

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



**Objection Ref OBJ1027**  
**ID/013**

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Llywodraeth Cymru  
Welsh Government

**Response to Objector's Evidence: Pippa Bartolotti (Welsh Green Party)**

## **1 GROUND FOR OBJECTION**

### **1.1. Details**

1.1.1. Pippa Bartolotti has submitted a Statement of Evidence in relation to the draft statutory Orders associated with the Welsh Government's proposals for the M4 Corridor around Newport, which has been received via the Programme Officer.

1.1.2. The Welsh Government understands the evidence submitted within her Statement to be based on the following:

1. Concerned that the Scheme would not provide cycleways or footpaths;
2. Concerned that the aims of the Scheme would not be met, suggesting average occupancy of cars in the UK is 1.6 and that the under capacity of the roads arises from the overcapacity of the vehicles that use them;
3. Stated that every coach/tram reduces up to a mile of car traffic and reduces carbon emissions per passenger mile by an average of 88%, helping to achieve global warming reduction targets;
4. Concerned that long term prosperity in Newport would be increasingly dependent on the Port of Newport as international trade increases in the post-Brexit UK. The growth of the Port would be stymied by the low height of the proposed bridge crossing as part of the Scheme;
5. Concerned that building more roads would encourage more cars and make Wales less resilient to climate change impacts, whilst emissions reduction would not likely to be achieved due to induced traffic using the existing M4;
6. Concerned that by encouraging more cars on the proposed new road would exacerbate traffic congestion east of Cardiff;
7. Stated that the Welsh Government has estimated that 7,000 new jobs would be created with the building of the Metro, with a further £8bn in additional economic impact., however, by contrast the Scheme is claimed to bring 6,500 new jobs with £1.4 billion of increased benefits, with concerns that this is only if the Severn crossing toll is removed;
8. Stated that the existing M4 is not going to be taken away, and long haul traffic will experience fewer delays and faster travel time across the

- contested 19 miles between Magor and Castleton if an effective Metro system is in place;
9. Concerned that documentation distributed to the public stating that in 2014 'the road' was 95% full is misleading as it cannot be 95% full 100% of the time;
  10. Stated that the lower end of the traffic forecasts shows the recent fall in trips continues over the next 30 years;
  11. Stated that at peak times the motorway is as little as 46% full. The M4 around Newport is, on average, 76% full at peak times. On one section of the motorway, and in one direction only, the figure reaches 95%;
  12. Stated that no account has been made for traffic scenarios arising from the completion of the Heads of the Valleys Road (A 465) improvements due in 2018, and suggested it is likely that upon completion much of the traffic coming from Birmingham and the midlands would not use the existing M4;
  13. Stated that demographic changes are a key driver of the number of journeys, and that the population of Wales has grown by only 200,000 since 1995, most of those being in the north, the increase in population is mainly down to age and older drivers tend not to populate the roads at peak times, which has not been examined;
  14. Stated that the possibility of 6,500 new jobs in Newport is unlikely, which overplays the asserted economic benefits of the proposed motorway;
  15. Concerned about the Welsh Government statement that 'The current accident rates on the M4 between Magor and Castleton are higher than average for UK motorways';
  16. Stated that the claim that Junction 25-25A, the Brynglas Tunnels and Junctions 26-27 had a higher observed accident rate than the UK average for motorways, is not substantiated;
  17. Stated that the Welsh Government has not reported the following:
    - (a). That the number of recorded UK personal injury collisions decreased from 9588 in 2000, to 6850 in 2010 and that no comparable data has been put forward;

- (b). That the number of casualties on UK motorways has reduced by 27% in the years 2014-2015;
  - (c). That statistics for Wales do not single out the M4 Brynglas Tunnels as being any worse for accidents than any other part of the M4;
  - (d). That the Variable Speed Limit (VSL) is expected to reduce accident rates by around 13%;
  - (e). That Police Stats 19 Forms 2006-2008 are used as a measure of current accident rates;
  - (f). That VSL installation was introduced in June 2011 between Junctions 24 and 28, but not enforced until autumn 2016.
18. Concerns about the Welsh Government assertion that air quality will improve by up to 15%;
  19. Concerned the calculated improvements in air quality are misleading when there would be an increase in traffic;
  20. Stated that there is no modelling of emissions along the A48 Eastern Avenue;
  21. Concerned that local NOx concentrations in the region between Castleton and Magor would increase;
  22. Concerned about lack of monitoring and evaluation of the culverted reens adjacent to Gwent Europark
  23. Concerned that the absence of monitoring data affecting approximately 2568m of SSSI reens and 9136m of SSSI field ditch would indicate that culverting does not work, and the impact on flora and fauna would be unacceptably high;
  24. Concerned that the Scheme represents poor value for money;
  25. Suggested public transport (South Wales Metro) as an alternative to the Scheme;
  26. Suggested that by prioritising early build of the South Wales Metro between Magor and Castleton, the existing M4 would be relieved of traffic and therefore would meet the Transport Planning Objectives (TPOs), negating the need for further road building; and

27. Concerned that the Welsh Government could not fund both the South Wales Metro and the Scheme.

## 2. REBUTTAL

### 2.1. Points Raised

2.1.1. Some of the above points have already been addressed in previous correspondence. Others are dealt with by topic by the relevant witness in the following sections, in addition to their general proofs of evidence, to which readers should also make reference in their entirety for a full understanding of the Welsh Government's case. For ease of reference the places where the above points are addressed in this Rebuttal are listed in the table below:

Objector's point reference	Rebuttal paragraph reference	Objector's point reference	Rebuttal paragraph reference
1	2.5.1	15	2.1.2
2	2.2.1	16	2.1.2
3	2.6.1	17	2.1.2
4	2.1.2	18	2.1.2
5	2.2.2	19	2.1.2
6	2.2.6	20	2.4.1
7	2.3.1	21	2.1.2
8	2.2.4	22	2.1.2
9	2.2.5	23	2.1.2
10	2.2.1	24	2.3.3
11	2.2.5	25	2.1.2
12	2.2.7	26	2.1.2
13	2.2.8	27	2.1.2
14	2.3.2		

2.1.2. The Objector's points that have already been covered in previous correspondence and proofs of evidence are as follows:

1. **Point 4** (Concerned that long term prosperity in Newport would be increasingly dependent on the Port of Newport as international trade increases in the post-Brexit UK. The growth of the Port would be stymied by the low height of the proposed bridge crossing as part of the Scheme) / Proof of Evidence by Andrew Meaney, WG1.4.1 section 3, 'Shipping Impact of the Scheme' and section 4 'Quayside impact of the Scheme'.

2. **Points 15, 16 and 17** (Concerned about accident rates and data) / Proof of Evidence of Bryan Whittaker, WG1.2.1 section 3.5 and 15. Up to date evidence on accidents is provided in the Traffic and Collisions Report 2016 (Document 6.2.16)
3. **Point 18** (Concerns about the Welsh Government assertion that air quality will improve by up to 15%) and **21** (Concerned that local NOx concentrations in the region between Castleton and Magor would increase) / Proof of Evidence by Michael Bull, WG1.12.1 Appendix A.
4. **Point 19** (Concerned the calculated improvements in air quality are misleading when there would be an increase in traffic) / Proof of Evidence by Michael Bull, WG 1.12.1 paragraph 1.2.4.
5. **Point 22** (Concerned about lack of monitoring and evaluation of the culverted reens adjacent to Gwent Europark) and **23** (Concerned that the absence of monitoring data affecting approximately 2568m of SSSI reen and 9136m of SSSI field ditch would indicate that culverting does not work, and the impact on flora and fauna would be unacceptably high) / Proof of Evidence by Keith Jones, WG1.18.1 sections 2.2, 6.5 and Table 2.
6. **Point 25** (Suggested public transport (South Wales Metro) as an alternative to the Scheme) and **26** (Suggested that by prioritising early build of the South Wales Metro between Magor and Castleton, the existing M4 would be relieved of traffic and therefore would meet the Transport Planning Objectives (TPOs), negating the need for further road building) / Proof of Evidence by Mathew Jones, WG1.1.1 section 9.

7. **Point 27** (Concerned that the Welsh Government could not fund both the South Wales Metro and the Scheme) / Proof of Evidence of Matthew Jones, WG1.1.1 section 9 and paragraph 13.5 explains that funding for the delivery of this project has been explicitly identified and provision set aside within the Welsh Government's published capital plans for the next four years. Allocations are not made beyond a 4-year period but suitable forecasts are in place to enable assurance to be given that the full funding requirements associated with the project are available within a reasonable timescale should the decision be taken to proceed.
- 2.1.1 The other points are responded to by specialist topic in turn in the sections following.
- 2.2. Bryan Whittaker (Traffic)**
- 2.2.1 Response to **Point 2** (Concerned that the aims of the Scheme would not be met, suggesting average occupancy of cars in the UK is 1.6 and that the under capacity of the roads arises from the overcapacity of the vehicles that use them):
1. Occupancy per trip varies by work, commuting and other journey purposes. The average occupancy per trip taken from the Department of Transport's WebTAG data book (July 2016) for an average car for an average weekday is 1.49 and 1.57 for an all week average whilst it is 1.81 for a weekend average.
- 2.2.2 Response to **Point 5** (Concerned that building more roads would encourage more cars and make Wales less resilient to climate change impacts, whilst emissions reduction would not likely to be achieved due to induced traffic using the existing M4):
1. The scheme will increase the number of vehicle-kilometres driven within the study area. Table 9.3 of the Revised Traffic Forecasting Report (Document 2.4.13) presents the forecast extent of this increase. In the design year 2037, the increase is 0.3% in the AM peak hour, 0.0% in the average inter-peak hour, and 0.2% in the PM peak hour. Forecast traffic growth between the base year 2014 and the design year 2037 is in the order of 30%. The scale of this induced traffic is no more than around 1% of the background traffic growth which is forecast to occur.

2. The increase in carbon emissions from those additional kilometres driven is offset by the reduction in carbon emissions that result from the improved flow of traffic and the shorter distance. Stop start conditions result in considerably more carbon emissions than a smooth flow of traffic. Further details are provided in the Proof of Evidence by Tim Chapman, WG1.13.1.
- 2.2.3 Response to **Point 6** (Concerned that by encouraging more cars on the proposed new road would exacerbate traffic congestion east of Cardiff):
1. The traffic forecasts indicate that, with the Scheme in place, the average daily traffic levels along the A48 (M) would be expected to increase by around 2% in the opening year of 2022 and 5% in the design year of 2037 compared to the situation without the Scheme. Although the A48 (M) currently experiences operational problems, particularly during peak periods on weekdays, the Scheme is not expected to materially affect those operational problems.
- 2.2.4 Response to **Point 8** (Stated that the existing M4 is not going to be taken away, and long haul traffic will experience fewer delays and faster travel time across the contested 19 miles between Magor and Castleton if an effective Metro system is in place):
1. Considerable effort has been made to build a model which does take account of projected changes in public transport service levels. The M4CaN transport model takes into account the Great Western Route Modernisation, opening of new Stations on the Valley Lines (Metro Phase 1) + Valley Lines Electrification (Phase 2). Outside of the M4CaN transport model, further rail elements of a South Wales Metro and a strategic Park and Ride site at Llanwern together with Newport Bus Rapid Transit have been assessed to estimate the potential effect on traffic flows on the existing M4 Corridor. This assessment is set out in the Updated Public Transport Overview (2.4.19) and was supplemented in my oral evidence.
- 2.2.5 Response to **Points 9** (Concerned that documentation distributed to the public stating that in 2014 'the road' was 95% full is misleading as it cannot be 95% full 100% of the time) **and 11** (Stated that at peak times the motorway is as little as 46% full. The M4 around Newport is, on average, 76% full at peak

times. On one section of the motorway, and in one direction only, the figure reaches 95%):

1. Roads do not fill up smoothly. Delays and unreliability of journeys times start to become evident when traffic flows are still some way from capacity in the order of 80%. The average May (representative of the M4CaN transport model) Ratios of Flow to Capacity are shown in Tables 1 and 2 below. Green circles = No congestion likely, Amber = Traffic flow starts to break down during weekday morning peak, Red = Regular congestion during weekday morning peak.

Table 1 Ratio of Flow to Capacity (Eastbound Direction) AM Peak

Section of M4	2014	2022		2037	
	Base	Do Minimum	Core Scenario	Do Minimum	Core Scenario
J29-J28	0.88	0.95	0.65	1.05	0.73
J28-J27	0.77	0.86	0.63	0.93	0.73
J27-J26	0.79	0.84	0.65	0.93	0.79
J26-J25a	0.73	0.80	0.61	0.90	0.78
J25a-J25	0.70	0.77	0.44	0.86	0.58
J25-J24	0.75	0.84	0.56	0.95	0.69
J24-J23a	0.59	0.71	0.53	0.80	0.64

Table 2 Ratio of Flow to Capacity (Westbound Direction) AM Peak

Section of M4	2014	2022		2037	
	Base	Do Minimum	Core Scenario	Do Minimum	Core Scenario
J28-J29	0.80	0.91	0.62	1.04	0.73
J27-J28	0.95	0.95	0.75	1.07	0.87
J26-J27	0.84	0.88	0.67	1.00	0.81
J25a-J26	0.73	0.78	0.53	0.88	0.67
J25-J25a	0.68	0.75	0.39	0.82	0.53
J24-J25	0.71	0.79	0.72	0.89	0.86
J23a-J24	0.54	0.64	0.47	0.73	0.56

2. Capacity within the Ratios of Flow to Capacity (RFC) in Tables 1 and 2 above is the theoretical capacity of the appropriate 2 or 3 lane motorways. Theoretical capacity is based on mid-link capacities and does not take into account the impact of junctions upstream and downstream. Nor does it take into account transitions from 3 to 2 lanes, variations from the average vertical and horizontal alignments, and other factors such as percentage of heavy goods vehicles which can impact on actual capacity. Along this section of M4 observed congestion in terms of link speeds is more prominent on the approach to the Brynglas Tunnels - see Table 3.2 of my

main proof (1.2.1) – because of the change from 3 lanes to 2 lanes. This effect is not captured by Tables 1 and 2.

2.2.6 Response to **Point 10** (Stated that the lower end of the traffic forecasts shows the recent fall in trips continues over the next 30 years):

1. There was sustained growth on all sections of the motorway between Junctions 23 and 29 in the period between 1989 and 2007 with the exception of that through Brynglas Tunnels in the mid-1990s with the completion of the A4042 Malpas Road and Brynglas Tunnels Relief scheme. There was however, a reduction in traffic volumes on almost all motorway sections around the time of the global economic recession in 2008. By 2011 when the economy was in the period of recovery and at the same time variable speeds limits had been implemented, traffic travels were again increasing and have continued to do so up to 2016.
2. Table 3 shows the two-way annual average daily traffic (AADT) on the M4 around Newport between 2011 and 2016. Table 4 shows the corresponding traffic growth rates.

Table 3: Two-way AADT on M4 around Newport (2011-16)

MIDAS Traffic Count Location	2011	2012	2013	2014	2015	2016
	Both directions					
Magor - Coldra Jns. 23a-24	77,532	76,703	78,205	77,743	80,374	82,234
Coldra - Caerleon Jns. 24-25	92,766	92,412	94,104	97,030	99,638	101,255
Brynglas Tunnels Jns. 25-26	70,618	72,872	73,706	75,369	78,602	78,919
Malpas - High Cross Jns. 26-27	101,820	103,078	104,229	106,442	111,224	114,900
High Cross - Tredegar Park Jns. 27-28	99,367	101,237	102,454	105,333	109,229	111,569
Tredegar Park - Castleton Jns. 28-29	103,361	104,544	106,145	109,410	114,508	117,848

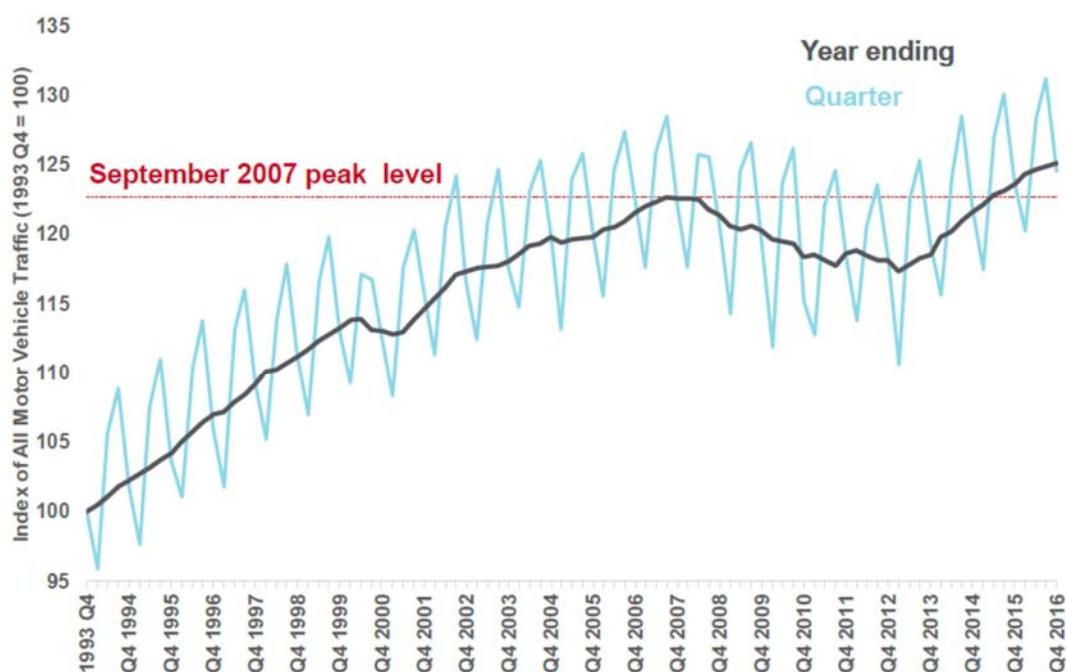
Table 4: Historic traffic growth rates on M4 around Newport (2011-16)

MIDAS Traffic Count Location	2011-12	2012-13	2013-14	2014-15	2015-16	2011-16
	Both directions					
Magor - Coldra Jns. 23a-24	-1.1%	2.0%	-0.6%	3.4%	2.3%	6.1%
Coldra - Caerleon Jns. 24-25	-0.4%	1.8%	3.1%	2.7%	1.6%	9.2%
Brynglas Tunnels Jns. 25-26	3.2%	1.1%	2.3%	4.3%	0.4%	11.8%
Malpas - High Cross Jns. 26-27	1.2%	1.1%	2.1%	4.5%	3.3%	12.8%
High Cross - Tredegar Park Jns. 27-28	1.9%	1.2%	2.8%	3.7%	2.1%	12.3%

Tredegar Park - Castleton Jns. 28-29	1.1%	1.5%	3.1%	4.7%	2.9%	14.0%
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3. Published UK government statistics on national traffic totals and Bryan Whittaker’s evidence (WG1.2.1) on M4 traffic levels (using data from automatic counters on the M4 as stated above both show a high degree of commonality with traffic growing strongly through the period 2013-2016, ending a decline that started around 2008 at the time of global recession. If anything, traffic growth recovered slightly earlier in South Wales than Great Britain. The data in both South Wales and Great Britain shows no plateau and no continuing fall, but rather a clear underlying growth trend that was interrupted over a period of several years for what seems highly likely to be economic reasons. The published UK government statistics are shown below in Table 5.

Table 5: Rolling Annual and Quarterly Indices of Road Traffic in Great Britain, from 1993



2.2.7 Response to **Point 12** (Stated that no account has been made for traffic scenarios arising from the completion of the Heads of the Valleys Road (A 465) improvements due in 2018, and suggested it is likely that upon completion much of the traffic coming from Birmingham and the midlands would not use the existing M4):

1. The A465 trunk road forms an alternative east-west strategic route to the M4, particularly for traffic travelling between the Midlands and West Wales. The A465 Heads of the Valleys Dualling (Abergavenny to Hirwaun) upgrades the road to dual carriageway. Sections 1 (Abergavenny – Gilwern) and Section 4 (Tredegar – Dowlais Top) were both completed before the base year of the M4CaN transport model and therefore are represented in the model. Section 3 (Brynmawr – Tredegar which was completed in 2015 together with Section 2 (Gilwern – Brynmawr) scheduled for completion in 2018, Section 5 (Dowlais Top – A470) scheduled for completion by 2022 and Section 6 (A470 – Hirwaun) scheduled for completion in 2022 are represented in the M4CaN model future years of 2022, 2037 and 2051).

2.2.8 Response to **Point 13** (Stated that demographic changes are a key driver of the number of journeys, and that the population of Wales has grown by only 200,000 since 1995, most of those being in the north, the increase in population is mainly down to age and older drivers tend not to populate the roads at peak times, which has not been examined):

1. The forecast of growth in travel demand is based on the demographic projections published in TEMPRO 7.2, which takes full account of projected population increase, projected future employment rates among the working age population, the projected increase in the proportion of the population who have passed working age, and the differing travel behaviour of each of these groups.

2.2.9 I confirm that the statement of truth and professional obligations to the inquiry from my main proof still applies.

## 2.3 Stephen Bussell (Economics)

2.3.1 Response to **Point 7** (Stated that the Welsh Government has estimated that 7,000 new jobs would be created with the building of the Metro, with a further £8bn in additional economic impact., however, by contrast the Scheme is claimed to bring 6,500 new jobs with £1.4 billion of increased benefits, with concerns that this is only if the Severn crossing toll is removed):

1. There are important methodological differences between the quantified impacts on GDP (or GVA) predicted for the Scheme and for the South Wales Metro (as set out in 'A Cardiff Capital Region Metro: Impact Study – Executive Summary, October 2013). The quantified impacts of the Scheme derive from two main sources: reductions in transport costs experienced by businesses (which are in turn based on changes in average travel times and distances predicted by the M4CaN Transport Model) and increases in economic productivity linked to the improvements in both accessibility resulting from the Scheme.
2. For these elements, over the 60 year appraisal period, it is estimated that GVA impacts of the Scheme would total £1.3bn (2010 prices and values) in South Wales and £1.6bn for the study area as a whole. These impacts represent a permanent improvement in the underlying productivity of the economy.
3. The quoted economic impact of the Metro of £8bn appears to relate to Metro 'Impact Study – Executive Summary' referenced above. Of the £8bn of impact, £4bn relates to the economic impact of the construction phase of the various Metro projects. Such economic impacts are not included in the figures quoted above for the Scheme. The remaining £4bn appears to relate to the potential of the Metro to help support additional employment in the Cardiff Central Enterprise Zone. Therefore, the GDP forecasts relate to land use and employment effects (rather than transport costs and productivity). Land use and employment effects are not included in the GVA figures quoted for the Scheme.

4. Although it is not included in the headline £4bn, the Metro Impact Study also includes a quantified estimate of the value of journey time savings for commuters. The Metro Impact Study states that ‘an average reduction in generalised journey times for 100,000 commuters into Cardiff and Newport could be worth £30m per annum’. The value of journey time savings experience by commuters are not typically considered to have a direct impact on GDP and are not included in the above figures quoted for the Scheme. The figure of 100,000 commuters appears to relate to the total number of inward commuters into Cardiff and Newport combined, regardless of the mode of travel. The figure of £30m per annum has been derived by assuming that each of these 100,000 commuters experiences a five minute time saving as a result of the Metro. The total number of commuters currently travelling to work by rail is approximately 22,000. By comparison, data from the M4CaN Transport Model suggests that the existing section of the M4 around Newport (under the Do Minimum Scenario) will cater for in the region of 28,000 commuters each weekday by 2022.
5. Given the methodological differences between the Metro Impact Study and the Scheme assessment, it is difficult to make direct comparison between the impacts of the Scheme with the Metro programme. However, it is instructive that the benefits of the M4CaN accruing to commuters is expected to be (in the design year of 2037) in the region of £14m per annum (2016 prices and values). Given that the Scheme involves an investment of £1.1bn and the Metro Impact Study is based on a programme of investment amounting to £2bn, this would suggest – in very broad terms – an equivalent rate of return for commuters per pound of investment.
6. Finally, in attempting to draw any comparisons between the Scheme assessment and the Metro Impact Study, it should be considered that the Metro Impact Study has not been based on any formal modelling of the impact of possible Metro interventions. The full Metro Economic Impact report states: ‘Reflecting the strategic nature of the study and the corresponding level of detail available on the transport interventions and their impact on land use development and travel patterns, the resulting economic impacts are described qualitatively. Where data is available or

assumptions have been made, examples of the scale and nature of quantified impacts are set out for context.

7. The quantification of impacts should be viewed as illustrative and demonstrates the magnitude of achievable impacts. Each quantified impact is not additive and it may be expected that not all of them will be realised. Further work will be required to develop the interventions in order to deliver the required improvements in the transport network such that the indicative impacts can be more accurately valued and in turn realised.'

2.3.2 Response to **Point 14** (Stated that the possibility of 6,500 new jobs in Newport is unlikely, which overplays the asserted economic benefits of the proposed motorway):

1. The Scheme is expected to have a positive impact on the economy by reducing transport costs, improving productivity, improving the functioning of the labour market, stimulating new investment and improving perceptions of South Wales as a place to visit and do businesses.
2. The estimates of additional employment referred to by Ms Bartolotti are taken from the 2014 WeITAG Stage 1 & 2 (Scheme) Appraisal Report. This analysis related specifically to the potential impact of the Scheme on the level of employment in the South of Newport. The Scheme, by creating two new junctions to the south of Newport (Docks Way Junction and Glan Llyn Junction), will provide improved access to a number of currently allocated employment sites in Newport and Monmouthshire. It has been estimated that these sites have the capacity to cater for in the region of 15,000 jobs. The Scheme proposals will make these sites more attractive for investment whilst also improving access to sites located in close proximity to the existing route.
3. It is acknowledged that the precise number of jobs that might be created at these sites is subject to a degree of uncertainty and it is not possible to predict which industrial sectors will be represented. However, there is evidence to suggest that the impact on employment locally would be substantial. Access to the motorway network and the quality of transport more generally is a key determinant of business location decisions.

4. In a recent CBI survey<sup>1</sup>, 89% of firms surveyed stated that investment in the UK's motorway network as either crucial (57%) or beneficial (32%) for their business prospects. The importance of access to motorway junctions is evident from the current patterns of employment in South Wales. Analysis shown in the Revised Wider Economic Impact Assessment Report (Document 2.4.11) showed that the number of jobs within 1km of existing junctions in South Wales varies from 434 jobs (Junction 33) to 5,956 jobs (Junction 32). Of the 12 junctions considered, 8 have local employment in excess of 3,000 jobs. The employment land assessment confirms the capacity for new employment creation of at least the same scale as the most densely developed junctions of the M4 in South Wales.
5. Evidence from academic research suggests that the effect of highway improvements on the level of employment locally and regionally can be substantial. A study undertaken by the Spatial Economic Research Centre (SERC) considered the effects on employment and productivity of road improvements undertaken in Great Britain between 1997 and 2008, using a measure of access to employment along the road network. The SERC study finds 'strong effects' of transport improvements on area employment and on plant counts with a 10% improvement in accessibility leading to an approximately 3% increase in the number of business and employment. SERC conclude that increases in employment are a result of firm entry rather than an increase in the size of existing firms. In terms of the spatial distribution of impacts, the results showed strong employment effects up to 30km of improvement schemes. The study finds no strong evidence to suggest that effects are driven predominantly by displacement from outer to inner wards nearer to improvement schemes.

2.3.3 Response to **Point 24** (Concerned that the Scheme represents poor value for money):

1. The economic appraisal suggests that the Scheme would provide value for money. The core scenario for the Scheme is based on the central (or most likely) traffic growth forecasts and assumes that the tolls on the Severn Crossings are half their current level. Under this scenario, the Scheme has an initial benefit to cost ratio (initial BCR) of 1.62. The initial BCR takes into

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<sup>1</sup> Turning Momentum Into Delivery: CBI/AECOM Infrastructure Survey 2015

account only the direct economic benefits of the scheme. If Wider Impacts (indirect economic benefits) are included in the assessment, the BCR for the Scheme is 2.23. In other words, the benefits of the scheme outweigh its costs by a ratio of over 2 to 1.

2.3.4 I confirm that the statement of truth and professional obligations to the inquiry from my main proof still applies.

## **2.4 Michael Bull (Air Quality)**

2.4.1 Response to **Point 20** (Stated that there is no modelling of emissions along the A48 Eastern Avenue):

1. The A48 is within our study area but a detailed assessment of parts of the route was not required as the traffic changes do not meet the criteria detailed in my proof of evidence (WG1.12.1) paragraphs 2.6.4 and 2.6.6.

2.4.2 I confirm that the statement of truth and professional obligations to the inquiry from my main proof still applies.

## **2.5 Julia Tindale (Land Use, Community & Recreation)**

2.5.1 Response to **Point 1** (Concerned that the Scheme would not provide cycleways or footpaths):

1. New Non-Motorised User infrastructure will be provided as part of the Scheme as described in the March 2016 Environmental Statement (Document 2.3.3).

2.5.2 I confirm that the statement of truth and professional obligations to the inquiry from my main proof still applies.

## **2.6 Tim Chapman (Carbon)**

2.6.1 Response to **Point 3** (Stated that every coach/tram reduces up to a mile of car traffic and reduces carbon emissions per passenger mile by an average of 88%, helping to achieve global warming reduction targets):

- 1 I would agree that an electric tram between Newport to Cardiff, not taking into account its feasibility or affordability, could enable low User Carbon journeys between the two cities, provided its power came from a low carbon electric source. However, as the main railway line is currently being electrified, there would not appear to be any significant User Carbon

benefits of a new tram scheme over the currently being electrified railway. Also that new tram would have its own Capital Carbon and ongoing Operational Carbon investment that would need to be addressed.

- 2 The Scheme is very compatible with an increase in coach travel, as it would facilitate far more efficient coach operation on a far less congested road network – enabling lower User Carbon benefits for that mode. The appendix to the Proof of Evidence of Matthew Jones WG1.1.1 provides examples of where bus services are adversely effected by operational problems on the M4 around Newport.
  - 3 It should be noted that the South Wales Metro and public transport improvements have been taken into account as set out in section 9 of WG1.1.1 and further explained in the evidence of Bryan Whittaker WG1.2.1.
- 2.6.2 I confirm that the statement of truth and professional obligations to the inquiry from my main proof still applies.

### Annex – Correspondence List

Date	In/Out	Author	Email/Post/Meeting
29/04/2016	in	Pippa Barlototti	Email
12/07/2016	out	Matthew Jones	Email
02/08/2016	in	Pippa Barlototti	Email
06/10/2019	in	Pippa Barlototti	Email
08/10/2016	in	Pippa Barlototti	Email
20/02/2017	in	Pippa Barlototti	Email
20/02/2017	out	Brian Greaves	Email
23/02/2017	out	Joanna Vincent	Email
27/02/2017	in	Pippa Barlototti	Email
28/02/2017	out	Joanna Vincent	Email

**From:** [pippa@pippa-bartolotti.co.uk](mailto:pippa@pippa-bartolotti.co.uk)  
**To:** [Info-m4-can](mailto:Info-m4-can)  
**Cc:** [correspondence.edwina.hart@wales.gsi.gov.uk](mailto:correspondence.edwina.hart@wales.gsi.gov.uk)  
**Subject:** M4 Consultation: Don't ignore my views  
**Date:** 29 April 2016 19:30:16

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Orders Branch, Transport  
Department for Economy, Science and Transport  
Welsh Government  
Cathays Park  
Cardiff  
CF10 3NQ

Re: M4 Corridor around Newport. Formal objection to draft orders - please forward to the Welsh Government.

Dear Sir or Madam,

I am writing to strongly oppose the Welsh Government's proposal to divert the M4 motorway through the beautiful Gwent Levels.

I want a cleaner, safer and healthier future for Wales. Diverting a six-lane motorway through the fragile Gwent Levels verges on an act of environmental vandalism. The Welsh Government should be doing everything it can to encourage cars off the road and providing greener transport options, not making space for even more polluting traffic and damaging legally protected sites in the process.

I urge you to respect the protected environment and wildlife of the Gwent Levels and stop this new road from being built.

We need investment in a Wales that is fit for future generations, not one where our health, well-being and environment are put at risk.

Please ensure the Welsh Government receives this email so my objection will be considered and counted.

Yours sincerely,

Ms Pippa Bartolotti  
16 Yewberry Lane  
Malpas  
NEWPORT  
NEWPORT  
Gwent  
NP20 6WL

cc:  
Edwina Hart



Response by email

Our Ref: qA1174612/OBJ0030  
Date: 12th July 2016

Dear Sir/Madam

### **M4 Corridor around Newport**

I refer to your recent correspondence in relation to the draft statutory Orders associated with the Welsh Government's proposals for the M4 Corridor around Newport.

All correspondence is classified as either an objection or a statement of support. Due to the contents of your correspondence, it has been classified as an objection to the draft statutory Orders. I understand your objection to be based on the following:

1. You strongly oppose the Welsh Government's proposal to divert the M4 through the beautiful and fragile Gwent Levels.
2. Welsh Government should encourage cars off the road and provide greener transport options.
3. The Welsh Government should not be making space for even more polluting traffic.
4. The Welsh Government should not be damaging legally protected sites.
5. Investment should be fit for future generations, not one where our health, well-being and environment are put at risk.

I shall address each of the above points using the above numbering, where appropriate:

#### **1. Beautiful and fragile Gwent Levels**

- 1.1. The beauty and fragility, together with the tranquillity of an area, are something that is recognised as being part of its landscape character. The effect of the Scheme on landscape character has been assessed in accordance with appropriate guidance and is reported in Chapter 9 of the Environmental Statement (ES).
- 1.2. It is recognised that currently the sense of tranquillity increases the further south on the Gwent Levels as the distance between the rural landscape and the industrial features of Newport, main roads and rail links increases.

1.3. Despite aligning the proposed new section of motorway as far north as possible to the south of Newport without having a significant detrimental effect of existing residential areas of Newport it is acknowledged that, during construction and operation, the new section of motorway would have a large or very large adverse effect on the landscape character of the Levels. That effect has to be weighed against the significant social and economic benefits that the Scheme would bring to Newport, the wider Cardiff region and Wales as a whole.

## **2. Encourage cars off the road and provide greener transport options**

2.1. As set out within Chapter 4 of the ES studies have shown that new or improved public transport services would only have minimal impact in terms of reducing traffic on the M4. Investment in public transport measures is therefore aimed at achieving wider benefits to the region than relieving motorway traffic. However, potential future public transport enhancement measures are considered to be complementary to a motorway solution. Public transport enhancement measures are being progressed by Welsh Government to develop proposals for a Cardiff Capital Region Metro system. These are in parallel with the development of a new section of motorway to the south of Newport.

2.2. By way of background, in the development of the Wales Transport Strategy the Welsh Government looked in detail at what travel related problems exist on the M4 Corridor around Newport, and asked the public, other stakeholders and those involved in managing transport in and around Newport what they thought the problems amount to. This process, reported upon in 2008, identified 17 problems, relating to capacity, resilience, safety and sustainable development issues.

2.3. Between 2010 and 2012 some 100 possible measures were considered, including network improvements, network management, demand management, alternative modes of transport and smarter sustainable choices. Some of the measures considered avoided the Gwent Levels. These were consulted upon at the time. The conclusion of Welsh Government, taking into consideration a variety of factors including the potential effect on the Gwent Levels, was that a new section of motorway to the south of Newport was the sustainable, long term solution. This preferred strategy was set out in the draft Plan for the M4 Corridor around Newport which was consulted upon in 2013. The Plan was adopted in July 2014. Since that time the focus has been on design development.

## **3. Not making space for even more polluting traffic**

3.1. The effect of a changed noise and air quality regime due to the Scheme has been assessed in accordance with appropriate guidance and is reported in Chapters 13 and 7 respectively of the ES. A separate Health and Equalities Impact Assessment, included in the ES as Appendix 5.4 to Chapter 5, was also carried out.

3.2. When the new section of motorway to the south of Newport and the reclassification of the existing M4 to the north of Newport including the opening up of Junction 25 are considered together, the Scheme would provide a net benefit with respect to noise.

3.3. Comparing the 'with Scheme' scenario in the Opening Year 2022 with the 'without Scheme' scenario in the same year it is predicted that 4,101 noise sensitive receptors would experience a significant beneficial effect compared to 1,117 experiencing a

significant adverse effect. Expressed another way, comparing the two scenarios across the 20,654 properties assessed for 2022 the average noise level difference would be a reduction of 1.4 decibels per property. It is acknowledged that there will be noise detriment to individual properties, but this must be balanced against the wider economic and environmental impacts (including benefits to a greater number of properties).

- 3.4. Air quality monitoring for oxides of nitrogen (NO<sub>x</sub>) and particulate matter (PM<sub>10</sub>) specifically for the Scheme was undertaken during 2014 and 2015 and detailed atmospheric modelling has been undertaken. By law local authorities must designate Air Quality Management Areas (AQMAs) where targets for air quality levels (referred to as air quality objectives) are exceeded. Currently Newport City Council has declared four AQMAs in the vicinity of the existing M4 due to NO<sub>2</sub> air pollution from the existing M4.
- 3.5. With the Scheme in place, air quality within those AQMAs would improve significantly. On a wider regional scale air quality is also predicted to improve which will also lead to a consequential improvement in health of the population.
- 3.6. Locally however, within 200m of the new section of motorway, increases in air pollutants are predicted. However, given the existing low level of pollutant concentrations in those areas, pollutant concentrations would remain well within the relevant air quality objectives and predicted increases in nitrogen deposition on habitats would not be significant. To the extent that there are localised impacts these must be balanced against the wider economic and environmental (including improvements in air quality to a greater number of properties) benefits of the scheme.

#### **4. Not damaging legally protected sites**

- 4.1. Whilst Sites of Special Scientific Interest (SSSI) are legally protected that protection does not provide a blanket ban on development within the SSSI. The Welsh Ministers are required to take reasonable steps to conserve and enhance the SSSIs, consistent with the exercise of their functions. They have given a significant amount of attention to mitigating the impacts on the SSSI, so far as is possible, in order to be able to fulfil this requirement.
- 4.2. Chapter 10 of the ES provides a detailed and comprehensive assessment of the effect of the Scheme on ecology.
- 4.3. The Gwent Levels are designated as a series of Sites of Special Scientific Interest (SSSI) primarily because of their reed and ditch habitats, the insect and invertebrate species that those habitats support, and for the presence of the Shrill carder bee. The Gwent Levels also support a variety of aquatic plants and other wildlife including badger, birds, bats, dormouse, great crested newt and other amphibians, otter, reptiles and water vole.
- 4.4. It is acknowledged that the construction and/or operation of new section of motorway would have a likely significant adverse long-term effect on the series of SSSIs, and on nine locally designated Sites of Interest for Nature Conservation (SINCs) due to habitat loss of grazing marsh, lowland mixed deciduous woodland, hedgerows, saltmarsh, and open mosaic habitats on previously developed land. Species

potentially significantly affected in the long term include the Shriill carder bee and other terrestrial invertebrates, otter and Cetti's warbler.

- 4.5. Neither the Newport Wetlands National Nature Reserve and RSPB Reserve, nor the Magor Marsh and Great Traston Meadows Gwent Wildlife Trust Nature Reserves would be significantly affected.
- 4.6. As noted above Welsh Government is under a legal duty to take reasonable steps to further the conservation and enhancement of the flora and fauna by reason of which the Gwent Levels are designated as SSSI. It recognised that without appropriate mitigation the Scheme could have a significant adverse impact on many habitats and protected species found along the route.
- 4.7. Having consulted with Natural Resources Wales (NRW) strategies, amongst a range of other measures, have been developed for drainage and reen mitigation to minimise impacts on the SSSIs and a range of mitigation measures have been proposed. These measures are either integral to and embedded within the Scheme design or would be provided as additional mitigation. They include:
  - a) Retention of existing reens by culverting and replacement of reens and ditches lost to the Scheme at a ratio of slightly greater than 1:1 together with measures to encourage colonisation by aquatic plants and invertebrates.
  - b) Minimising land take across the Gwent Levels and where practicable avoiding land take to the south of the line of the new section of motorway.
  - c) Provision of water treatment areas that includes ponds and reed beds to control the volume and quality of water discharged into the reen system.
  - d) Avoidance of lighting other than at junctions and the river crossings and where lighting is required minimisation of light spillage.
  - e) Provision of permanent mammal fencing along the new section of motorway, together with underpasses, oversized culverts and mammal crossings at suitable locations.
  - f) Safe removal of dormouse, water voles, great crested newts and reptiles from the construction area to suitable habitat.
  - g) Removal of bat roosts and the closure of badger setts to be undertaken during the appropriate season and replaced with artificial setts and bat roosts. Eel passes to be provided on all new sluices.
  - h) Creation of areas of new habitat including the creation of a new area of saltmarsh and new areas of reedbed.
  - i) Conversion of arable land to permanent grassland, enhancement of existing grassland and watercourses at selected locations, and the creation of new grasslands to mitigate for the loss of grazing marsh. Overall some 26ha of species rich grassland suitable as habitat for Shriill carder bee would be provided.
  - j) Provision of some 83ha of deciduous woodland and another 20ha of linear woodland belts and shrubs; a replacement ratio of 2.1 to 1.

- k) Reuse of woodland soils and rootstocks in new planting areas.
  - l) Provision of 3.6km of new hedgerow.
  - m) No construction in the wetted channels of the Rivers Usk and Ebbw.
- 4.8. The effect of the proposed new section of motorway on the biodiversity of the Gwent Levels, including taking into consideration all of the proposed mitigation, has to be weighed against the significant social, economic and other environmental benefits that the Scheme would bring to Newport, the wider Cardiff region and Wales as a whole.
- 5. Investment should be fit for future generations.**

The Welsh Government is subject to the duties relating to sustainable development set out in the Well-being of Future Generations Act 2015. A Sustainable development report has been prepared, which describes how the proposed Scheme aligns to the Welsh Government's sustainable development principles. That document is available to view and download at the project website <http://gov.wales/docs/det/report/160310-m4-sustainable-development-report.pdf>.

Further information, including the Environmental Statement and other reporting, is available at [www.gov.wales/m4newport](http://www.gov.wales/m4newport). Paper copies are also available for inspection at deposit points as set out on the website.

The proposals for the M4 Corridor around Newport are promoted by the Welsh Government as an important part of its Wales Infrastructure Investment Plan (WIIP) which has set a clear direction for capital investment in Wales that supports growth and jobs.

The M4 Corridor around Newport project is considered to be the sustainable, long term solution to the social, environmental and economic problems associated with the main gateway into South Wales.

The Scheme would improve accessibility for people as well as Welsh goods and services to domestic and international markets.

In light of the above I would be grateful if you could advise me if you are now content to withdraw your objection to the draft Statutory Orders. A Public Local Inquiry is scheduled to be held this autumn where an independent inspector will hear any outstanding objections.

Should you require clarification, or wish to discuss the above prior to responding, please do not hesitate to contact me or the project public liaison officer Brian Greaves on [info@m4-can.com](mailto:info@m4-can.com) or 0845 600 2664.

Yours sincerely



Matthew Jones  
Project Engineer

**From:** [Pippa Bartolotti](#)  
**To:** [Info-m4-can](#)  
**Subject:** RE: CORIDOR YR M4 O AMGYLCH CASNEWYDD / M4 CORRIDOR AROUND NEWPORT  
**Date:** 02 August 2016 17:37:59  
**Attachments:** [-WRD165.jpg](#)  
[image003.png](#)  
[image005.png](#)  
[image006.png](#)

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Dear Matthew,

Thank you for your letter of 12<sup>th</sup> July, which I have read carefully. There remain some outstanding points of clarification which I set out below. I take your points in order:

1.3 I would be grateful if you would define and quantify the 'significant social and economic benefits' you refer to, especially as there is no prospect for development south of the Black Route.

2.1 Please also explain and quantify your rationale for the 'minimal impact' you say new and improved public transport services will bring to the immediate area. Also you appear to state that the Metro system will not be developed alongside the Black Route, but rather Government will 'develop proposals' in parallel to implementation of the Black Route. Please clarify that this is your intended interpretation.

2.2 I'd be grateful if you would tabulate the alleged '17 problems'

2.3 How can the Black Route be a 'sustainable long term solution' if it will not alleviate any of the traffic joining the existing M4 coming north from the Brynglas Tunnels J 26 onwards. This is 30% of total traffic volume on the current M4 between J 26 and J 29. Also why do you assume the SEW Metro system will bring inferior results.

3.1 Please detail the 'appropriate guidance' in terms of source, organisations, people, laws etc

3.3 Please detail how you measure the impact of noise and vibration on fauna and flora. Also what compensation will be paid to individual householders as a result of increased noise.

3.4 and 3.5 The danger spots of traffic pollution around Newport for many years have been Malpas Road and Caerleon High Street. As traffic coming from the North and the close proximity southern parts of the city will still have to use the current M4, air quality in the J 26 area of Malpas Road is unlikely to improve. The predicted increase in traffic will add to the detrimental impact of air quality. Pollution in Caerleon will not diminish as a result of this scheme.

3.6 What is the justification for increasing the air pollutants in an area renowned for low pollution. What rationale can you give for weighting an undefined economic improvement as being more important than clean air. Also what would be a significant increase in nitrogen deposition on habitats.

4.4 I see that you acknowledge that there will a significant long term adverse impact on the ecology of the SSSI's and SINC's.

4.5 You state that the 4 Nature reserves will not be 'significantly' affected. Please define 'significant'

4.7 a) Culverting as mitigation measures for lost reens has not been evaluated at the Gwent Europark to my knowledge. Therefore it is not an adequate solution.

4.7 g) What is the measurable effect and take up of artificial badger setts and bat roosts.

4.8 Once again please define the measurable 'significant' social, economic and environmental benefits of the scheme, and who exactly will be in receipt of them.

The M4 development is only part of the WIIP, yet the funding required will prevent any other part of the plan being implemented for some decades.

As a result of the unanswered questions set out above I cannot withdraw my objection to the plans.

Regards,

Pippa

Pippa Bartolotti

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**From:** Kath Sanders [mailto:Kath.Sanders@costain.com] **On Behalf Of** Info-m4-can  
**Sent:** 12 July 2016 16:23  
**Subject:** CORIDOR YR M4 O AMGYLCH CASNEWYDD / M4 CORRIDOR AROUND NEWPORT

Annwyl Syr/Madam

Yn atodedig ceir llythyr at eich sylw.

Yn gywir,

Dear Sir/Madam

Please find a letter attached for your attention.

Yours faithfully

---

**Brian Greaves** | Swyddog Cyswllt y Cyhoedd/ Public Liaison Officer

**Coridor yr M4 o amgylch Casnewydd | M4 Corridor around Newport**  
Longcross Court, 47 Newport Road, Cardiff, CF24 0AD

**Ffon/Phone** | 02920 695650 / 07977 140808

**E-bost/Email** | [Brian.Greaves@M4-CaN.co.uk](mailto:Brian.Greaves@M4-CaN.co.uk)

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**From:** [Pippa Bartolotti](#)  
**To:** [Info-m4-can](#)  
**Cc:** ["Peter Ashley Clifford Varley"](#)  
**Subject:** M4 CORRIDOR AROUND NEWPORT - Better Value for Money from Integrated Public Transport  
**Date:** 06 October 2016 12:21:02  
**Attachments:** [image001.jpg](#)  
[Strategic Objectives - The Case for Integrated Public Transport M4 Public Inquiry Proof of Evidence submitted by Pippa Bartolotti Wales Green Party.docx](#)

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To: the Public Inspector, Mr WSC Wadrup

Please find attached my submission : M4 Public Inquiry – Better Value for Money from Integrated Public Transport

Yours faithfully,

Pippa Bartolotti  
Gwent Green Party  
07981 717757

**Wales Green Party**



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Website: [www.gwent.greenparty.org.uk](http://www.gwent.greenparty.org.uk)



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**From:** [Pippa Bartolotti](#)  
**To:** [JoannaVincent@personaassociates.co.uk](mailto:JoannaVincent@personaassociates.co.uk); [Info-m4-can](#)  
**Cc:** ["Peter Ashley Clifford Varley"](#)  
**Subject:** M4 Public Inquiry - Debunking WG Statements -Proof of Evidence submitted by Wales Green Party  
**Date:** 08 October 2016 10:27:51  
**Attachments:** [image001.jpg](#)  
[M4 Public Inquiry - Debunking WG Statements -Proof of Evidence submitted by Wales Green Party.docx](#)

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To the Public Inspector : Mr. W.S.C. Wadrup

Attached is our submission to the M4 Public Inquiry - Debunking WG Statements

I trust all is in order. Please get back to me if you have any queries

Pippa

Pippa Bartolotti  
Gwent Green Party  
07981 717757

**Wales Green Party** 

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