

Llywodraeth Cymru  
Welsh Government

ARUP

## Executive Summary

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Arup was commissioned by Welsh Government to undertake a WelTAG Stage Two study to cover the following:

- Identify measures which can be taken forward within the Congestion Pinch Points Programme (subject to Ministerial approval, availability of resources, statutory processes) to tackle road-based congestion at the most severely congested locations on the M4 and A470 trunk roads (J32 – J35, Coryton-Merthyr Tydfil). The Brief was extended to cover integration of public transport initiatives (heavy rail, Metro), and to cover the A4232 and M4 between J33 and J32.
- Identify a preferred programme of schemes/measures which address problems & objectives, have a beneficial Transport Case, and no Delivery, Financial or Commercial deal-breakers, and are deliverable in the short to medium term, and are financially feasible.

Priority schemes for implementation have been identified which should be progressed to a Stage 3 appraisal. Key findings for both the A470 and M4 corridor, on the basis of key WelTAG appraisal criteria, are as follows:

- The problems are significant at present and will be significantly worsened as strategic development proceeds
- The Stage 2 priority interventions align well with delivery and programming opportunities in respect of funding and procurement processes.
- The Stage 2 options are judged to address key Strategic Case criteria (ie. problems and objectives), have an overall beneficial Transport Case, and there are no clear Delivery, Financial or Commercial Case deal-breakers e.g. land ownership constraints, affordability.

The Stage 2 study has identified for both corridors a short-term package of pinch-point schemes, together with potential longer-term public transport measures to form a coherent approach to addressing short-term and longer term problems. The Stage 2 output includes indicative costs, phasing programme and a risk register for priority pinch-point schemes.

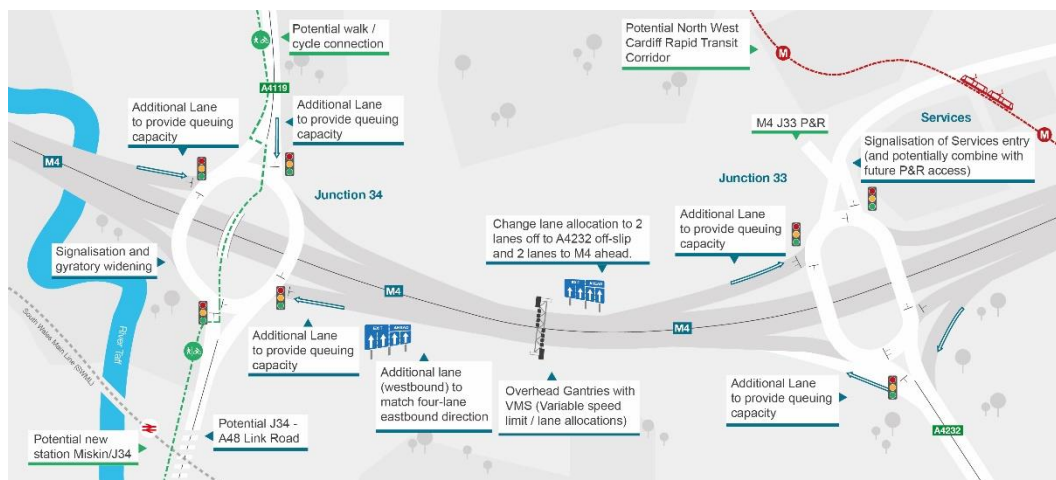
## A470 Corridor Preferred Package of Schemes



The following Priority Design schemes for the **A470 corridor** have been identified, and subjected to stakeholder discussion:

- **Nantgarw Interchange:** Signalisation, widening of gyratory/slip road to better manage queues, pedestrian link
- **Taffs Well Interchange:** Signalisation of s/b off-slip and provide National Cycle Network (NCN) crossing;
- **A470 Nantgarw – Taffs Well:** 3 lanes on 2-lane sections Northbound and Southbound
- **A470 Taffs Well – Coryton, Southbound:** Reallocation of lanes from 1-exit/2-ahead to 2-exit/1-ahead, with potential bus priority to Cardiff
- **A470 Taffs Well – Coryton, Northbound:** 3-lanes (narrow) instead of 2-lanes, with lane-gain/lane drop at Coryton and Taffs Well
- **A470 Pontypridd to Coryton:** Reduced Speed Limit to address Air Quality and Safety, with VMS gantry signage on A470
- **Expressway Network Management Plans:** Updated Network Management Plans with ITS & traffic officer deployment strategies to improve everyday operation, average speed management and network resilience.

## M4 Corridor Preferred Package of Schemes



The following Priority Design schemes for the **M4 corridor** have been identified, and subjected to stakeholder discussion, as follows:

- **M4 J34 Interchange:** Signalisation and gyratory widening – with or without M4 J34 to A48 Link;
- **M4 J33 Interchange** - Additional signal control and slip road widening
- **M4 J34-J33 mainline carriageway:** Improved lane allocation on eastbound 4-lane carriageway
- **M4 J33-J34 mainline carriageway:** Provide additional lane on existing 3 lanes westbound carriageway
- **ITS solutions on M4 Junction 34 – 32:** Application of ITS facilities and techniques, initially based on VMS gantry signage to provide lane allocation and driver information.
- **Network Management Plans:** Updated Network Management Plans with ITS & traffic officer deployment strategies to improve everyday operation, average speed management and network resilience.

## Recommendations for Stage 3

Following the production of the Delivery Plan, it is recommended that a location-specific Stage 3 Full Business Case scheme-level WelTAG study is undertaken which will include.

- Progressing with priority measures design and appraisal with appropriate procurement and full business case to deliver within the short term;
- Informing the Wales Transport Plan (and/or a South East Wales Transport Strategy) to set the vision and pipeline in the longer term; and
- Progressing through the five ways of working including collaboration with key partners to assist funding and governance.

In particular, the Stage 3 appraisal should consist of further detailed investigations on the following:

- Preliminary detailed scheme design;
- Traffic forecasting and modelling;
- Economic appraisal/wider economic impact assessment results;
- Environmental Impact Assessment (and survey) results;
- Non-Motorised User/Active Travel opportunities – to tie-in pinch-point NMU improvements to local authority active travel plans to create seamless connectivity across and along the corridors;
- Further details and information around the Transport Case, Delivery, Financial and Commercial Cases; and
- Air quality monitoring during the development of the design schemes and in operation.

The key outputs from a Stage 3 study would be a preferred initial phase pinch-point scheme capable of being taken forward for implementation in the short-term, together with a programme of implementation for the remainder of the package pinch-point corridor scheme.

### **Early Delivery Opportunities**

Prior to undertaking a Stage 3 Full Business Case Study, Welsh Government has requested that a Pinch Point Delivery Plan is produced as an immediate follow-up to the Stage 2 Study, aimed at identifying a stand-alone early delivery scheme. It is envisaged that an early delivery scheme would comprise of part of the package of pinch-point schemes, and would have delivery characteristics in line with Welsh Government's Congestion Pinch Points Programme timeline and budget.

### **Medium-Long Term Concept Schemes**

The following public transport measures were assessed as having a positive beneficial impact, identified in an initial appraisal, and therefore are recommended for further consideration in separate studies. Based on their high costs and level of complexity they are anticipated to be only deliverable in the medium or long term (at 5+ years).

- Relocation of Treforest Industrial Estate Station to Nantgarw (Metro), with Park & Ride; and
- North West Cardiff Corridor - Rapid Transit Cardiff – Llantrisant;
- M4 J33 Park & Ride.
- Cross-Valley Bus Rapid Transit (Metro Extension) - Pontypool to Llantrisant /Talbot Green;
- New Rail Station – Miskin/Junction 34.

Potential major road schemes were also identified, but would require a separate investigation and business case – as it is not clear from this initial assessment that the schemes would be beneficial – in particular as they may undermine future public transport upgrades by easing the movement of cars.