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Llywodraeth Cymru
Welsh Government

Eich cyf/Your ref
Ein cyf/Our ref

Lord Dafydd Elis-Thomas AM
Chair
Environment and Sustainability
Committee

20 December 2013

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Dear Dafydd

Thank you for your letter of 13 November, seeking clarity on a number of issues relating to the proposed M4 relief road at Newport.

The document at Annex A provides responses to the questions raised.

The consultation on the draft Plan closed on 16 December. My officials have started to collate and assess the responses and will report to me on the findings in due course.

A handwritten signature in black ink, appearing to be 'Edwina Hart', written in a cursive style.

Welsh Government Responses to Queries Raised by the Environment and Sustainability Committee 13 November 2013

Q1) Details on the planned process for taking forward and developing the proposals once the consultation has closed, including timelines and how they link in with other plans such as the South East Wales Metro.

The Welsh Government will use the responses to the draft Plan Consultation to decide whether or not to adopt the draft Plan without or without amendment. In making its decision, the Welsh Government will take into account consultation responses to the Strategic Environmental Assessment, Habitats Regulations Assessment, Equality Impact Assessment and Health Impact Assessment. The Welsh Government may then decide to announce a preferred route which would protect a corridor for planning purposes. An announcement will be made in summer 2014, once the Welsh Government has made its decision.

Traffic modelling during the draft Plan development¹ identified that a highly significant increase in public transport usage in the Newport area would not solve the problems on the M4 around Newport. However, Welsh Government recognised the importance of public transport improvements and a dedicated separate task group was formed for this purpose.

The Welsh Government has recently published Mark Barry's study of proposals to develop a metro system for South East Wales². The report focuses on how a metro system could support economic growth and regeneration at key locations across South East Wales. The M4 Corridor around Newport draft Plan is compatible with, and will complement, the South East Wales Metro and the electrification of the rail network.

The potential key dates for taking the M4 Corridor around Newport forward should the draft Plan be adopted are:

1. Announcement by Welsh Government whether to adopt the draft Plan with or without amendment: **Summer 2014.**
2. Publication of draft Orders and Environmental Statement: **Summer 2016.**
3. Public Local Inquiry: **Winter 2016/2017.**
4. Start of Construction: **Spring 2018**
5. Completion of Motorway Construction: **Autumn 2021**
6. Completion of work associated with reclassification of existing motorway **Spring 2022.**

Q2) Further details on why Highway Option C (Grade separated junction improvements to the A48 Newport Southern Distributor Road) was removed as an [sic] possible option in the current consultation.

The M4 Corridor Enhancement Measures (CEM) public consultation, held between March and July 2012, included consultation on Highway Option C (Grade separated junction improvements to the A48 Newport Southern Distributor Road).

Some respondents to the M4 CEM consultation challenged Highway Option C as a solution or clearly stated that Option C would not address the problems or achieve the goals chosen. This view was borne out by analysis, which indicated that, whilst Option C would be likely to result in local benefits, these would not be focused on relief to the motorway, especially at the Brynglas Tunnels. By the design year (2035), analysis has shown that the traffic levels

¹ M4 Corridor Enhancement Measures Public Transport Overview, February 2013
<http://www.m4cem.com/reports%20and%20newsletters.html>

² Cardiff Capital Region Metro: Impact Study, October 2013 <http://wales.gov.uk/topics/transport/integrated/metro/?lang=en>

through the Brynglas tunnels under Option C would be reduced by only some 4% compared to a do-minimum scenario.

The WelTAG process focuses on the overarching Welsh impact areas of economy, society and environment so that the Welsh Government can make reasoned and auditable decisions. Decision making on the M4 around Newport continues to follow the Welsh Government's standard WelTAG appraisal process and is publicly reported in the Corridor Enhancement Measures (CEM) WelTAG Stage 1 (Strategy Level) Report and M4 Corridor around Newport WelTAG Stage 1 Appraisal (Strategy Level) Report. These are both available at www.wales.gov.uk/consultations and www.m4newport.com.

Based on the CEM Consultation and the WelTAG appraisal, it was thus recommended that Option C should not be taken forward for further appraisal and consultation.

Q3) Details of why development of the Steelworks Access Road was not considered in the initial M4 Corridor Enhancement Measures consultation either alone or in combination with Highway Option C.

The improvement of the Steelworks Access Road (A4810) was included as a measure to aid access to the Newport Eastern Expansion Area in the M4 CEM Strategy, Appraisal and Monitoring Report. The scheme included roundabouts and intermediate signal controlled junctions to provide access to existing employment sites and new development sites.

Measures to upgrade the Steelworks Access Road to dual 3 lanes with grade separation and rationalisation of junctions were considered in the M4 CEM Programme. A high level appraisal of this option is provided in a 'Discarded Measure Appraisal Summary Worksheet', provided at Page 27 of the M4 CEM Alternatives Considered Workbook, publicly available at www.m4cem.com. To upgrade the road to this motorway standard, along with the necessary service roads and junctions to serve existing and planned residential and employment land developments, would involve considerable land and property acquisition, with associated expenditure. Additionally, this option was not progressed for consultation due to the subsequent reduced accessibility to the existing commercial and industrial areas served by this road and the planned 4000 houses at the Glan Llyn site.

For further details of options considered as part of the development of the draft Plan and the reasons why they were not progressed, please refer to the M4 Corridor Enhancement Measures (CEM) WelTAG Stage 1 (Strategy Level) Report, M4 Corridor around Newport WelTAG Stage 1 Appraisal (Strategy Level) Report and M4 CEM Alternatives Considered Workbook. The M4 CEM documents can be found at www.m4cem.com and the WelTAG reports are available at www.m4newport.com.

Q4) Clarity as to the status of the Strategic Environmental Assessment completed as part of the M4 Corridor Enhancement Measures consultation.

The strategic level environmental assessment carried out during M4 CEM reported on measures and options that were under consideration to solve transport related problems affecting the M4 around Newport. This assessment was consulted on and the responses received to this assessment assisted with the subsequent preparation and assessment of the M4 Corridor around Newport draft Plan and its Reasonable Alternatives. An Environmental Report has been prepared for the draft Plan in accordance with Regulation 12 of the Environmental Assessment of Plans and Programmes (Wales) Regulations 2004 (the SEA Regulations) and published in accordance with Regulation 13 of the SEA Regulations. This Report can be accessed at www.m4Newport.com.

Q5) Why have the environmental impacts been reduced in the current Strategic Environmental Assessment as compared to the M4 Corridor Enhancement Measures consultation? For example biodiversity, soil, water and material assets have all been changed from major negative to minor negative.

Following the 2012 assessments, potential additional mitigation measures were identified that would deliver benefits. The 2013 SEA consequently included these additional mitigation measures which would be integrated into a project's design should the decision be taken to progress the draft Plan with or without amendment. Assessment methodology has remained consistent.

Summary of changes to the categories referred to are as follows:

Biodiversity and Water

The biodiversity and water receptors of the Gwent Levels SSSIs are dependent upon the water volume and quality of the reen network.

The 2012 strategic level environmental assessment of an additional high quality road to the south of Newport (M4 CEM Option A) identified potential negative effects due to its potential implementation. The 2013 SEA introduces measures to reduce direct and indirect effects on biodiversity features and water resources. Newly introduced measures include:

- Water treatment areas: attenuation ponds to store and dilute runoff in-combination with treatment via a reedbed filtration system prior to release to local watercourses. Integration of water treatment areas throughout the highway would provide significant biodiversity enhancement as additional resource and habitat complexity whilst also maintaining compliance with the WFD.
- Creation of new reen system to offset the loss of reens through construction of a highway. The created reen would exceed the length of reen lost and would be constructed to the required Internal Drainage Board specification; often representing an enhancement in quality compared to that lost.
- Consideration of an overarching management strategy for the Gwent Levels. An ambition to raise the quality of the Gwent Levels beyond the requirements for protected features to the benefit of wider biodiversity.

The additional mitigation measures meant the 2013 SEA concluded lower overall negative effects. At a project level, should a draft Plan be adopted, an aim would be to demonstrate these measures would provide an overall benefit to biodiversity and compliance with the Water Framework Directive (WFD). It is not possible to reach this conclusion at the strategic stage of assessment.

Material Assets

The 2013 SEA considered the short-term use of energy and materials for construction and the long-term benefit gained from improved vehicle efficiency and integration of energy efficient technologies into any highway subsequently developed. This was therefore assessed overall as a minor negative effect.

Soils

The 2013 SEA considers the potential enhancement of the soil resource that would result from developing the considered options. Large tracts of land along the highway alignments feature contaminated land. Development of a highway option would require remediation of contaminated land; remediation would represent a significant benefit for the soil resource.

Q6) We understand that the line of the black route included in the current consultation is further north than the protected line contained in the constraints maps published as part of Newport Council's deposit LDP. Please explain this variation and clarify which route is correct.

The route corridor given 'TR 111' protection in 2006 is that shown in Newport Council's deposit LDP. The TR 111 plan is available on www.m4newport.com.

The Black Route, as presented in the draft Plan, is the current proposed alignment and includes minor changes to reflect consultation, investigation and analysis since 2006 leading up to the current consultation.

Dependant on the outcomes of the current consultation, further minor changes could be made to the alignment. If the draft Plan is adopted, with or without amendment, the alignment would be reprotected for planning purposes with an updated TR 111.

Q7) What, if any, cost benefit analysis / economic impact analysis has been undertaken, and can this be shared with the Committee?

Analysis at a strategic level of appraisal has been undertaken to consider the economic impacts of the draft Plan and its Reasonable Alternatives.

Information on the 'Economic Activity and Location Impact' (EALI) of the draft Plan (and its Reasonable Alternatives) is provided in the M4 Corridor around Newport draft Plan Consultation document, and the M4 Corridor around Newport WeITAG Stage 1 (strategy level) Report, which can be accessed on web sites www.wales.gov.uk/consultations or www.M4Newport.com.

An Outline Business Case was issued to the Finance Committee in September 2009 which indicated a very high value for money benefit to cost ratio for the proposal at that time. Should a draft Plan be adopted, detailed cost benefit analysis would be made available for the current proposal.

Q8) A number of witnesses raised concerns about the data used for the forecasting of traffic growth. They highlighted that traffic has plateaued in recent years, yet the forecast is showing an increase in demand. Could you provide further detail on how these figures have been calculated?

The M4 Corridor around Newport Consultation Document³ shows observed and forecast traffic levels on the existing M4. This shows substantial growth occurring in the late 1990s, followed by a generally flat profile prior to the economic downturn in 2007/2008, which was further affected by the major road works on the M4 in 2009 and 2010. Following the completion of these road works, traffic volumes have risen back to around the 2005 pre global recession level. 'TEMPRO' (Trip End Model Presentation Program) forecasts show growth from 2011 onwards.

Forecasts are made in accordance with the Welsh Government WeITAG and Department for Transport WebTAG guidance (see www.dft.gov.uk/webtag). Calculation methodology is explained as follows.

Traffic surveys were carried out between March and May 2012 to enable comparison with forecast traffic flows and update the M4 traffic model. Attached at Annex B is a copy of "Figure 7.2: 2012 Traffic Flows and Urban Motorway Operating Conditions" from the M4 Corridor around Newport WeITAG Appraisal Report Stage 1 (Strategy Level). This shows that in 2012 the M4 at Newport was experiencing traffic flows associated with operational problems, resulting in frequent traffic congestion, which could increase the risk of incidents and accidents occurring.

³ Figures 4 and 5, draft Plan Consultation Document, available at www.m4newport.com.

The M4 traffic model was validated using the 2012 information. Further information on the traffic model can be found in the 'M4 Corridor, Newport, Local Model Validation Report (LMVR), Draft 1', November 2012⁴. Traffic forecasts were prepared for the then anticipated opening year of the proposed M4 Corridor around Newport Options in 2020 and the design year of 2035 as required by the Design Manual for Roads and Bridges. Car trips were factored using the Department for Transport's National Trip End Model (NTEM), as set out in the TEMPRO version 6.2 program. The growth in goods vehicle trips, both light and heavy vehicles, was based on the forecasts contained in the National Transport Model produced by the Department for Transport. Variable demand modelling has been deployed using DIADEM (Dynamic Integrated Assignment and Demand Modelling) to produce the model forecasts, in accordance with WebTAG unit 3.10 advice. It should be noted that traffic forecasts at this strategic stage of option assessment are based on a number of assumptions. More details of such assumptions are documented in the 'New M4 Project, Magor to Castleton, traffic Forecasting Report', Arup, November 2012, which is available at www.m4newport.com.

With regard to recent and future traffic forecasts your attention is drawn to recent research⁵ led by Professor Peter Jones at University College London, who was referred to in Professor Cole's evidence to the Committee.

This research is reported in the Paper "On the Move"⁵ which contains the following quote which is relevant to a strategic roads like the M4.:

"...by 2040 traffic on strategic roads will have grown by 46%, based upon central estimates of population growth, economic growth and the decline in the cost of motoring. In situations where the economy grows faster than expected, where the costs of motoring fall and population grows more quickly, this could mean traffic could grow by as much as 72%. If economic forecasts were downgraded, if population growth stagnated and if motoring technology did not develop as fast as predicted, the increase would be smaller. However, the minimum forecast increase, 24%, is still a substantial rise on current levels."

Furthermore, in July 2013, the Department for Transport published its command paper entitled Action for roads: a network for the 21st century⁶. The following is a quote from that the paper:

"Even under our lowest growth forecasts we would expect traffic growth to cause major increases in congestion, greater delays and more unpredictable journeys. Without action, growing demand will place unsustainable pressure on our roads, constraining the economy, limiting our personal mobility and forcing us to spend more time stuck in traffic. This will mean more pollution and more frustration for motorists..."

⁴ LMVR available on www.m4cem.com.

⁵ On the Move, December 2012, written for the RAC Foundation, the Office of Rail Regulation, Independent Transport Commission and Transport Scotland by a research team led by Professor Peter Jones at University College London.

⁶ Action for Roads: A network for the 21st Century, Department for Transport, July 2013 (Cm 8679).

Annex B

Figure of Traffic Flows and Urban Motorway Operating Conditions

(extract from m4 Corridor around Newport WelTAG Appraisal Report Stage 1 (Strategy Level))

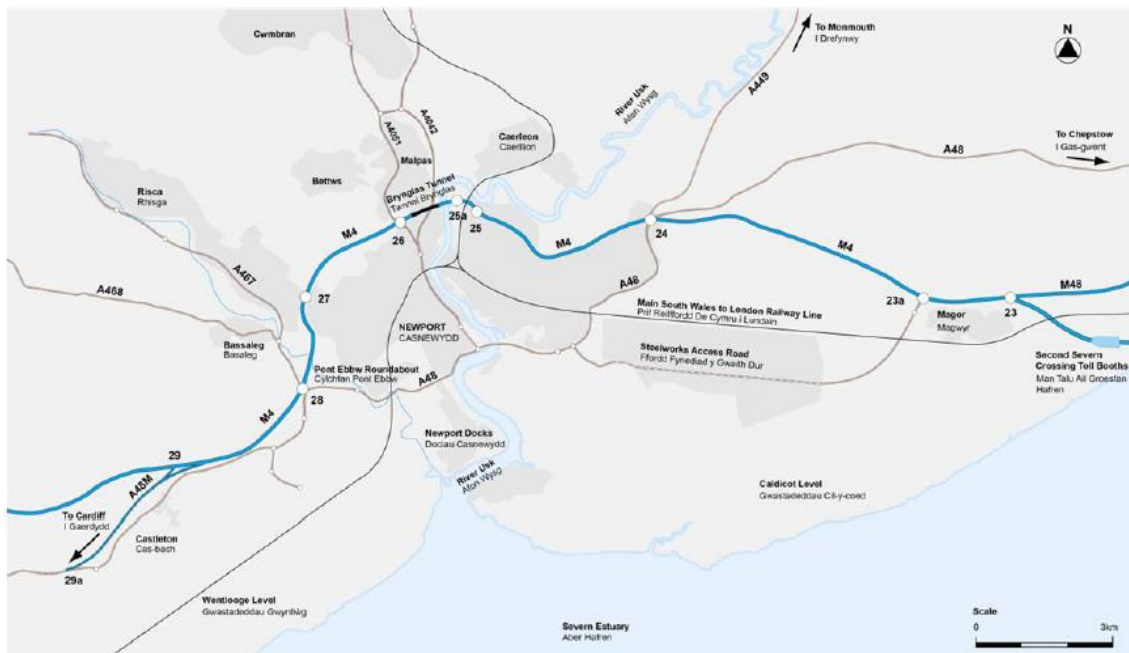
Welsh Government

M4 Corridor around Newport
WelTAG Appraisal Report Stage 1 (Strategy Level)

Figure 7.2: 2012 Traffic Flows and Urban Motorway Operating Conditions

Location	2012 AADT	DMRB Urban Motorway Capacity ¹⁹ Veh/hr	Sept 2012 ~ Highest Peak % Flow to Capacity	
			Average Weekday Peak	Maximum Weekday Peak
J23a to J24	79,300	5600	70.2%	78.3%
J24 to J25	93,400	5600	80.2%	87.2%
Brynglas Tunnels	70,100	4000	85.7%	95.6%
J26 to J27	104,400	5600	86.2%	94.2%
J27 to J28	103,400	5600	96.6%	103.3%
J28 to J29	104,200	5600	92.1%	100.2%

Flow to Capacity	Operational Conditions
< 80%	Operating within capacity
80% to 100%	Operational problems occurring
> 100%	Severe operational problems



¹⁹ Design Manual for Roads and Bridges Volume 5, Section 1, Part 3, TA 79/99 Amendment No.1, Traffic Capacity of Urban Roads, Table 2, May 1999