

Adran yr Economi a'r Seilwaith
Department for Economy and Infrastructure



Llywodraeth Cymru
Welsh Government

This document is an update to the 'Proof of Evidence – Engineering Design' document. It contains an update following the addition of the eastbound off-slip in the DRAFT SUPPLEMENTARY (NO. 2) SCHEME ORDER and a general update on the sections related to the Magor Services Area.

Scheme Evidence Update

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Welsh Government, Engineering Design

Document Reference: WG 1.5.5

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Appendix A - Rest Area Frequencies and Access

1. AUTHOR

- 1.1 I am Benjamin Sibert. I am a Director of Ove Arup and Partners Ltd (Arup), a multi-disciplinary consultancy. My professional qualifications are set out in my main Proof of Evidence and are not repeated here.
- 1.2 The evidence which I have prepared and provided in this Proof of Evidence has been prepared and is given in accordance with the guidance of my professional institution and I confirm that the opinions expressed are my true and professional opinions.

2. SCOPE AND PURPOSE OF THIS PROOF OF EVIDENCE

2.1 This Proof of Evidence provides updated evidence for the Welsh Government's Scheme as modified by the March 2017 draft Orders Supplement to include proposals for an eastbound off-slip road at Junction 23A.

2.2 This evidence supersedes my previous evidence in respect of all matters concerning the rest area. The following sections of my main evidence are thus withdrawn to be replaced with this evidence:

Ben Sibert Engineering Main Evidence (WG 1.5.1)

Sections 4.46 to 4.62

Sections 6.28 to 6.34

Ben Sibert Engineering Main Evidence Summary (WG 1.5.2)

Sections 3.16 to 3.18, 4.10 to 4.11

Ben Sibert Engineering Main Evidence Appendices (WG 1.5.3)

Appendix B – Motorway Rest Areas

2.3 Aspects of my evidence interface with the evidence of other witnesses including Matthew Jones (WG1.1.6), Bryan Whittaker (WG1.2.6) and Stephen Bussell (WG1.3.5).

2.4 For simplicity of reference, throughout my evidence I will refer to the following abbreviations:

- a) draft Compulsory Purchase Order (Doc. 2.1.5) as the "CPO";
- b) the draft Side Roads Order (Doc. 2.1.3) as the "SRO";
- c) the Environmental Statement and its Supplements (Docs. 2.3.2, 2.4.4, 2.4.14 and 2.5.1) as the "ES";
- d) the Design Manual for Roads and Bridges (Doc. 6.1.8) as the "DMRB".

2.5 My evidence is presented in the following structure, with a detailed contents provided at the start of the document.

1. Author
2. Scope and Purpose of this Proof of Evidence
3. Scheme Evidence Update

Appendix A – Rest Area Frequencies and Access

3. SCHEME EVIDENCE UPDATE

3.1. The Eastbound Off-Slip Road

3.1.1. The Welsh Government published a supplement to the draft Orders in March 2017 to include an additional Eastbound off-slip road at Junction 23A, affording a direct connection for eastbound traffic on the proposed new motorway. These supplementary proposals are described in PLI document 2.5.17.

3.1.2. To summarise the key features that make up the changes in the supplement:

- a) a new slip road with single lane cross section, diverging from the mainline to the north of the Llandeenny railway bridge, which would remain as in the original proposals;
- b) modifications to the size and position of the roundabout between the A4810 and the B4245 west of Magor, to which the supplementary slip road would connect;
- c) a route for non-motorised users of the B4245 would change from a grade separated route passing under the A4810 using an existing bridge and would be replaced by an at-grade route with signal-controlled crossing points of the proposed slip road and the A4810 Steelworks Access Road south of the roundabout.

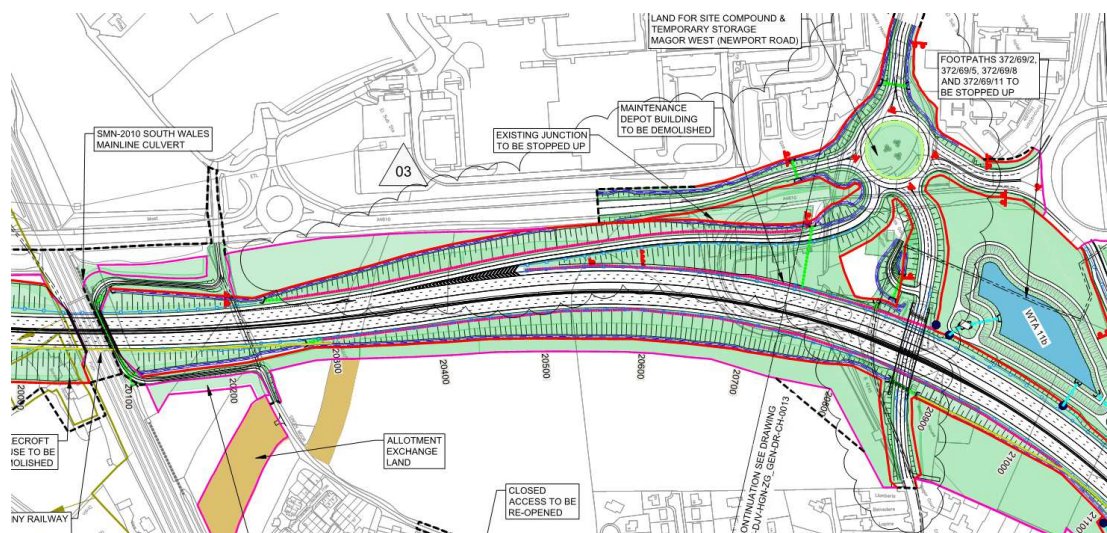


Figure 1 - General Arrangement Drawing Extract Showing March 2017 Supplementary Slip Road at Junction 23A

3.1.3. Refer also to the Alignment and Junctions Report Supplement 3 (Doc. 2.5.5) for more technical details of the highway layout, including drawings.

3.2. Rest Areas

3.2.1. This section of my evidence replaces my previous evidence contents for all matter concerning the Magor rest area from documents WG 1.5.1, 1.5.2 and 1.5.3.

3.2.2. The requirements for the frequency of rest areas on the motorway and trunk road network are given in TD 69/07. TD 69/07 states that a rest area may include some but not all of the facilities associated with a service area. If there is a Motorway Service Area (MSA) along a section of motorway, then the MSA serves the purpose of a rest area and there is no other guidance with regard to MSAs in DMRB. I shall therefore use the term rest area interchangeably with MSA.

3.2.3. Within the extents of the Scheme is the existing rest area at Magor Junction 23A. This rest area provides service area facilities and is operated by Roadchef, who have objected to the draft Orders (OBJ0026). Roadchef are the lessee of the land the freehold of which

is owned by Rontec who have also objected to the draft Orders (OBJ 0292).

- 3.2.4. The existing rest area at Magor is accessed indirectly from the M4 motorway at J23A where motorway users leave the motorway via the Junction slip roads and access via the grade separated J23A gyratory.
- 3.2.5. Access to the rest area at J23A Magor would be provided in the Scheme layout from the proposed new motorway, the M48, the A4810 and the reclassified M4.
- 3.2.6. I have included in Appendix A to this evidence, drawings showing the routes motorway users would make to and from the J23A Magor rest area in the existing and proposed arrangements.
- 3.2.7. The recommendations for the frequency of rest areas as part of a route strategy are given in paragraph 8.3 and 2.6 of TD 69/07 which states: “.....rest areas should be provided in addition to lay-bys, at not more than 45km intervals and at no more than 30 minutes driving time apart,....”. I note that 45km is equal to 28.0 miles.
- 3.2.8. The distances between rest areas along the M4 motorway both at present and with the Scheme would be as given in the schedule with accompanying drawings in Appendix A to this evidence. Bryan Whittaker will cover journey times associated with the rest area in his evidence (WG 1.2.6).
- 3.2.9. I have also included in Appendix A to this evidence drawings M4CaN-DJV-HGN-ZG-GEN-SK-CH-0043 – Existing rest areas along the M4/M5 and drawing M4CaN-DJV-HGN-ZG-GEN-SK-CH-0044 – rest areas along the M4/M5 with the Scheme.
- 3.2.10. The eastbound route between rest areas on the M4 motorway at Magor and Leigh Delamere would be 33.1 miles / 53.2km. This journey would be 0.2 miles / 0.3km greater than the existing situation

and would be 5.1 miles, 8.2km greater than the recommendations of TD 69/07.

- 3.2.11. Access to the rest area at Magor would be similar (or identical) to the existing situation from all routes. Eastbound traffic on the new M4 would access via the eastbound off-slip road at Junction 23A. West bound traffic would use the new, west bound free flow link and the existing Junction 23A slip road.
- 3.2.12. Exits from the rest area would be similar or identical for all routes except those to the proposed new motorway. Eastbound travellers would exit and join the motorway through Junction 23. Westbound travellers would have three options:
- a) Via Junction 23
 - b) Via the A4810 and Glan Llyn Junction
 - c) Via the reclassified M4.
- 3.2.13. As indicated by forecast journey times in Mr Whittaker's Proof of Evidence (WG 1.2.6), the fastest route for journeys continuing on the M4 further west than Junction 30, for example, would be to use the reclassified M4. The journey times for options a) and b) above have been forecast to be similar within a matter of a few seconds and around 2 minutes longer than c).
- 3.2.14. The spacing between rest areas on the M4 at Magor and Leigh Delamere is presently 32.9 miles / 52.9km with both eastbound and westbound journeys being similar; 4.9 miles, 7.9km greater than the recommendations of TD 69/07. With the Scheme, the eastbound route would be 33.1 miles / 53.2km; 0.2 miles / 0.3km greater than the existing situation and 5.1 miles, 8.2km greater than the recommendations of TD 69/07. The westbound journey from Leigh Delamere to Magor would experience negligible difference.

3.3. Conclusions – Rest Areas

- 3.3.1. The distance between rest areas on the M4 motorway at Magor and at Leigh Delamere is presently greater than that recommended. With the proposed new motorway in place, this journey would be 33.1 miles / 53.2km; 0.2 miles, 0.3km greater than the existing situation and would be 5.1 miles / 8.2km greater than the recommendations of TD 69/07.
- 3.3.2. I note that the exceedance of the recommendations of TD 69/07 does not constitute a departure from standards because clause 2.6 provides guidance, not mandatory requirements in a black solid box outline and the document provides only recommendations.
- 3.3.3. I acknowledge that traffic travelling eastbound or westbound on the M4 would experience a more indirect exit from the rest area than present. All other access routes (arrivals and departures) to the rest area would be similar to existing conditions with changes in journey time and distance ranging from insignificant up to approximately 300m due to the need to pass through Junction 23. Bryan Whittaker has explained in his evidence (WG 1.2.6).
- 3.3.4. The Scheme would provide comprehensive advance sign information to inform drivers of both the distances to other rest areas and how to access Magor rest area.
- 3.3.5. If a traveller needs to make a stop, the facilities to make that stop would be provided together with advance information signs to direct them to the rest area. The traveller would also be provided with comprehensive advance sign information for access to allow them to make the decision on whether to stop or not. The eastbound off-slip at Junction 23A and the westbound free flow link from Junction 23 to Junction 23A, make it very simple for travellers to exit the motorway to visit the rest area.

- 3.3.6. My opinion is that the Scheme provides access routes to and from the rest area at Junction 23A Magor to allow travellers to stop should they need to or wish to.

Appendix A –Area Frequencies and Access

Drawing M4CaN-DJV-HGN-ZG-GEN-SK-CH-0043 – Existing Rest Areas along the M4/M5.

Drawing M4CaN-DJV-HGN-ZG-GEN-SK-CH-0044 – Rest Areas along the M4/M5 with the proposed Scheme.

File Note M4CaN-DJV-GEN-ZG-GEN-FN-TR-0004 – Schedule of Frequencies of Rest Areas.