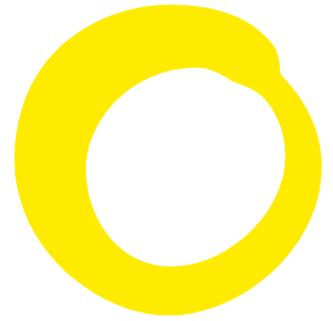


July 2016

The case against the M4 Black Route



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Summary

1. The M4 around Newport copes just fine outside two peak traffic hours of the day – and will do until at least 2037
2. Building the Black Route will lead to a 15% increase in traffic on the M4 routes
3. By 2014 the Welsh Government thought traffic would be 5 percentage points higher than in 2005. It was actually 2.5 percentage points higher. Traffic is growing at a much slower rate than was foreseen by government.
4. The price tag for the Black Route has sequentially risen. Accounting for VAT, maintenance and inflation of construction costs brings the total cost close to £2 billion.
5. As a result, the Benefit:Cost Ratio hovers close to 1:1.
6. For the cost of the Black Route, we could have three brand new hospitals in Wales.
7. Peak hour time savings are 4-9 minutes by 2037. These savings will be enjoyed by approximately 6,000 vehicles per day for 150 or so days per year. At all times other than 8-9am and 5-6pm, time savings will be as low as 3 minutes.
8. Back in 2011, the Welsh Government published one intervention that has the potential to reduce peak traffic through Brynglas tunnels by 5%. Nothing appears to have been done to put this zero-cost intervention in place.

Introduction

This document does not elucidate all reasons against the proposed new stretch of M4 to the south of Newport. It does not cover environmental impacts, noise, air pollution, ecology and the like. And of the topics it does cover, it does so with brevity. Much more information on other aspects of the scheme can be found elsewhere, not least in the multiple Friends of the Earth Cymru submissions to government consultations¹.

The M4 copes just fine – outside two hours of the day

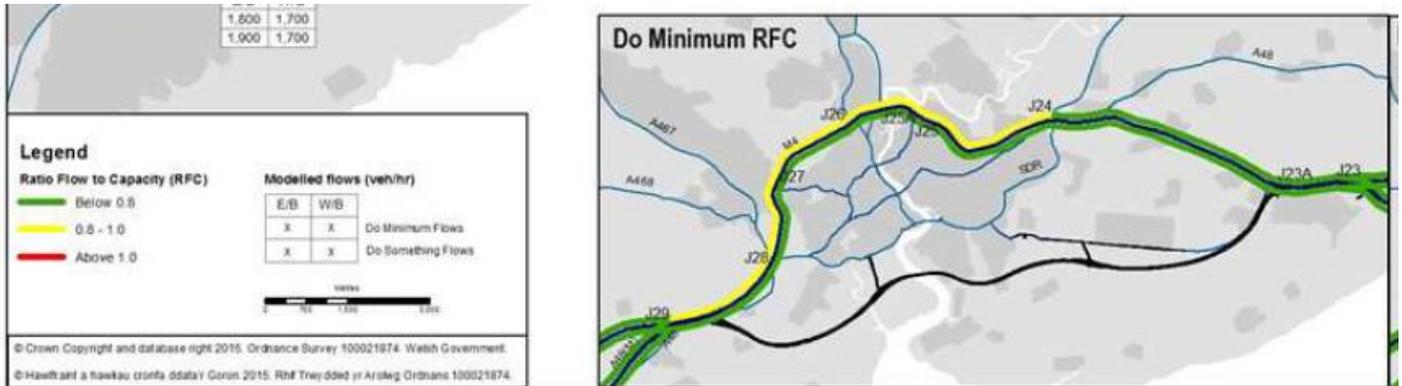


Figure 9.8: 2037 Forecast Inter-Peak Hour Traffic Flows, Core Scenario

The Welsh Government forecasts that some eastbound junctions of the M4 would be between 0.8 and 1.0 of capacity by 2037, given central traffic growth forecasts, during daytime non-peak hours (average hour between 10am and 4pm). All other directions and junctions are below 0.8 capacity².

During the night-time hours, all junctions in both directions are below 0.8 capacity at all times.

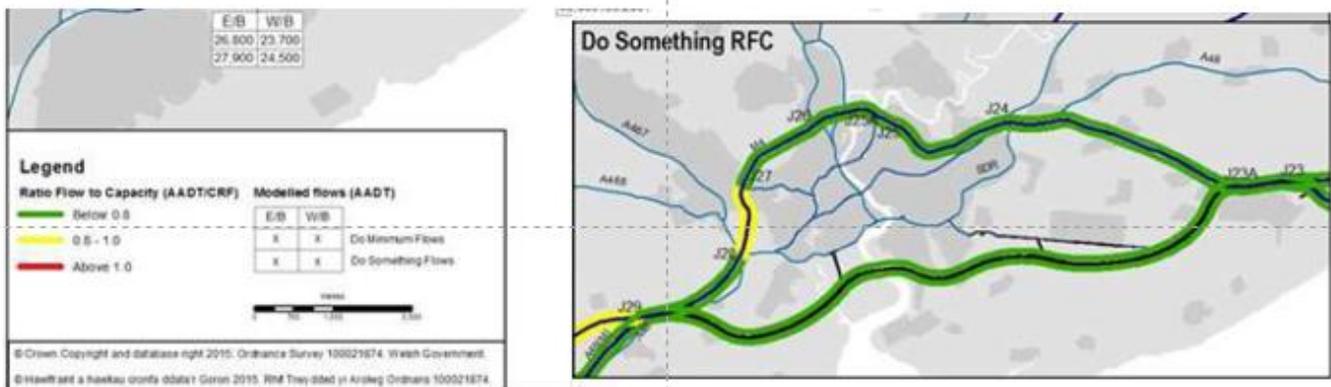


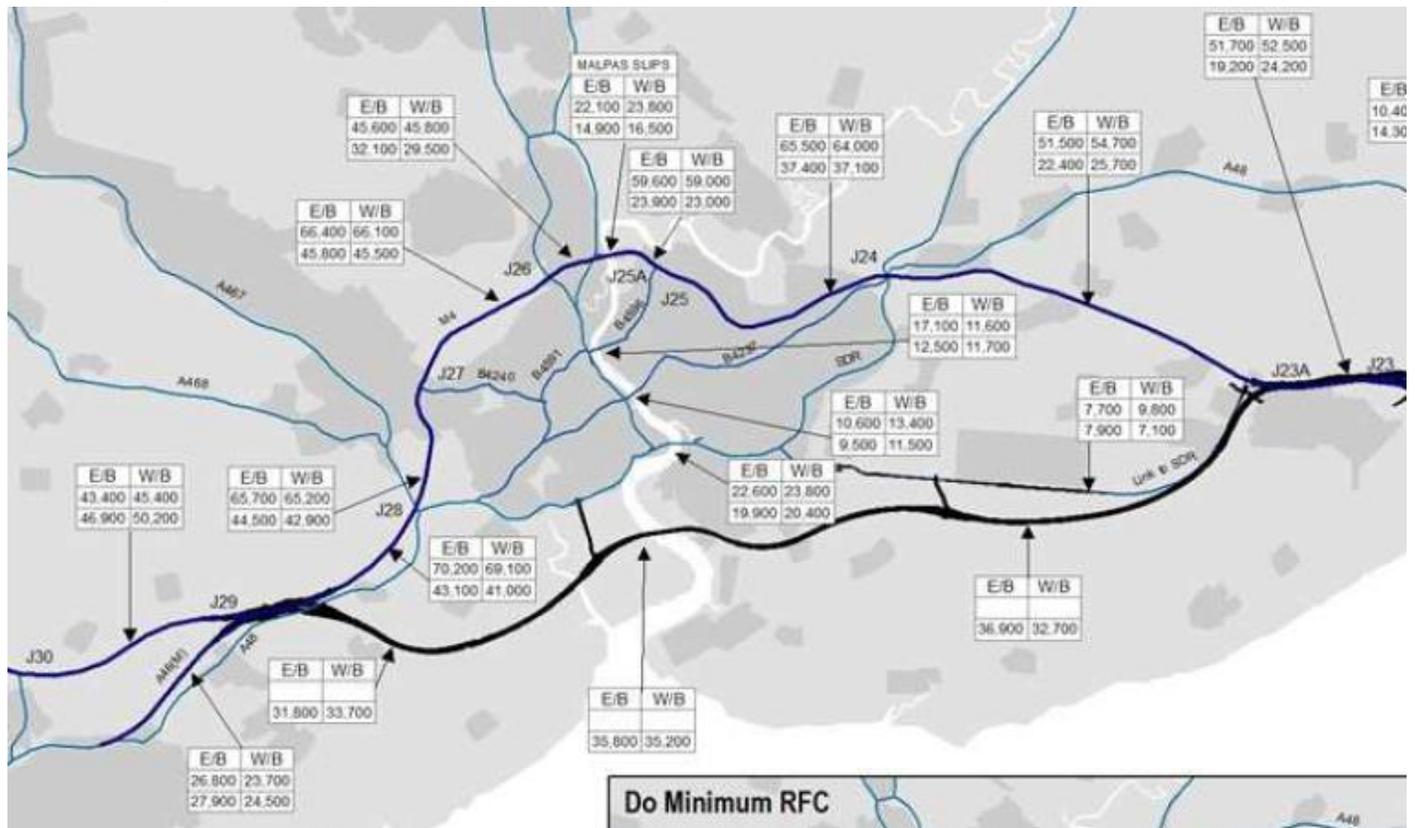
Figure 9.10: 2037 Forecast Annual Average Daily Traffic Flows, Core Scenario

Even with the new motorway, average annual traffic flows start to creep above 0.8 by 2037. That's because of the realities of 'predict and provide' (see below). Is the new M4 really a long-term solution?

¹ For example: <http://foe.cymru/sites/default/files/Draft%20Orders%20Consultation%20Response.pdf>, <http://foe.cymru/sites/default/files/M4%20Consultation%202013%20WG%20version.pdf>

² <http://gov.wales/docs/det/report/160310-m4-traffic-forecasting.pdf> Traffic forecasting report, page 66

The consequences of 'predict and provide'



One thing is certain. Building the new motorway will increase traffic.

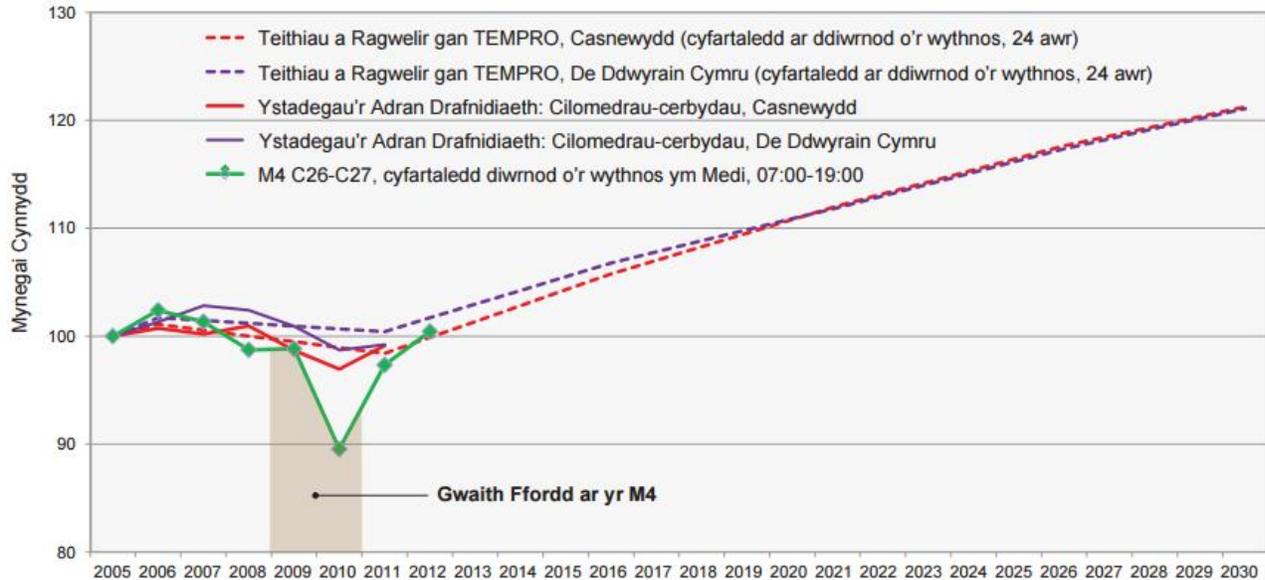
Infrastructure option	Average vehicle numbers
Without new M4	60,600
Black Route	34,350
Existing M4 (with Black Route)	35,279
Total 'with Black Route'	69,629

In fact, there will be more than 9,000 extra vehicles using the new combined options (Black Route plus existing M4) by 2037 – a 15% increase in traffic over the 'do minimum' alternative.

This hardly takes us in the direction of sustainability – even if the route itself were entirely benign. Of course, the Black Route is far from environmentally benign: the route is proposed to take land of 5 SSSIs, with wide-ranging, permanent ecological impacts.

Traffic growth is half as great as the Welsh Government foresaw

Ffigur 5: Cynnydd Traffig a Welwyd ac a Ragwelir



Traffic growth was foreseen by the Welsh Government to be 5 percentage points greater than the 2005 levels by 2014. In fact, traffic growth was 2.5 percentage points greater³. So the modelling on which the need for the Black Route is predicated is already out by 100%.

The proposal is horrifically expensive

The First Minister was quoted in the South Wales Argus in May 2015 as saying:

"The reason why I won't reveal an actual cost at this stage is we have to negotiate with contractors and the last thing we would do is declare our hand upfront in terms of how much money we are prepared to pay. But it's a long, long way underneath £1 billion"⁴.

That assessment has been shown to be hopelessly optimistic.

The Welsh Government's assessment of costs is now as follows:

³ <http://foe.cymru/sites/default/files/Draft%20Orders%20Consultation%20Response.pdf> para 145

⁴ http://www.southwalesargus.co.uk/news/12945931.M4_relief_road_will_cost_less_than_1billion_vows_First_Minister/ 12 May 2015

Table 5.1: Scheme Budget (Q4 2015 prices)

Component	Estimate
Preliminaries including Traffic Management	£212,000,000
Roadworks	£268,000,000
Structures	£290,997,000
Landscaping and environmental works	£44,751,316
Works by other authorities	£38,281,191
Land and Compensation costs	£91,965,717
Risk and Optimism Bias	£147,158,658
Project Estimate excluding VAT and Inflation	£1,093,153,881
Key Stage 4 Costs	£22,000,000
Reclassification and reconfiguration of Caerleon Junction ⁸ (including Optimism Bias)	£16,189,217
Total Costs for Economic Appraisal	£1,131,343,098

The investment costs (ie capital costs) are distinguished from operating costs. The main

Note that inflation, VAT and maintenance are all excluded. We've added them in.

Component	Cost (£)
Base cost	1,131,343,098
Construction inflation (16% of base cost)	181,014,896
Maintenance (excluding existing M4 maintenance)	217,939,950
VAT	306,059,589
Grand total	1,836,357,532



This is Queen Elizabeth Hospital Birmingham. It cost £545 million from scratch. We could build three of these, brand new, for the cost of one stretch of M4 around Newport.

Providing a realistic analysis of the cost also has profound implications for the Benefit:Cost Ratio. The Welsh Government claims this ratio to be 1.98⁵. However, substituting our costs of £1.84 billion for the Welsh Government's costs of £0.98 billion gives us a ratio of 1.05.

Hardly a ringing endorsement of the project's economic benefits.

A scheme to benefit the few

The Welsh Government expects inter-peak time savings to be between 3 and 4 minutes by 2037. Most of this is a result of the more direct routing, rather than any saving from reduced congestion⁶.

During the peak hours of 8-9am and 5-6pm, the time savings would be between 4 and 9 minutes by 2037.

Around 3,000 vehicles are expected to use the Black Route per hour, in each direction, during peak hours⁷. Most of these vehicles will be using the motorway in one direction in the morning and the reverse direction in the evening rush hour.

So the benefit of up to 9 minutes will be enjoyed by a shade over 6,000 vehicles per day. This is only during weekdays during normal working weeks. The Welsh Government does not include the months of January, February, July, August or December in its analysis⁸, presumably because traffic is lighter during these months.

A 4-9 minute saving for 6,000 vehicles per day, for 150 or so days per year. This, for the equivalent cost of three brand new, state-of-the-art hospitals.

Has the Welsh Government left all stones unturned?

The simple answer is: no.

One example, outlined by the Welsh Government in 2011⁹, was to close the east-facing sliproads of junction 26 of the M4. The conclusion of this option was that:

"There are aspects of this measure that are likely to be desirable in terms of improving operations on the M4 motorway as well as improving regional and local bus services. The impact of re-routing traffic is likely to be minimal. Traffic flows in the peak periods are likely to reduce by 5% through Brynglas Tunnels and there is likely to be an increase in the use of Junction 25a".

The failure of the Welsh Government to explore in greater detail an option that could, at almost zero cost, cut peak traffic through the Brynglas tunnels by 5%, is surprising.

⁵ <http://gov.wales/docs/det/report/160310-m4-economic-assessment-report.pdf> Economic assessment report, page 24

⁶ <http://gov.wales/docs/det/report/160310-m4-traffic-forecasting.pdf> Traffic forecasting report, page 55

⁷ <http://gov.wales/docs/det/report/160310-m4-traffic-forecasting.pdf> Figures 9.7 and 9.9

⁸ <http://foe.cymru/news/m4-lies-finally-revealed>

⁹ <http://www.m4cem.com/downloads/reports/M4%20CEM%20Stakeholder%20Workbook.pdf> Appraisal Summary Worksheet, page 33