

Extra MSA Group's (Extra's) Responses to the DCO Panel's Questions for Deadline 2 (24th June 2019)

Question 1.0.3

Motorway Service Area (MSA)

Could SMBC provide an update on the progress of the two undetermined planning applications for MSAs at Junctions 4 and 5?

Extra's Response

Whilst this is primarily for Solihull MBC (SMBC) to respond to, I can confirm that SMBC's Planning Committee meeting previously scheduled for 19th June 2019 was cancelled and that a new committee date will be confirmed by SMBC in due course.

From Extra's perspective SMBC has been in possession of all the information required to determine Extra's planning application, since 21st August 2017 when Highways England issued its HEPR -16-01 confirming that it had no objections to the grant of planning permission subject to recommended planning conditions. On 14th March 2019, following submission of the DCO application, Highways England provided SMBC with an updated HEPR-16-01 which again confirmed the Highways England had no objections to the grant of planning permission subject to recommended planning conditions. Hence, Highways England's aforementioned HEPR-16-01 responses allow SMBC to grant planning permission for Extra's MSA subject to agreed and appropriate planning conditions.

There are therefore no outstanding highway issues relating to the Extra MSA application that need to be addressed and SMBC can proceed to determine the Extra's planning application for the MSA.

Question 1.0.4

MSA

Paragraph 4.3.5 of the ES explains that north facing slip roads were removed from the proposed new Junction 5a as it was considered that the junction is too close to Junction 6 and providing them would cause safety and operational issues. Paragraph 3.1.9 of the ES states that "Although the MSA currently does not benefit from planning consent, Highways England has engaged with the applicant for the MSA and has sought to ensure that, where practicable, the design of Junction 5A would not preclude delivery of the MSA, should the MSA be authorised by SMBC following the implementation of the Scheme." However, the proposed MSA for Junction 5a includes northern slip roads. Could the Applicant, SMBC and Extra MSA Solihull Ltd and Applegreen plc comment on this potential contradiction.

Extra's Response

The provision of the north facing slip roads are required for the Motorway Service Area (MSA) but not for the DCO scheme. The slip roads require a departure from DMRB Standards due to the short weaving length between the proposed M42 J5A and existing M42 J6 however, this departure from DMRB Standards has already been agreed in principle by Highways England's National Safety Division.

The benefit of the north facing slip roads are as follows:

1. Most importantly they are essential for the operation of an on-line MSA. They enable the Extra MSA to be provided in the only location on the M42 that can provide the maximum road safety benefit for users of the motorway network in enabling them to have a break within the prescribed 28 mile maximum recommended travel distance between MSAs set out in paragraph B6 of DfT Circular 02/2013. The location of the Extra MSA ensures that this is the case in respect of the existing gaps on this part of the Motorway Network, save for the gap between Warwick Services and Telford Services, which cannot be resolved by a single MSA.

2. There are additional economic benefits identified by Birmingham Airport, the NEC, UK Growth Company and the Chambers of Commerce due to the added resilience that they would deliver to the Strategic Road Network in the event of an incident or congestion at M42 Junction 6 at which time the north facing slip roads would act as a safety valve for the A45.

There will be an increased road safety risk as a result of the provision of the north facing slip roads but given the important benefits outlined above, particularly the significant improvement in road safety that would be provided by an MSA in this location, the applicant considers that these benefits outweigh the additional risk of providing the north facing slips in this location. Highways England's specialists have agreed with this position by confirming approval in principle to the requested departures from DMRB Standards by the issue of its HEPR-16-01 responses dated 21st August 2017 and 14th March 2019. In the absence of a road safety benefits associated with delivery of an MSA in this location, the standalone DCO scheme is unable to justify the additional risk posed by the north facing slip roads.

Question 1.0.5

MSA

Has the positioning of the proposed MSA influenced the proposed siting and design of Junction 5a? If it has, should this be determinative given that the planning application remains undetermined and there is an alternative site at Junction 4 being considered under a separate planning application?

Extra's Response

The application for the MSA was, of course, submitted sometime before the DCO scheme emerged into the public domain. Highways England will address this in detail but it is clear that Highways England undertook an extensive option selection process and there were several different proposals on the table, which were all subject to public consultation. The DCO scheme was chosen because it was, when considering all alternatives, the best location for the Junction and the best location to provide the link road.

The Extra MSA was not a determining factor with regard to the location of the DCO Junction.

The co-location of the DCO and the proposed MSA Junction was however unsurprising, since the work undertaken by Extra in conjunction with its consultants ARUP prior to submission of its planning application in 2015, had followed a similar process, considered similar factors and reached substantially the same overall conclusions.

Question 1.0.6

DRMB (4.35) indicates that for Rural Motorways (as the M42 nominally is) the desirable minimum weaving length must be 2km. However, the distance likely to be available between any north facing slip roads at junction 5a and the south facing slip roads at junction 6 is roughly 1.7km. In view of the high traffic flows on the M42 (nearly 7,000 vph northbound by 2041 in the AM peak and over 6,000vph southbound, APP-174, Figure 7.2) a longer weaving section might be warranted or desirable. What is the justification for countenancing the potentially sub-standard arrangement envisaged?

Extra's Response

The consideration of the weaving length must be undertaken in the context of the overall benefits provided by the MSA in significantly improving safety on this stretch of the M42 Motorway given the large distances involved between existing adjacent MSAs on the Motorway Network at this point. The Extra MSA is the only location which satisfies the prescribed 28-mile maximum gap and therefore fully provides this improvement in safety. Furthermore, there is a need to consider the additional economic resilience benefits associated with the provision of north-facing slip roads as recognised by Birmingham Airport, NEC, UK Growth Company and the Chamber of Commerce.

It should be noted that the desirable minimum standards set out in the DMRB are not absolute limits and a Departure process exists within the DMRB to consider proposals for designs which do not meet the desirable minimum standards. This enables each project situation to be considered on its own merits and determined by expert engineers.

The north facing slip roads provided by Extra's MSA proposal require departures from standard due to the short weaving length between proposed M42 J5a and the existing M42 J6. These Departures were considered and approved in principle by Highways England based on a standalone planning application for the MSA. The MSA access Junction did not include the link road to Clock Interchange.

The introduction of the link to Clock Interchange as part of the M42 J5a scheme reduces traffic flows between proposed M42 J5a and existing M42 J6 [APP-174, Figure 7.5] and this will therefore reduce the risk presented by the short weaving length as there will be more road space available to merging traffic. In the northbound direction, most of the weaving flow is expected to use the proposed M42 J5a and this will significantly reduce the opportunities for conflict within the weaving length compared to the scenario previously approved by Highways England for the MSA application.

Within Extra's Departures submission to Highways England, in relation to the northbound weaving length, it was specifically noted that the proposed layout is like others currently operating on the Strategic Road Network. This is supported by research which has considered situations on the Motorway Network where Motorway Service Areas are located in close proximity to a Motorway Junction. The Motorway Service Areas and Junctions considered were:

- M1 Toddington services to M1 Junction 12;
- M1 Leicester Forest East services to M1 Junction 21;
- M62 Hartshead Moor services to M62 Junction 25.

	M42 Solihull MSA to M42 Junction 6	M1 Toddington services to M1 Junction 12	M1 Leicester Forest East services to M1 Junction 21	M62 Hartshead Moor services to M62 Junction 25
Operational regime	All Lane Running	All Lane Running	D4M motorway	All Lane Running
MSA merge/diverge layout	Taper Merge/Taper Diverge	Parallel Merge/Parallel Diverge	Parallel Merge/Parallel Diverge	Taper Merge/Taper Diverge
Adjacent junction merge/diverge layout	Ghost island with lane gain merge/Ghost island with lane drop diverge	Taper Merge/Taper Diverge	Ghost island with lane gain merge/Ghost island with lane drop diverge	Ghost island with lane gain merge/Lane drop diverge
Weaving length	1,175m	800m	900m	800m

Two-way AADT traffic flow on link	142,053	135,227	135,525	111,501
HGV%	15.1%	19%	15.3%	17.1%

The M42 Solihull MSA has a longer weaving length than any of these examples. Based on discussions with Highways England during consideration of these Departures, and amended direction signage strategy was developed for the M42 northbound approach to M42 Junction 6, which included lane designation slips mounted on gantries above the traffic lanes at 1m and ½ mile distances in advance of M42 J6 and this mitigation forms part of the MSA application.

Extra consider that the proposed signing for M42 Solihull MSA is an improvement over the existing situation and should further reduce the risk of conflict between weaving vehicles.

Question 1.0.7

Other than potential trips to and from the MSA proposed at junction 5a, please enumerate other journeys that might depend on the provision of north facing slip roads at junction 5a and outline the circumstances in which such trips might serve a useful purpose.

Extra's Response

In respect of traffic that would **depend** on the provision of north facing slips this relates only to users of the MSA. Such users require easy access to and from the M42 Motorway and if this is not available, then the attractiveness and convenience of the MSA along with its ability to meet the safety and welfare need that it serves, is diminished. It is for this reason that DfT Circular 02/2013 expresses a clear preference for on-line MSAs over those at existing Motorway Junctions.

Under normal circumstances, besides the traffic from the MSA development, there is the potential for a small flow of traffic from Bickenhill village to use the new link road and J5a to access the M42 using the north facing slip roads. In normal traffic conditions however, this would require users to follow a potentially more arduous route than that encountered by travelling via M42 Junction 6. Therefore, traffic using the north facing slip roads would be mostly comprised of MSA traffic. For this reason, it is highly likely that traffic using the north facing slip roads would be mostly comprised of MSA traffic. This is a further reason why the north facing slip roads are not included in the DCO scheme.

As noted in response to other questions, the north facing slips do provide added resilience into the Network in the event of an incident at M42 Junction 6 or in the event of heavy congestion. In this scenario, traffic could locally divert to the proposed M42 J5a which would act as a relief valve for traffic congestion and avoid traffic taking to the wider local road network in order to avoid congestion.

Question 1.0.8

Sensitivity tests have been undertaken entailing provision at junction 5A for the proposed motorway service area (MSA) [APP-174, 3.9]. What are the results of those tests?

Extra's Response

Whilst this is a question for Highways England to respond to, our understanding is that the Transport Assessment for the M42 J5a DCO scheme confirms that it would, with the proposed MSA, operate with sufficient traffic capacity at opening year and in future year scenarios.

Question 1.0.9

Do the tests referred to in ExQ1.0.8 entail ARCADY outputs for the roundabouts at junction 5A? If so, what are the results and what do they demonstrate? If there is no ARCADY output, please justify its absence.

Extra's Response

Whilst this is a question for Highways England to respond to, our understanding is that the Transport Assessment for the M42 J5a DCO scheme reports the operational performance of M42 J5a based on ARCADY modelling [APP-174, Table 7.13-7.14]. Therefore, it is likely that any sensitivity test would have utilised the same tools.

Question 1.0.10

In the absence of an MSA at junction 5a, would a junction designed along the lines indicated by Mr David Cuthbert [AS-018] be more efficient and represent something close to the optimum arrangement?

Extra's Response

The arrangement presented by Mr David Cuthbert would, in Extra's view, require approval of significant Departures for the southbound merge slip road due to the geometry proposed where the link crosses the M42 and this is likely to require the introduction of speed restrictions to ensure the design can operate safely. This would, in turn, compromise the capacity of the scheme, and lead to safety problems if drivers fail to observe the speed restrictions.

It is also likely that the visibility splays required for the northbound diverge slip road would have a significant impact on the design of Solihull Road overbridge.

An examination of the land take required to deliver this arrangement appears to indicate that it would have a much greater impact on environmental concerns and to the integrity of the areas of purported Ancient Woodland around the Junction.

It is Extra's view therefore that there would be an increased impact on important environmental considerations which would negate any potential benefit that may arise from the simpler arrangement put forward by Mr Cuthbert.

Question 1.7.28

Ancient Woodland

It is noted that Chapter 4 (alternatives) of the ES states that a southern junction option is considered to represent the only viable solution to improve Junction 6. It is also noted that paragraphs 4.4.19 to 4.4.21 of the ES state that the proposed layout of M42 Junction 5a was developed to reduce the impact of the scheme on ancient woodland at Aspbury's Copse. However, can the Applicant explain why the dumb-bell layout for Junction 5a cannot be moved further north to avoid or further minimise the encroachment of the southern slip roads and associated works into or immediately adjoining Aspbury's

Copse, particularly as the scheme is not constrained by providing slip roads to the north?

Extra's Response

Highways England will respond in detail but Extra understand that relocation of the proposed M42 Junction 5a further north would be beyond the scope of the DCO scheme and would not in any event create the benefits as wrongly perceived by objectors to the DCO scheme.

Question 1.7.29

Ancient Woodland

It is noted that the horizontal alignment of Solihull Road would remain largely the same as the existing to minimise land-take, although the new alignment would move off-line slightly to the north by 10m on the approaches to the overbridge, where the embankment height would be at its peak of 7.5m.

Paragraph 3.5.21 of the ES explains that this offset would contribute towards reducing the amount of land-take required within Aspbury's Copse ancient woodland, and mitigating adverse impacts on properties to the south of the existing Solihull Road. However, if a new Solihull Road overbridge is to be built, can the Applicant explain why can't it, and the raised vertical alignment of its approaches, be positioned further to the north so as to avoid or further minimise encroachment into the Aspbury's Copse? Although the general arrangement drawings show relatively steep embankments to the raised sections of Solihull Road, they appear to take a considerable amount of land around the edges of the Aspbury's Copse. How would such earthworks be constructed without causing additional harm?

Extra's Response

Whilst Highways England will respond in detail to the question insofar as it relates to the potential relocation of the proposed M42 Junction 5a further north, we respectfully refer the Panel to our response to Question 1.7.28.

We understand that the alignment of Solihull Road is limited by design standards. In order to move the road further north by any significant amount, you would either need to include Departures from Standard (noting that this road belongs to SMBC rather than Highways England) or extend the length of existing Solihull Road affected by the scheme. This would, in all likelihood, have impacts on existing properties along Solihull Road. SMBC have previously expressed concerns about impacts on Solihull Road, which is an important traffic route for the authority.

Question 1.11.7

A feature of the traffic at Junction 6 on the M42 is its variability, both at peak times and over the year in response to exhibitions, events and holidays etc. Moreover, this variability appears to significantly affect congestion. In the TA this variability is addressed by the year of parking and traffic data obtained from the NEC and the resulting traffic flow on South Way for 2017 [APP-174, Figures 6.4-6.6]. However, the 2016 peak hour modelled flows of 782 AM and 762 PM [APP-174, Figure 6.2], reflect the average actually observed (600-800). It is therefore inevitable (not just possible) that flows higher than the modelled flows will occur quite frequently (and from the daily distribution, APP-174 Figure 6.4) on about 37% of days. The traffic modelling would thus appear to effectively ignore much of the variability identified, some of which is substantial. Is that a fair assessment? And, if not, why not?

Extra's Response

The question relates to the working of Junction 6 and therefore not directly relevant to the MSA.

Question 1.11.8

What are the effects of such variation on the operation of junction 6? Perhaps examine those effects at $\mu+\sigma$ and at the 85%ile of the observed daily and peak hour distributions [APP-174, Figures 6.4-6.6] with the aid of LinSig, if appropriate. If LinSig would not be appropriate, please explain why.

Extra's Response

The question relates to the working of Junction 6 and therefore not directly relevant to the MSA.

Question 1.11.9

How do those higher volumes of traffic leaving the NEC via South Way compare with the annual and peak hour distributions of traffic recorded in the TA [APP-174, l;Figures 6.4-6.6]?

Extra's Response

The question relates to the working of Junction 6 and therefore not directly relevant to the MSA.

Question 1.11.10

What is the effect of including weekends, school holidays and Bank Holidays on those distributions of traffic leaving the NEC [APP-174, Figures 6.4-6.6]?

Extra's Response

The question relates to the working of Junction 6 and therefore not directly relevant to the MSA.

Question 1.11.12

What are the views of the Local Authorities and the operating businesses mainly served by the Clock Interchange and junction 6 on the approach to the likely variations in traffic flows in the TA [APP-174]?

Extra's Response

The question relates to the working of Junction 6 and therefore not directly relevant to the MSA.

Question 1.11.18

The LinSig analysis for the Clock Interchange shows that the improved junction will operate within capacity, but only just during the AM peak with a PRC of just 1% (Table 7.9 of the TA [APP-174]). What are the consequences for the analysis of the variations or additions in traffic flows that are likely to occur? Please provide a comparable LinSig analysis for the current situation.

Extra's Response

The question relates to the working of the Clock Interchange and is therefore not directly relevant to the MSA.