

Adran Seilwaith yr Economi
Department for Economic Infrastructure



Llywodraeth Cymru
Welsh Government

**THE LONDON TO FISHGUARD TRUNK ROAD (A40) (LLANDDEWI
VELFREY TO PENBLEWIN IMPROVEMENT AND DE-TRUNKING) ORDER
201-**

**THE LONDON TO FISHGUARD TRUNK ROAD (A40) (LLANDDEWI
VELFREY TO PENBLEWIN IMPROVEMENT) (SIDE ROADS) ORDER 201-**

**THE WELSH MINISTERS (THE LONDON TO FISHGUARD TRUNK ROAD
(A40) (LLANDDEWI VELFREY TO PENBLEWIN IMPROVEMENT))
COMPULSORY PURCHASE ORDER 201-**

SUMMARY PROOF OF EVIDENCE

THOMAS EDWARDS, MEng CEng MICE MCIHT

WELSH GOVERNMENT, ENGINEERING

DOCUMENT REFERENCE: WG 1.3.1

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1. Author

- 1.1 I am Thomas Edwards. I am a Senior Engineer at Ove Arup & Partners Ltd (Arup), a multi-disciplinary consultancy.
- 1.2 I am a Member of the Institution of Civil Engineers (2014) and a member of the Chartered Institution of Highways and Transportation (2015).
- 1.3 In February 2017, I was appointed as the Design Project Manager for the development of the preliminary design and draft Orders for the Scheme.
- 1.4 I have led the development of the Scheme throughout this period to the present day including the publication of draft Orders in July 2019. I am responsible for managing and coordinating the engineering design teams involved in the Scheme, namely: highways, structures, geotechnics and drainage.
- 1.5 In preparing the draft Orders design, I have been supported by my team of engineers and consultants. They have worked to my instruction and I adopt their work as my own and opinions I express are my own. My field of expertise is the design of highways, the coordination of input from other specialists and the holistic engineering design of the Scheme.

2. Scope and purpose of this proof of evidence

- 2.1 My evidence will explain the engineering aspects of the Scheme which comprises a proposed 4.3km length of Wide Single 2+1 Trunk Road from Penblewin Roundabout to the east of Llanddewi Velfrey, Pembrokeshire. It includes the horizontal and vertical highway geometry, junction designs, the design of new structures, earthworks, elements of surface water drainage, and associated infrastructure (fencing, safety barrier, pavement, traffic signs, road markings and road lighting).

3. Existing conditions

- 3.1 The A40 between St Clears and Haverfordwest is generally a single carriageway of 7.3m width. There are six sections that give dedicated overtaking opportunities, two eastbound and four westbound.
- 3.2 Limited overtaking opportunities lead to poor journey time reliability and driver frustration. This can result in risky overtaking manoeuvres and increased risk of collision incidents.
- 3.3 Forward visibility on the road is poor, below desirable minimum in places, meaning there is an increased risk of collisions with vehicles at the direct accesses.
- 3.4 The existing section of the A40 through Llanddewi Velfrey is subject to a 40mph speed limit and some sections do not meet current design standards. The horizontal alignment is generally poor, and the road narrows to 6.5m in places. No hard strips exist, and footways are narrow, thus creating difficulties for pedestrians.

4. Scheme development

- 4.1 My evidence has presented the decision making for developing the TR111 layout of the Scheme which leads to the land required in the CPO. I have demonstrated how I have taken into consideration the environmental issues and proposed mitigation as detailed in the ES.
- 4.2 I have reviewed the historical selection of the corridor to the north of Llanddewi Velfrey. I have considered the reasons recorded for the decisions, and in my opinion, they are well considered reasons that are appropriately justified with physical characteristic and constraints imposed by the topography and local features that are present today as they were at the time.

- 4.3 I have worked closely with Andrew Sumner, the Environmental Coordinator, to ensure that the engineering proposals have taken due regards of the environmental factors, legislation and that appropriate mitigation has been included within the CPO.

5. The Scheme

- 5.1 The Scheme engineering comprises the following principal components:

- a) A new 4.3km length of WS2+1 single carriageway from east of Llanddewi Velfrey to Penblewin Roundabout. This would bypass the village of Llanddewi Velfrey.
- b) Llanfallteg Road overbridge – the proposed overbridge would cross over the new Trunk Road.
- c) Penblewin Roundabout – the existing Penblewin Roundabout would be increased in size to a five-arm roundabout.
- d) Trefangor Burial Ground side road – a new side road running parallel to the proposed A40 Trunk Road to connect the A478 north of the proposed Penblewin Roundabout to farms, properties and the Trefangor Burial Ground.
- e) Henllan Farm/Llanddewi Velfrey Lane – a new side road, providing connectivity between the Detrunked A40 and the existing unclassified road leading to Henllan Farm and Llanddewi Velfrey village.
- f) West Llanddewi Velfrey Junction – A new staggered priority junction providing access to the village of Llanddewi Velfrey to the south and properties, farms and a Ffynnon chapel to the north.
- g) East Llanddewi Velfrey Junction – A new roundabout junction providing eastern access to the village of Llanddewi Velfrey and access to properties, farms and Bethel Chapel.

- 5.2 General arrangement plans of the Scheme are provided as Appendix 2.6 of the ES which show the highway layout, horizontal alignment, extent of embankment and cuttings and key structures.

Junctions

- 5.3 In my opinion, the junction arrangements proposed at Penblewin, Llanddewi Velfrey West and East Junctions would provide appropriate safe, convenient, strategic connections between the Trunk Road network, the local road network, communities and businesses (including farms).
- 5.4 Minimising the number of direct accesses onto the A40 will help achieve the Scheme objectives to enhance network resilience and improve accessibility along the east -west transport corridor to key employment, community and tourism destinations (O1) and to reduce the number and severity of collisions (O4).

Side roads and Private Means of Access

- 5.5 The Scheme would maintain connectivity of all side roads which are crossed by the line of the Trunk Road by using bridges, new side road links or junctions with the Trunk Road.
- 5.6 In depth and detailed discussions with objectors, affected stakeholders, and PCC have been held following draft Orders. Subsequent amendments to the draft Orders have been proposed and are presented as modifications to the draft Orders.
- 5.7 In my opinion, the provision of side roads crossings, junctions and new links are appropriate and achieve a balance of the factors of environment, local communities, land interest and the travelling public.

WCHRs

- 5.8 I have ensured that the needs of WCHRs have been considered in the development of the Scheme both in the permanent and temporary conditions. In my opinion, the needs of WCHRs have been accommodated in the Scheme with all diversions and re-provision being equally advantageous.

Improvements to the existing A40 (to be detrunked)

- 5.9 The Welsh Government sees the proposed improvements enabled by the detrunking of the existing A40 to be complementary to the Scheme and draft Orders as described in Mark Dixon's evidence (WG 1.1.2).
- 5.10 In my opinion, the Active Travel and Detrunking Proposals for the existing A40 would complement and maximise the benefit of the Scheme. The Active Travel and Detrunking Proposals do not form part of the draft Orders, nor do they require any land take within the CPO.

Land in the Compulsory Purchase Order

- 5.11 The land required in the CPO for the permanent works arise from the alignment and the engineering required to deliver the proposed new Trunk Road, junctions, side roads, structures, drainage and private means of access.
- 5.12 In my opinion, the footprint of the Scheme which requires title land for permanent works in the CPO is appropriate and achieves a balance between the factors of environment, land interests, construction risk, programme and Scheme cost.
- 5.13 The CPO also includes the rights of access for the Welsh Government to inspect and maintain the highway infrastructure. It includes for essential licence for construction operations and for essential mitigation.
- 5.14 In my opinion, the title land for the permanent works and the rights of access for inspection maintenance included in the CPO is essential for the Scheme.

6. Construction

- 6.1 In my opinion the construction and buildability consideration in the development of the preliminary design provides confidence that the Scheme can successfully be delivered in an efficient and timely manner

with adequate recognition of the various environmental, engineering and impact on residents, businesses and traffic.

7. Conclusions

- 7.1 The design of the Scheme, which I have led, seeks to minimise environmental impacts whilst providing an appropriately balanced solution for the environment, local communities and the travelling public. Factors that have been taken into account include the impact on environmental and topographical constraints, traffic patterns and volumes, and safety.
- 7.2 In my opinion, these solutions strike a balance between the interests of local residents, the environment, those with a land interest in the Scheme and the travelling public, such that the design is the most appropriate taking into account the constraints and factors influencing the Scheme.
- 7.3 Pembrokeshire County Council (PCC) has expressed their support for the Scheme and to the draft Orders (R0052). In my opinion the proposals for treatment of the de-trunked A40 are compatible with the long term aspirations of PCC.
- 7.4 I have reviewed the effect of the proposals in the Scheme for stopping up and for the closure of private means of access: the alternative routes for the public under the Scheme are reasonably convenient.
- 7.5 I have assessed the line order as against the detrunking order: I cannot see any reason why they are incompatible.
- 7.6 In my opinion the draft Orders and modification to the draft Orders presented to the Inquiry, provide the most appropriate solution. The Line Order (and associated detrunking) reflects the Scheme proposals and is the most expedient in the public interest. The Side Roads Order providing routes and access that are reasonably convenient to those affected. The land included within the Compulsory Purchase Order is essential for the Scheme.