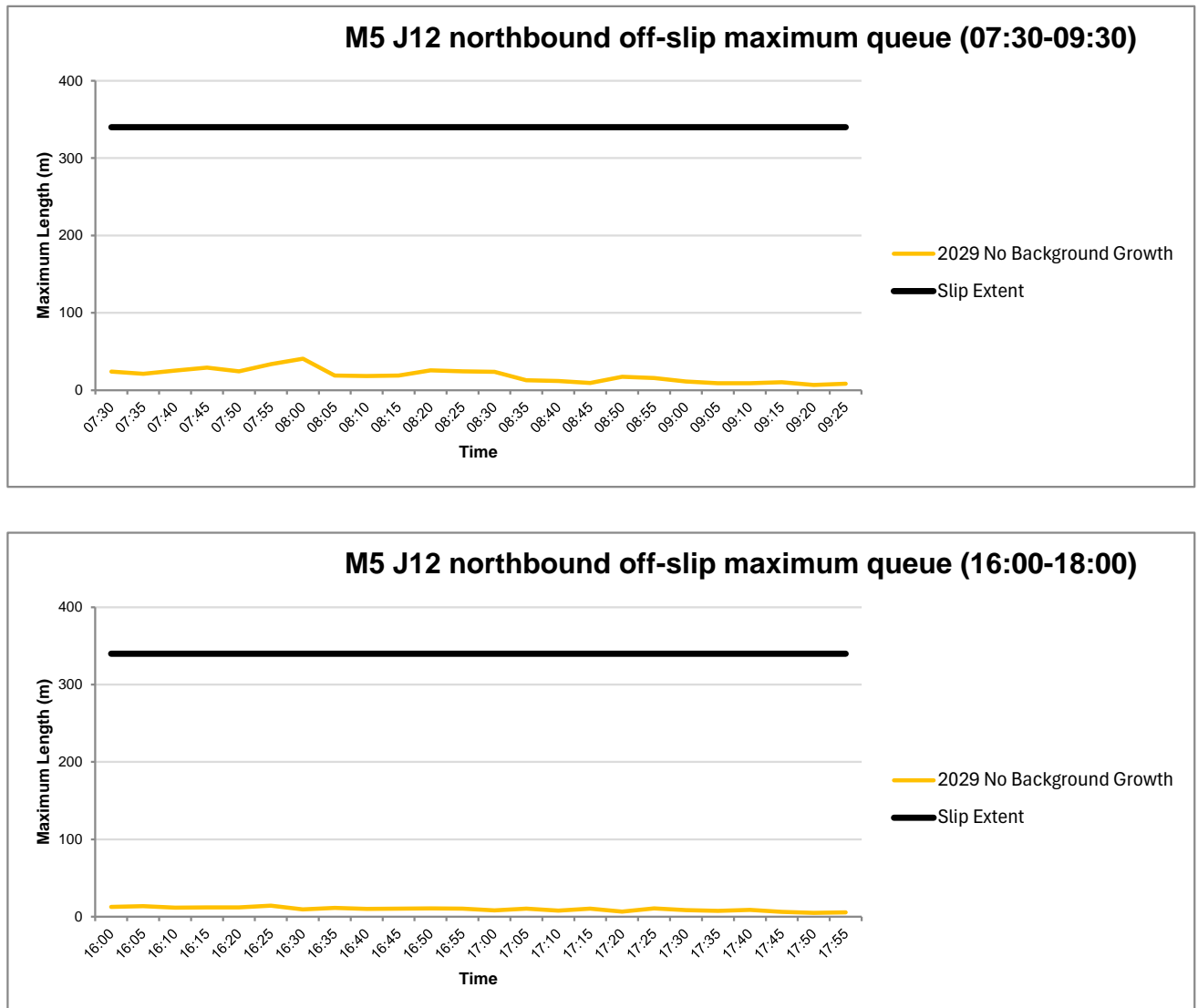


Figure 6-2 - Appendix 2 AC6: Maximum queue lengths on the M5 J12 Northbound Off-slip (No development at G1, G2 & PS30)



On this basis it can be concluded that the quantum of development included in Appendix 2 AC6 can be accommodated at M5 Junction 12 before a grade separated roundabout at M5 J12 is open to traffic if SDLP Policy Allocations G1 South of Hardwicke, G2 Land at Whaddon, and PS30 Hunts Grove Extension are not permitted to build out.

7 Summary

This report has been prepared to identify the effective reserve capacity (if any) at M5 Junction 12 (M5 J12) Quedgeley Interchange, located to the south of Gloucester, in the period to 2040.

Recent anecdotal comment and video survey evidence suggests the M5 J12 southbound off-slip experiences periodical, short lived queues extending back to the M5 motorway mainline during peak periods. This is a safety concern to National Highways due to the potential conflict between slow-moving/stationary vehicles and those travelling at motorway speeds.

The Stroud District Local Plan Review (SDLPR) would provide 12,600 new homes in the period to 2040. The SDLPR includes several large housing and housing led mixed-use allocations that would have a material traffic impact at M5 J12.

The SDLPR Infrastructure Delivery Plan (IDP) proposes an upgrade to M5 J12 in the form of a grade-separated roundabout to enable and support delivery of the draft SDLPR allocations.

The report assumes no improvement at M5 J12 before the IDP mitigation is implemented and open to traffic, excepting a minor capacity enhancement scheme to allow development at Symmetry Park to the south of the junction to come forward in advance of the major scheme.

The modelling includes traffic demands at M5 J12 from the SDLPR draft allocations for the period 2025 to 2040 derived from the traffic evidence presented at EIP and applied in accordance with the council's housing delivery projections. The draft allocations and existing development completions will result in total traffic through the junction increasing by around 30% between 2022 and 2040 in both the AM and PM peak periods. The operational tests do not include background growth at the junction which as they would increase trips through the junction by a further 20%.

The modelling tested year by year growth in traffic through the junction in accordance with the housing delivery projections which indicated that queueing traffic would exceed the length of the southbound off slip in 2030. Beyond 2030, traffic queues on the M5 southbound off-slip are forecast to extend onto the motorway mainline creating an unacceptable safety impact.

The modelling therefore shows that traffic growth can be accommodated on the SRN at M5 J12 with the proposed SDLPR mitigation until 2030. Consideration should be given to, or an improvement is needed from 2031 to ensure the queues will not extend onto the mainline resulting in unacceptable risks to the road safety.

The assessment of Stroud District Council's Appendix 2 AC6 indicates that approximately 8,632 dwellings—around 70% of the SDLPR housing allocation—can be accommodated without triggering mitigation at M5 J12, provided that key SDLPR sites G1, G2, and PS30

are not developed prior to the completion of a grade-separated roundabout at J12. In this scenario, traffic modelling shows that traffic queues remain within acceptable limits on the M5 J12 slip roads during peak periods in 2040.

Significant congestion is noted on at the Cross Keys roundabout to the west of M5 J12, which should be brought to the attention of Stroud District Council and Gloucestershire County Council. This report has not considered the impact of any mitigation of the congestion shown on the local road network in respect of its impact on the operation of M5 J12. Should any mitigation the proposed for Cross Keys roundabout that would release more traffic through the M5 J12, then the impact of this should be modelled to ensure that it would not adversely impact the predicted junction operation and result in the need for mitigation at the junction to be delivered earlier.

It will be a requirement of National Highways that the operation of the junction is considered in every planning application where a significant proportion of its traffic will use M5 J12. Where necessary this will require use of its M5 J12 traffic model and reported in any supporting transport assessment or similar supporting document, and may be used to inform the timing of mitigation at M5 J12.

Appendix A

SDLPR Housing Delivery Assumptions

Supply Completions and commitments	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	36/37	37/38	38/39	39/40	40/41	41/42	Not likely to be built	Total built
Completions 01/04/2020 - 31/03/2023	745	771	632																					2,148
Large site commitments/S106 at 01/10/2023				469	514	591	641	240	154	120	40	40	16	0	0	0	0	0	0	0	0			2,825
Small site commitments at 01/10/2023 (Discounted by 22%)				112	112	112																		336
Strategic Site Allocations																								
PS19a Stonehouse North West - Robert Hitchins	0	0	0	0	0	0	0	30	75	75	75	75	75	75	75	80								635
PS19a Stonehouse North West - GCC	0	0	0	0	0	0	0	0	0	0	65													65
PS24 Cam North West (W. of Draycott) - Robert Hitchins	0	0	0	0	0	0	35	50	50	50	50													235
PS24 Cam North West (W. of Draycott) - Persimmon	0	0	0	0	0	0	27	80	80	80	80	80	80	80	80									667
PS25 Cam North East Extension (E. of River Cam)	0	0	0	0	0	0	0	0	0	0	50	50	50	30										180
PS30 Hunts Grove Extension - Crest	0	0	0	0	0			50	50	100	100	120	120	80										620
PS30 Hunts Grove Extension - CFL														20	40	40	30							130
G1 South of Hardwicke	0	0	0	0	0	0	0	60	120	120	120	120	120	120	120	120	120	120	90					1,350
PS34 Sharpness Docks								45	35	35	30	30	30	30	30	30	20	20						300
PS36 Sharpness new settlement	0	0	0	0	0	0	0	0	0	155	220	220	220	220	220	248	248	248	248	153				2,400
PS37 Wisloe new settlement	0	0	0	0	0	0	25	50	50	85	121	92	74	144	106	108	102	110	130	130	148	25		1,500
Local Site Allocations																								
PS01 Brimscombe Mill	0	0	0	0	0	0	0	0	0	0	40													40
PS02 Brimscombe Port	0	0	0	0	0	0	50	50	50															150
PS05 East of Tobacconist Road, Minchinhampton	0	0	0	0	0	30	50																	80
PS06 The New Lawn, Nailsworth	0	0	0	0	0	0	0	0	40	50														90
PS10 Cheapside, Stroud	0	0	0	0	0	0	0	0	35	40														75
PS11 Merrywalks Arches, Stroud	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25									25
PS12 Police Station/Magistrates Court, Stroud	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45				45
STR065 Land at Beeches Green, Stroud	0	0	0	0	0	0	0	0	10	10														20
PS16 South of Leonard Stanley Primary School	0	0	0	0	0	10	15																	25
PS42 Land off Dozule Close, Leonard Stanley	0	0	0	0	0	13																		13
PS17 Magpies site, Oldends Lane, Stonehouse	0	0	0	0	0	0	0	0	0	0	10													10
PS28 Land off Prospect Place, Dursley	0	0	0	0	0	0	0	10																10
HAR017 Land at Sellars Road, Hardwicke	0	0	0	0	0	10																		10
BER016/ 017 Land at Lynch Road, Berkeley	0	0	0	0	0	30	30																	60
PS35 Land at Focus School, Wanswell	0	0	0	0	0	0	0	50	20															70
PS44 Northwest of Whitminster Lane, Frampton	0	0	0	0	0	0	0	20	10															30
PS45 Land west of Upton's Gardens, Whitminster	0	0	0	0	11																			11
PS46 Land west of School Lane, Whitminster	0	0	0	0	0	45																		45
PS38 South of Wickwar Road, Kingswood	0	0	0	0	0	0	14	39																53
PS41 Washwell Fields, Painswick	0	0	0	0	0	0	0	0	0	0	20													20
Small sites windfall	0	0	0	0	0	0	76	76	76	76	76	76	76	76	76	76	76	76	76	76				1,064
TOTAL	745	771	632	581	637	841	963	805	865	996	1097	903	861	875	772	702	596	574	544	404	148	25	0	15,337
Plan Period 2020 - 2040																								
Five year period from adoption																								

Appendix B

Turning Movements at M5 J12

Turning Movements at M5 J12

The following turning movements were provided by Stroud District Council. All were derived from its Stroud District Local Plan Do Something model for 2040.

The turning movements are from a network assuming a full grade separated roundabout is open to traffic in at M5 J12.

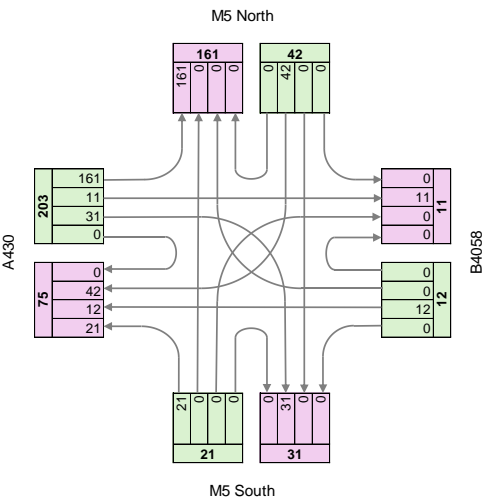
All data is PCUs/hr.

Site allocation references are those in the Stroud District Local Plan.

G1 South of Hardwicke

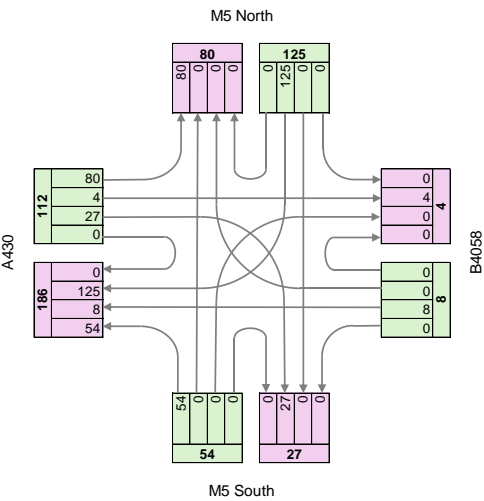
M5 J12 Turning Matrix
G1 South of Hardwicke
AM Peak
PCUs

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	0	0	42	42
B4058	0	0	0	12	12
M5 South	0	0	0	21	21
A430	161	11	31	0	203
Total	161	11	31	75	278



M5 J12 Turning Matrix
G1 South of Hardwicke
PM Peak
PCUs

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	0	0	125	125
B4058	0	0	0	8	8
M5 South	0	0	0	54	54
A430	80	4	27	0	112
Total	80	4	27	186	298



G2 Land at Whaddon

M5 J12 Turning Matrix

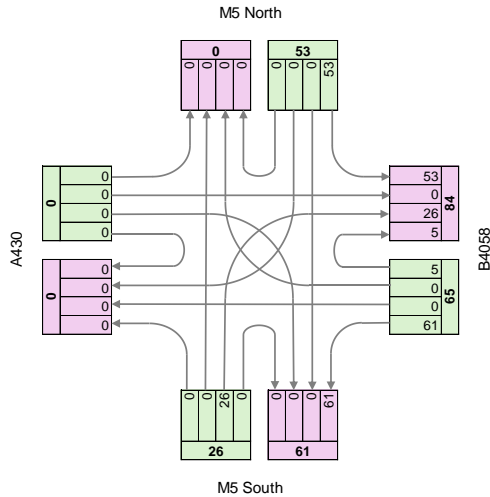
G2 Land at Whaddon

AM Peak

PCUs

Arriving flow
Exiting flow

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	53	0	0	53
B4058	0	5	61	0	65
M5 South	0	26	0	0	26
A430	0	0	0	0	0
Total	0	84	61	0	144



M5 J12 Turning Matrix

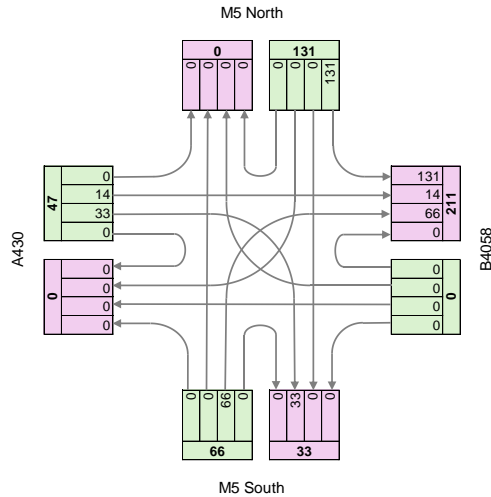
G2 Land at Whaddon

PM Peak

PCUs

Arriving flow
Exiting flow

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	131	0	0	131
B4058	0	0	0	0	0
M5 South	0	66	0	0	66
A430	0	14	33	0	47
Total	0	211	33	0	244



PS19a Land Northwest of Stonehouse

M5 J12 Turning Matrix

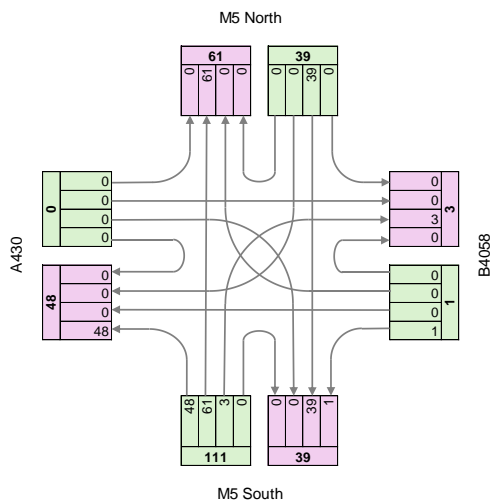
PS19a Land Northwest of Stonehouse

AM Peak

PCUs

Arriving flow
Exiting flow

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	0	39	0	39
B4058	0	0	1	0	1
M5 South	61	3	0	48	111
A430	0	0	0	0	0
Total	61	3	39	48	151



M5 J12 Turning Matrix

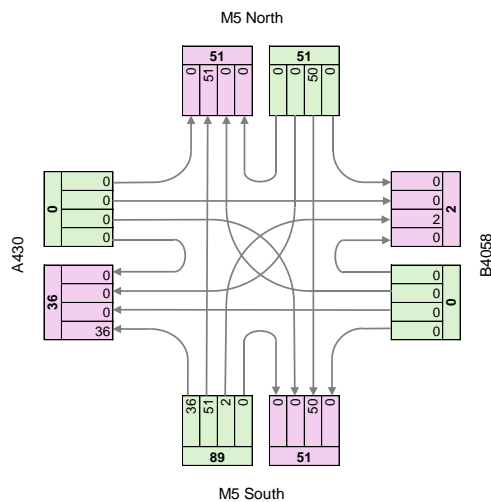
PS19a Land Northwest of Stonehouse

PM Peak

PCUs

Arriving flow
Exiting flow

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	0	50	0	51
B4058	0	0	0	0	0
M5 South	51	2	0	36	89
A430	0	0	0	0	0
Total	51	2	51	36	139



PS20 M5 J13 Eco Park

M5 J12 Turning Matrix

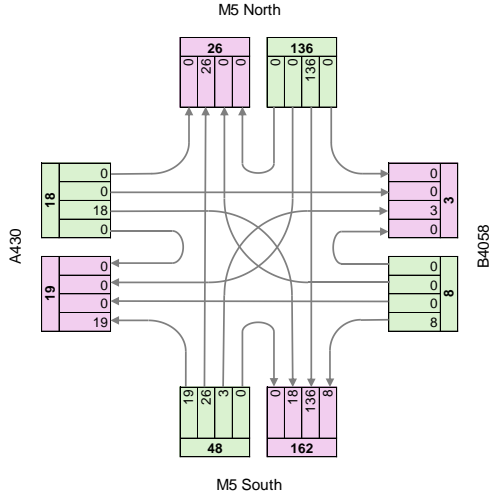
PS20 M5 J13 Eco Park

AM Peak

PCUs

Arriving flow
Exiting flow

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	0	136	0	136
B4058	0	0	8	0	8
M5 South	26	3	0	19	48
A430	0	0	18	0	18
Total	26	3	162	19	210



M5 J12 Turning Matrix

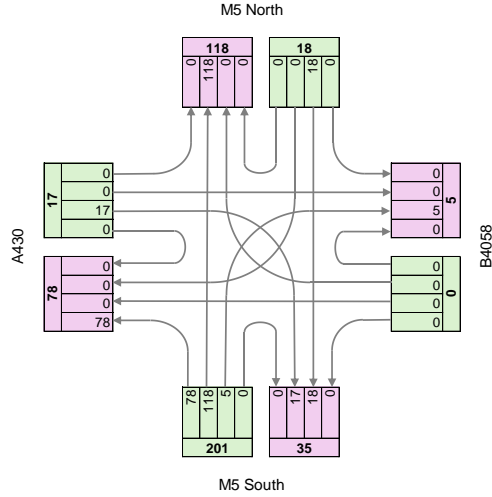
PS20 M5 J13 Eco Park

PM Peak

PCUs

Arriving flow
Exiting flow

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	0	18	0	18
B4058	0	0	0	0	0
M5 South	118	5	0	78	201
A430	0	0	17	0	17
Total	118	5	35	78	236



PS24 Cam North West (West of Draycott)

M5 J12 Turning Matrix

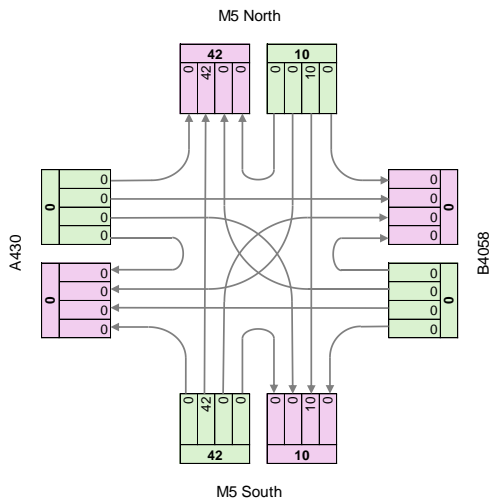
PS24 Cam North West (W. of Draycott)

AM Peak

PCUs

Arriving flow
Exiting flow

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	0	10	0	10
B4058	0	0	0	0	0
M5 South	42	0	0	0	42
A430	0	0	0	0	0
Total	42	0	10	0	52



M5 J12 Turning Matrix

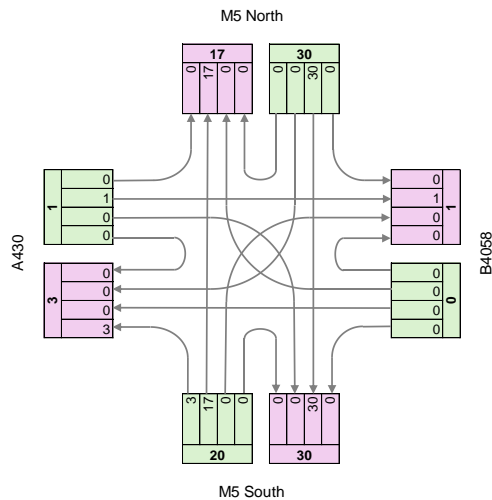
PS24 Cam North West (W. of Draycott)

PM Peak

PCUs

Arriving flow
Exiting flow

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	0	30	0	30
B4058	0	0	0	0	0
M5 South	17	0	0	3	20
A430	0	1	0	0	1
Total	17	1	30	3	52



PS25 Cam North East Extension (East of River Cam)

M5 J12 Turning Matrix

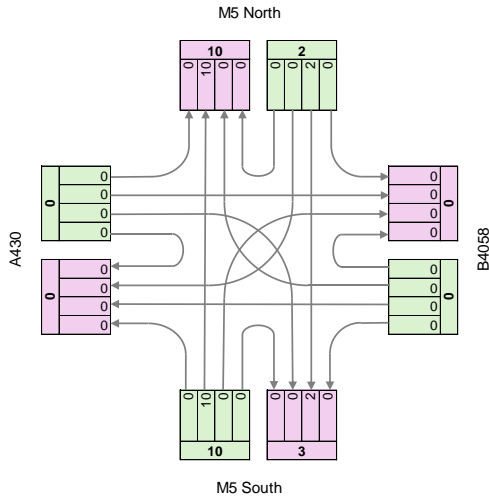
PS25 Cam North East Extension (E. of River Cam)

AM Peak

PCUs

Arriving flow
Exiting flow

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	0	2	0	2
B4058	0	0	0	0	0
M5 South	10	0	0	0	10
A430	0	0	0	0	0
Total	10	0	3	0	13



M5 J12 Turning Matrix

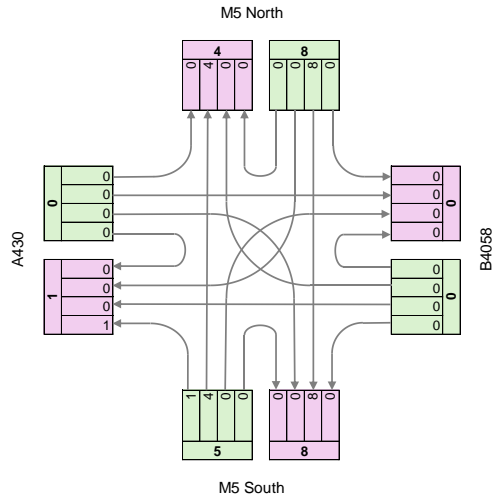
PS25 Cam North East Extension (E. of River Cam)

PM Peak

PCUs

Arriving flow
Exiting flow

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	0	8	0	8
B4058	0	0	0	0	0
M5 South	4	0	0	1	5
A430	0	0	0	0	0
Total	4	0	8	1	13



PS30 Hunts Grove Extension

M5 J12 Turning Matrix

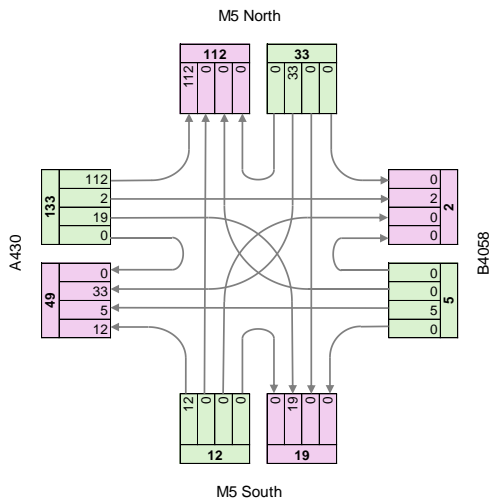
PS30 Hunts Grove Extension

AM Peak

PCUs

Arriving flow
Exiting flow

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	0	0	33	33
B4058	0	0	0	5	5
M5 South	0	0	0	12	12
A430	112	2	19	0	133
Total	112	2	19	49	183



M5 J12 Turning Matrix

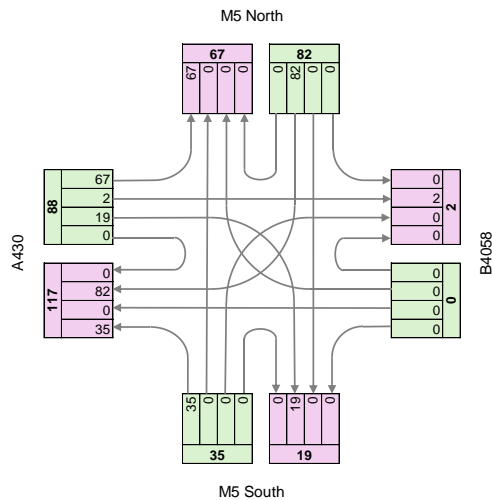
PS30 Hunts Grove Extension

PM Peak

PCUs

Arriving flow
Exiting flow

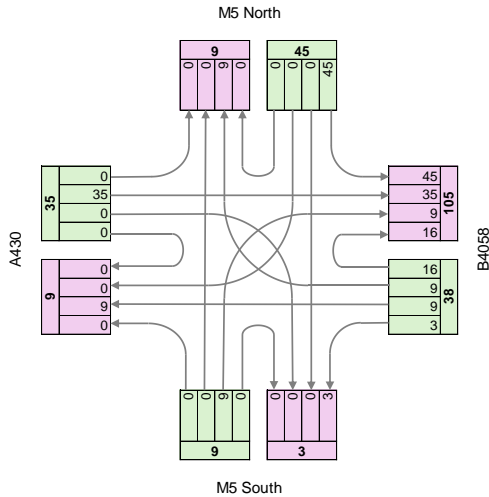
AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	0	0	82	82
B4058	0	0	0	0	0
M5 South	0	0	0	35	35
A430	67	2	19	0	88
Total	67	2	19	117	205



PS32 Quedgeley East Extension

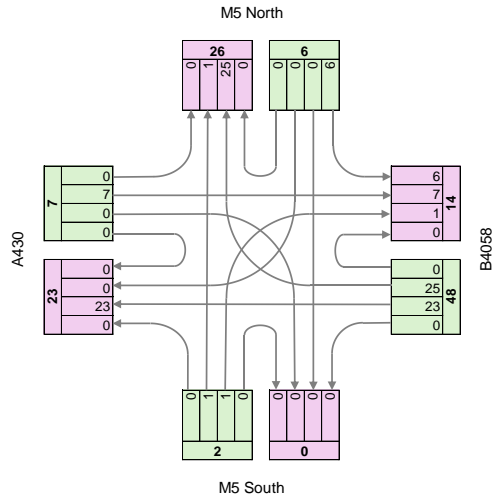
M5 J12 Turning Matrix
PS32 Quedgeley East Extension
AM Peak
PCUs

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	45	0	0	45
B4058	9	16	3	9	38
M5 South	0	9	0	0	9
A430	0	35	0	0	35
Total	9	105	3	9	126



M5 J12 Turning Matrix
PS32 Quedgeley East Extension
PM Peak
PCUs

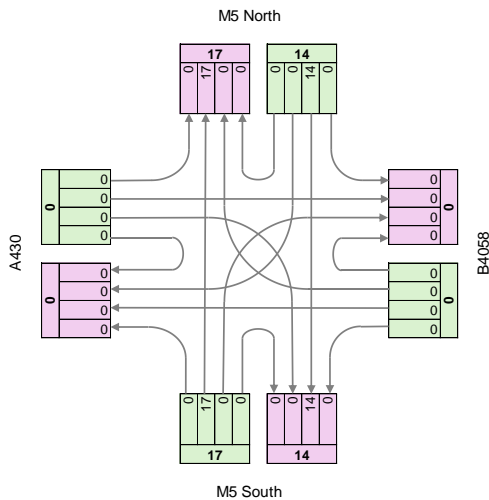
AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	6	0	0	6
B4058	25	0	0	23	48
M5 South	1	1	0	0	2
A430	0	7	0	0	7
Total	26	14	0	23	63



PS34 Sharpness Docks

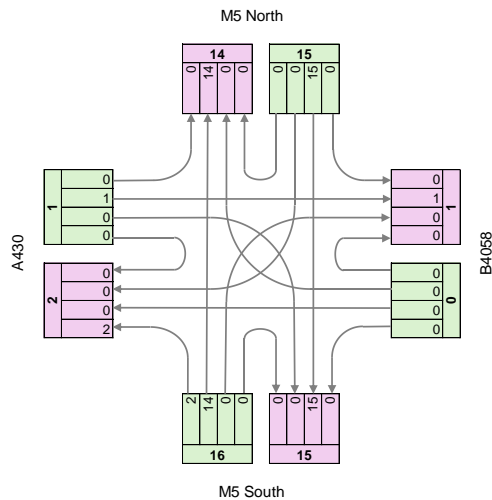
M5 J12 Turning Matrix
PS34 Sharpness Docks
AM Peak
PCUs

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	0	14	0	14
B4058	0	0	0	0	0
M5 South	17	0	0	0	17
A430	0	0	0	0	0
Total	17	0	14	0	31



M5 J12 Turning Matrix
PS34 Sharpness Docks
PM Peak
PCUs

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	0	15	0	15
B4058	0	0	0	0	0
M5 South	14	0	0	2	16
A430	0	1	0	0	1
Total	14	1	15	2	32



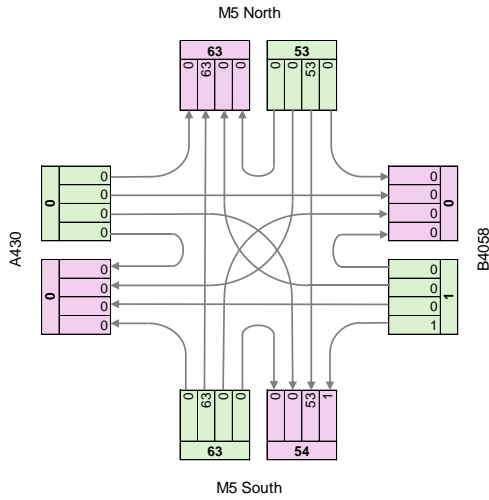
PS36 New Settlement at Sharpness

M5 J12 Turning Matrix

PS36 New settlement at Sharpness
AM Peak
PCUs

Arriving flow
Exiting flow

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	0	53	0	53
B4058	0	0	1	0	1
M5 South	63	0	0	0	63
A430	0	0	0	0	0
Total	63	0	54	0	117

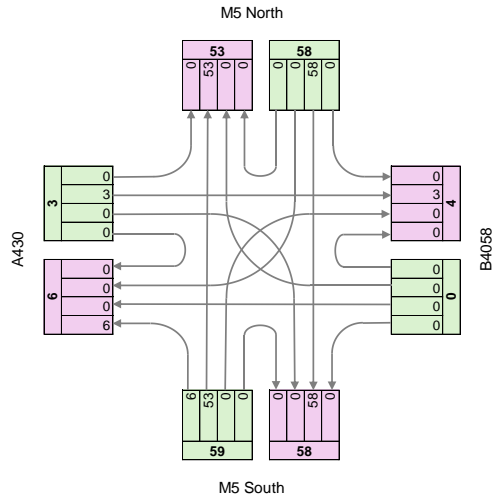


M5 J12 Turning Matrix

PS36 New settlement at Sharpness
PM Peak
PCUs

Arriving flow
Exiting flow

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	0	58	0	58
B4058	0	0	0	0	0
M5 South	53	0	0	6	59
A430	0	3	0	0	3
Total	53	4	58	6	120



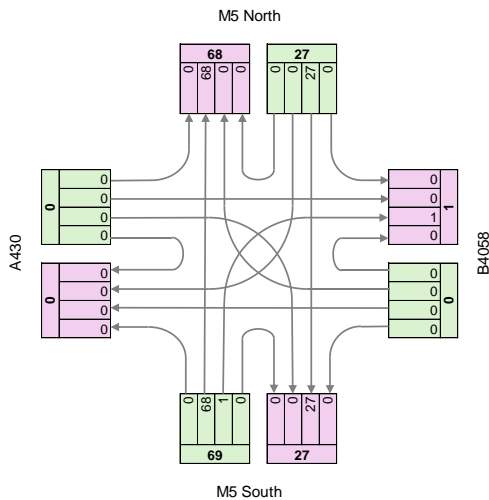
PS37 New Settlement at Wisloe

M5 J12 Turning Matrix

PS37 New settlement at Wisloe
AM Peak
PCUs

Arriving flow
Exiting flow

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	0	27	0	27
B4058	0	0	0	0	0
M5 South	68	1	0	0	69
A430	0	0	0	0	0
Total	68	1	27	0	97

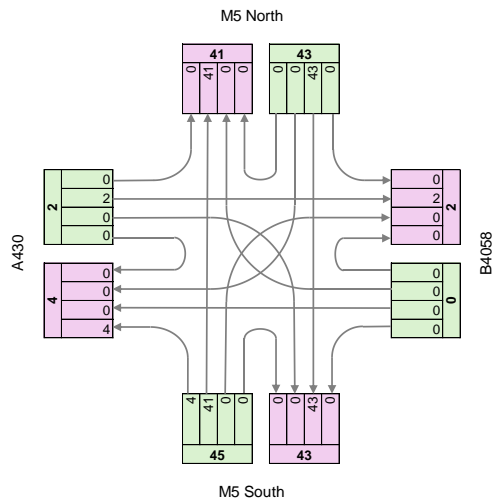


M5 J12 Turning Matrix

PS37 New settlement at Wisloe
PM Peak
PCUs

Arriving flow
Exiting flow

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	0	43	0	43
B4058	0	0	0	0	0
M5 South	41	0	0	4	45
A430	0	2	0	0	2
Total	41	2	43	4	89



PS43 Javelin Park

M5 J12 Turning Matrix

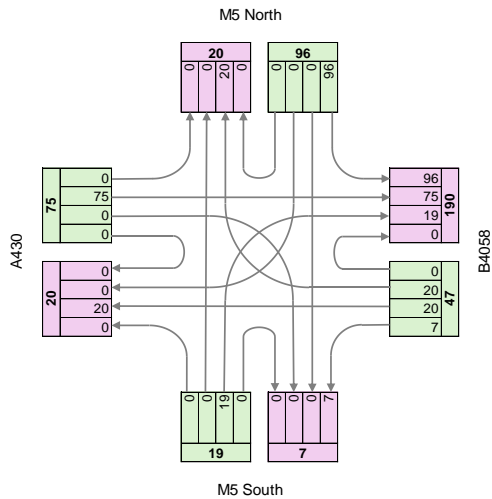
PS43 Javelin Park

AM Peak

PCUs

Arriving flow
Exiting flow

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	96	0	0	96
B4058	20	0	7	20	47
M5 South	0	19	0	0	19
A430	0	75	0	0	75
Total	20	190	7	20	237



M5 J12 Turning Matrix

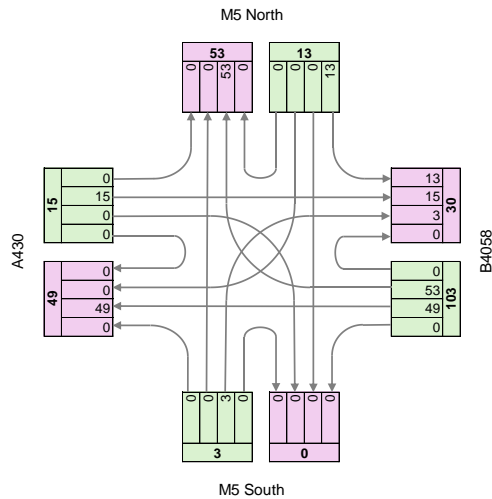
PS43 Javelin Park

PM Peak

PCUs

Arriving flow
Exiting flow

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	13	0	0	13
B4058	53	0	0	49	103
M5 South	0	3	0	0	3
A430	0	15	0	0	15
Total	53	30	0	49	133



PS47 Renishaw New Mills

M5 J12 Turning Matrix

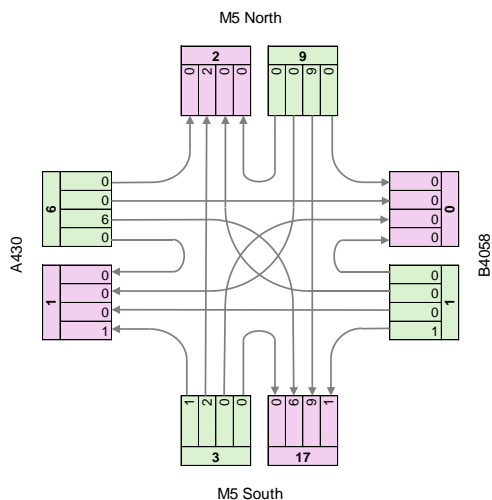
PS47 Renishaw New Mills

AM Peak

PCUs

Arriving flow
Exiting flow

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	0	9	0	9
B4058	0	0	1	0	1
M5 South	2	0	0	1	3
A430	0	0	6	0	6
Total	2	0	17	1	20



M5 J12 Turning Matrix

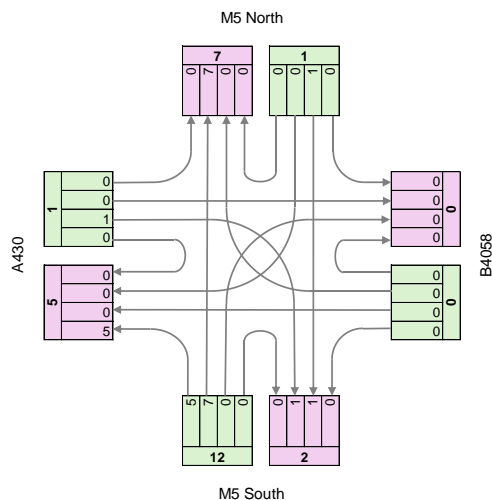
PS47 Renishaw New Mills

PM Peak

PCUs

Arriving flow
Exiting flow

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	0	1	0	1
B4058	0	0	0	0	0
M5 South	7	0	0	5	12
A430	0	0	1	0	1
Total	7	0	2	5	14



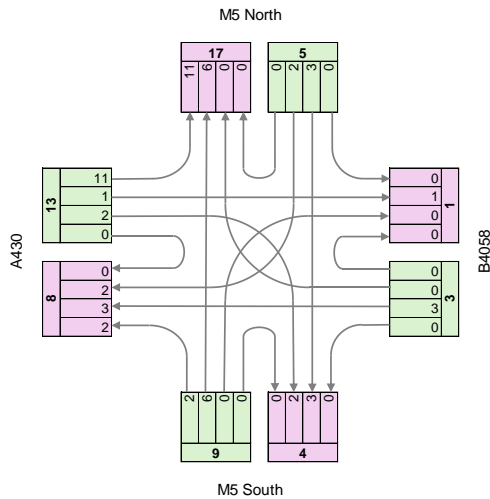
Local Site Allocations and Small Windfall

M5 J12 Turning Matrix

Local Site Allocations and Small Windfall
AM Peak
PCUs

Arriving flow
Exiting flow

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	0	3	2	5
B4058	0	0	0	3	3
M5 South	6	0	0	2	9
A430	11	1	2	0	13
Total	17	1	4	8	31

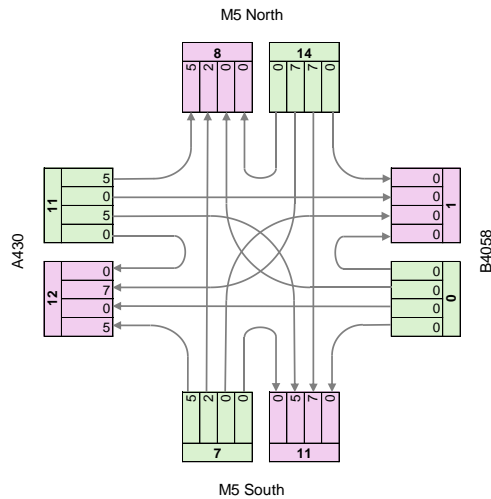


M5 J12 Turning Matrix

Local Site Allocations and Small Windfall
PM Peak
PCUs

Arriving flow
Exiting flow

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	0	7	7	14
B4058	0	0	0	0	0
M5 South	2	0	0	5	7
A430	5	0	5	0	11
Total	8	1	11	12	32



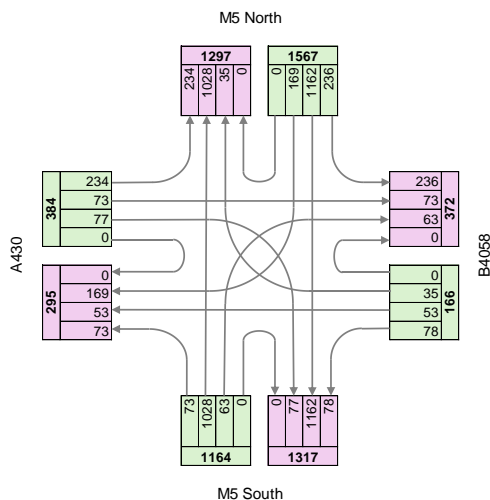
Background Growth

M5 J12 Turning Matrix

Background Growth
AM Peak
PCUs

Arriving flow
Exiting flow

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	236	1162	169	1567
B4058	35	0	78	53	166
M5 South	1028	63	0	73	1164
A430	234	73	77	0	384
Total	1297	372	1317	295	3281

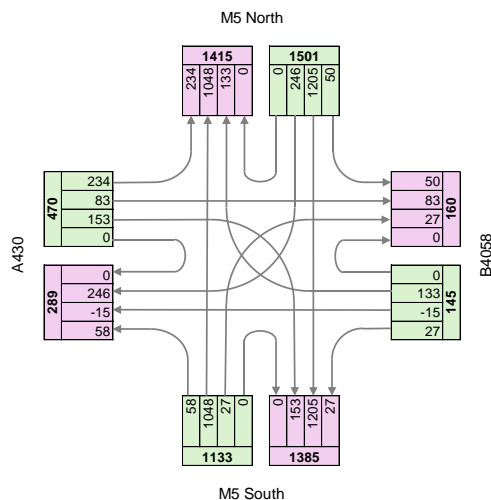


M5 J12 Turning Matrix

Background Growth
PM Peak
PCUs

Arriving flow
Exiting flow

AM Peak	M5N	B4058	M5S	A430	Total
M5 North	0	50	1205	246	1501
B4058	133	0	27	-15	145
M5 South	1048	27	0	58	1133
A430	234	83	153	0	470
Total	1415	160	1385	289	3249



Appendix C

**Housing Supply Delivery before
improvements at M5 J12 and J14
(Appendix 2 AC6)**

12th May 2023

Note on housing supply which could be delivered before impacts on M5 J12 and J14 would require mitigation

Introduction

At the Stroud District Local Plan Hearing Session held on 23 March 2023, the Inspector asked the District Council to prepare a short note setting out the expected housing supply which could be delivered before the highway capacity constraints currently existing at the M5 motorway junctions 12 and 14 would require mitigation to be delivered. The note should also set out which sites in the housing trajectory would impact and where.

Housing sites which will impact on Junctions 12 and 14

The Infrastructure Delivery Plan Addendum EB110) sets out those draft Local Plan allocations which are expected to contribute to mitigation schemes at junctions 12 and 14. These are:

Housing sites affecting Junction 12

G1 - South of Hardwicke

G2 - Land at Whaddon

PS30 - Hunts Grove Expansion

Housing sites affecting Junction 14

PS34 - Sharpness Docks

PS36 - New Settlement at Sharpness

PS37 - New Settlement at Wisloe

Housing trajectory for housing sites affecting Junctions 12 and 14

The following tables set out the projected housing supply to be delivered from the above sites, using data from the housing trajectory compiled in December 2022 and submitted by the Council at the MIQ stage in February 2022 (see District Council Appendix 1 to MIQs).

Site affecting J12	2023 /24	2024 /25	2025 /26	2026 /27	2027 /28	2028 /29	2029 /30	2030 /31	2031 /32	2032 /33	2033 /34	2034 /35	2035 /36	2036 /37	2037 /38	2038 /39	2039 /40
G1 - South of Hardwicke	0	0	120	120	120	120	120	120	120	120	120	120	120	30	0	0	0
G2 - Land at Whaddon	0	80	200	200	200	200	200	200	200	200	200	200	200	200	200	200	120
PS30 - Hunts Grove Expansion	0	110	110	75	75	75	75	75	75	80	0	0	0	0	0	0	0
TOTAL	0	190	430	395	395	395	395	395	395	400	320	320	320	230	200	200	120
Cumulative TOTAL	0	190	620	1015	1410	1805	2200	2595	2990	3390	3710	4030	4350	4580	4780	4980	5100

Site affecting J14	2023 /24	2024 /25	2025 /26	2026 /27	2027 /28	2028 /29	2029 /30	2030 /31	2031 /32	2032 /33	2033 /34	2034 /35	2035 /36	2036 /37	2037 /38	2038 /39	2039 /40
PS34 - Sharpness Docks	0	0	45	35	30	30	30	30	30	30	20	20	0	0	0	0	0
PS36 - New Settlement at Sharpness	0	0	0	0	0	50	150	150	200	200	250	250	250	250	250	250	150
PS37 - New Settlement at Wisloe	0	0	50	50	50	85	121	92	74	144	106	108	102	110	130	130	148
TOTAL	0	0	95	85	80	165	301	272	304	374	376	378	352	360	380	380	298
Cumulative TOTAL	0	0	95	180	260	425	726	998	1302	1676	2052	2430	2782	3142	3522	3902	4200

Housing supply which could be delivered without sites impacting upon M5 Junctions 12 or 14

The final table below summarises the projected housing supply from all sources excluding the above sites, as an indication of the housing supply unaffected by the highway constraints at M5 Junctions 12 or 14.

Housing supply	20 /21	21 /22	22 /23	23 /24	24 /25	25 /26	26 /27	27 /28	28 /29	29 /30	30 /31	31 /32	32 /33	33 /34	34 /35	35 /36	36 /37	37 /38	38 /39	39 /40
Total supply	745	771	779	1117	869	963	814	460	395	311	230	230	228	135	165	75	75	75	75	120
Cumulative TOTAL	745	1516	2295	3412	4281	5244	6058	6518	6913	7224	7454	7684	7912	8047	8212	8287	8362	8437	8512	8632

*The table includes 317 dwellings from commitments unlikely to be built

M5 Junction 12 Network

AM Peak Hour - Two-Way Trips

Do Minimum

Link Name	J12 IDP Sites			J14 IDP Sites					Employment Sites			Other LP Allocations			Misc. Sites	Total Sites
	G1	G2	PS30	PS34	PS36	PS37a	PS37b	PS37c	PS20	PS47	PS43	PS19a	PS24	PS25		
A430 Northbound flow North of M5 J12 (away from M5)	273	0	0	0	0	0	0	0	0	5	48	77	0	0	2710	3113
A430 Southbound flow North of M5 J12 (towards M5)	238	0	0	0	0	0	0	0	0	1	129	0	0	0	2647	3015
B4008 Northbound flow South of M5 J12	38	0	0	0	0	0	0	1	0	0	98	1	1	1	777	917
B4008 Southbound flow towards Cross Keys roundabout	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B4008 Southbound flow South of M5 J12	17	0	0	0	1	0	0	0	0	0	351	3	3	1	895	1271
M5 J12 Northbound offslip	61	0	0	0	1	0	0	0	0	5	44	81	3	1	1356	1552
M5 J12 Northbound onslip	192	0	0	0	0	0	0	0	0	0	43	0	0	0	1616	1851
M5 J12 Southbound offslip	173	0	0	0	0	0	0	0	0	0	177	0	0	0	1515	1865
M5 J12 Southbound onslip	28	0	0	0	0	0	0	1	0	1	7	1	1	1	1069	1109
Average	113	0	0	0	0	0	0	0	0	1	100	18	1	0	1398	1633

Do Something

Link Name	J12 IDP Sites			J14 IDP Sites					Employment Sites			Other LP Allocations			Misc. Sites	Total Sites
	G1	G2	PS30	PS34	PS36	PS37a	PS37b	PS37c	PS20	PS47	PS43	PS19a	PS24	PS25		
A430 Northbound flow North of M5 J12 (away from M5)	324	0	49	0	0	0	0	0	19	6	119	100	0	0	2407	3024
A430 Southbound flow North of M5 J12 (towards M5)	470	0	132	0	0	0	0	0	19	13	339	0	0	0	2850	3823
B4008 Northbound flow South of M5 J12	51	60	5	0	1	0	0	0	8	1	262	0	0	0	772	1160
B4008 Southbound flow towards Cross Keys roundabout	0	18	156	3	4	0	2	1	1	0	3	3	3	3	281	477
B4008 Southbound flow South of M5 J12	27	79	2	0	0	0	0	0	2	0	852	5	0	0	1483	2450
M5 J12 Northbound offslip	90	26	13	0	0	0	0	0	22	6	82	106	0	0	1359	1704
M5 J12 Northbound onslip	375	0	113	0	0	0	0	0	0	0	111	0	0	0	1776	2375
M5 J12 Southbound offslip	184	53	33	0	0	0	0	0	0	0	431	0	0	0	1605	2306
M5 J12 Southbound onslip	67	61	19	0	1	0	0	0	26	13	33	0	0	0	902	1122
Average	176	33	58	0	1	0	0	0	11	4	248	24	0	0	1493	2049

Difference / Impact

Link Name	J12 IDP Sites			J14 IDP Sites					Employment Sites			Other LP Allocations			Misc. Sites	Total Sites
	G1	G2	PS30	PS34	PS36	PS37a	PS37b	PS37c	PS20	PS47	PS43	PS19a	PS24	PS25		
A430 Northbound flow North of M5 J12 (away from M5)	51	0	49	0	0	0	0	0	19	1	71	23	0	0	-303	-69
A430 Southbound flow North of M5 J12 (towards M5)	232	0	132	0	0	0	0	0	19	12	209	0	0	0	204	808
B4008 Northbound flow South of M5 J12	13	60	5	0	1	0	0	-1	8	1	164	-1	-1	-1	-5	243
B4008 Southbound flow towards Cross Keys roundabout	0	18	156	3	4	0	2	1	1	0	3	3	3	3	281	477
B4008 Southbound flow South of M5 J12	10	79	2	0	-1	0	0	0	2	0	501	2	-3	-1	588	1179
M5 J12 Northbound offslip	29	26	13	0	-1	0	0	0	22	1	39	25	-3	-1	2	152
M5 J12 Northbound onslip	183	0	113	0	0	0	0	0	0	0	68	0	0	0	160	524
M5 J12 Southbound offslip	11	53	33	0	0	0	0	0	0	0	254	0	0	0	90	441
M5 J12 Southbound onslip	39	61	19	0	1	0	0	-1	26	12	26	-1	-1	-1	-167	13
Average	63	33	58	0	0	0	0	0	11	3	148	6	-1	0	94	416

Summary

Do Minimum

Link Name	IDP Sites				Employment Sites	Miscellaneous Sites	Total Sites
	G1	G2	PS30	Total			
A430 Northbound flow North of M5 J12 (away from M5)	273	0	0	273	53	2787	3113
A430 Southbound flow North of M5 J12 (towards M5)	238	0	0	238	130	2647	3015
B4008 Northbound flow South of M5 J12	38	0	0	38	98	781	917
B4008 Southbound flow towards Cross Keys roundabout	0	0	0	0	0	0	0
B4008 Southbound flow South of M5 J12	17	0	0	17	351	903	1271
M5 J12 Northbound offslip	61	0	0	61	49	1442	1552
M5 J12 Northbound onslip	192	0	0	192	43	1616	1851
M5 J12 Southbound offslip	173	0	0	173	177	1515	1865
M5 J12 Southbound onslip	28	0	0	28	8	1073	1109
Average	113	0	0	113	101	1418	1633

Do Something

Link Name	IDP Sites				Employment Sites	Miscellaneous Sites	Total Sites
	G1	G2	PS30	Total			
A430 Northbound flow North of M5 J12 (away from M5)	324	0	49	373	144	2507	3024
A430 Southbound flow North of M5 J12 (towards M5)	470	0	132	602	371	2850	3823
B4008 Northbound flow South of M5 J12	51	60	5	116	271	773	1160
B4008 Southbound flow towards Cross Keys roundabout	0	18	156	174	4	299	477
B4008 Southbound flow South of M5 J12	27	79	2	108	854	1488	2450
M5 J12 Northbound offslip	90	26	13	129	110	1465	1704
M5 J12 Northbound onslip	375	0	113	488	111	1776	2375
M5 J12 Southbound offslip	184	53	33	270	431	1605	2306
M5 J12 Southbound onslip	67	61	19	147	72	903	1122
Average	176	33	58	267	263	1518	2049

Difference / Impact

Link Name	IDP Sites				Employment Sites	Miscellaneous Sites	Total Sites
	G1	G2	PS30	Total			
A430 Northbound flow North of M5 J12 (away from M5)	51	0	49	100	91	-280	-89
A430 Southbound flow North of M5 J12 (towards M5)	232	0	132	364	240	204	808
B4008 Northbound flow South of M5 J12	13	60	5	78	173	-8	243
B4008 Southbound flow towards Cross Keys roundabout	0	18	156	174	4	299	477
B4008 Southbound flow South of M5 J12	10	79	2	91	503	585	1179
M5 J12 Northbound offslip	29	26	13	68	62	22	152
M5 J12 Northbound onslip	183	0	113	296	68	160	524
M5 J12 Southbound offslip	11	53	33	97	254	90	441
M5 J12 Southbound onslip	39	61	19	119	64	-170	13
Average	63	33	58	154	162	100	416

Impact Summary

IDP Sites + Employment Sites	316	76%
Miscellaneous Sites	100	24%
Total Sites	416	100%

M5 Junction 14 Network

AM Peak Hour - Two-Way Trips

Do Minimum

Link Name	J12 IDP Sites			J14 IDP Sites					Employment Sites			Other LP Allocations			Misc. Sites	Total Sites
	G1	G2	PS30	PS34	PS36	PS37a	PS37b	PS37c	PS20	PS47	PS43	PS19a	PS24	PS25		
M5 J14 Northbound offslip	0	0	0	0	0	0	0	0	0	0	0	0	0	0	482	482
M5 J14 Northbound onslip	0	0	0	0	0	0	0	0	0	26	0	0	0	0	882	908
M5 J14 Southbound offslip	8	0	0	0	0	0	0	0	0	0	0	18	0	0	760	786
M5 J14 Southbound onslip	0	0	0	8	66	0	0	8	0	172	0	0	53	14	1328	1648
Average	2	0	0	2	16	0	0	2	0	50	0	5	13	3	863	956

Do Something

Link Name	J12 IDP Sites			J14 IDP Sites					Employment Sites			Other LP Allocations			Misc. Sites	Total Sites
	G1	G2	PS30	PS34	PS36	PS37a	PS37b	PS37c	PS20	PS47	PS43	PS19a	PS24	PS25		
M5 J14 Northbound offslip	0	0	0	0	0	0	0	0	0	0	0	0	0	0	600	600
M5 J14 Northbound onslip	0	0	0	0	0	0	0	0	0	44	0	0	0	0	860	904
M5 J14 Southbound offslip	18	10	4	0	0	0	0	0	4	0	2	24	0	0	760	822
M5 J14 Southbound onslip	0	0	0	48	388	68	74	0	0	162	0	0	113	29	1242	2124
Average	5	3	1	12	97	17	19	0	1	52	1	6	28	7	866	1113

Difference / Impact

Link Name	J12 IDP Sites			J14 IDP Sites					Employment Sites			Other LP Allocations			Misc. Sites	Total Sites
	G1	G2	PS30	PS34	PS36	PS37a	PS37b	PS37c	PS20	PS47	PS43	PS19a	PS24	PS25		
M5 J14 Northbound offslip	0	0	0	0	0	0	0	0	0	0	0	0	0	0	118	118
M5 J14 Northbound onslip	0	0	0	0	0	0	0	0	0	18	0	0	0	0	-22	-4
M5 J14 Southbound offslip	10	10	4	0	0	0	0	0	4	0	2	6	0	0	0	36
M5 J14 Southbound onslip	0	0	0	40	322	68	74	-8	0	-10	0	0	60	16	-86	476
Average	3	3	1	10	80	17	19	-2	1	2	1	2	15	4	3	157

Summary

Do Minimum

Link Name	IDP Sites						Employment Sites	Miscellaneous Sites	Total Sites
	PS34	PS36	PS37a	PS37b	PS37c	Total			
A430 Northbound flow North of M5 J12 (away from M5)	0	0	0	0	0	0	0	482	482
A430 Southbound flow North of M5 J12 (towards M5)	0	0	0	0	0	0	26	882	908
B4008 Northbound flow South of M5 J12	0	0	0	0	0	0	0	786	786
B4008 Southbound flow towards Cross Keys roundabout	8	66	0	0	8	82	172	1394	1648
Average	2	16	0	0	2	21	50	886	956

Do Something

Link Name	IDP Sites						Employment Sites	Miscellaneous Sites	Total Sites
	PS34	PS36	PS37a	PS37b	PS37c	Total			
A430 Northbound flow North of M5 J12 (away from M5)	0	0	0	0	0	0	0	600	600
A430 Southbound flow North of M5 J12 (towards M5)	0	0	0	0	0	0	44	860	904
B4008 Northbound flow South of M5 J12	0	0	0	0	0	0	6	816	822
B4008 Southbound flow towards Cross Keys roundabout	48	388	68	74	0	578	162	1384	2124
Average	12	97	17	19	0	145	53	915	1113

Difference / Impact

Link Name	IDP Sites						Employment Sites	Miscellaneous Sites	Total Sites
	PS34	PS36	PS37a	PS37b	PS37c	Total			
A430 Northbound flow North of M5 J12 (away from M5)	0	0	0	0	0	0	0	118	118
A430 Southbound flow North of M5 J12 (towards M5)	0	0	0	0	0	0	18	-22	-4
B4008 Northbound flow South of M5 J12	0	0	0	0	0	0	6	30	36
B4008 Southbound flow towards Cross Keys roundabout	40	322	68	74	-8	496	-10	-10	476
Average	10	80	17	19	-2	124	4	29	157

Impact Summary

IDP Sites + Employment Sites	128	81%
Miscellaneous Sites	29	19%
Total Sites	157	100%



Kings Orchard
1 Queen Street
Bristol
BS2 0HQ

wsp.com

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