

## CommitteeName

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Meeting Venue:  
**MeetingLocation**

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Meeting date:  
**MeetingDate**

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Meeting time:  
**MeetingTime**

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Cynulliad  
Cenedlaethol  
Cymru

National  
Assembly for  
Wales



For further information please contact:

**MeetingContact**  
Committee Clerk  
CommitteeTel  
[CommitteeEmail](#)

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**Agenda**  
MeetingTitle

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**1. FIELD\_TITLEFIELD\_FOOTNOTE F\_PR**

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# Agenda Item 6

## **Y Pwyllgor Cyfrifon Cyhoeddus**

Buddsoddi mewn Traffyrdd a  
Chefnffyrdd: Gwerth am Arian

## **Ymatebion i'r Ymgynghoriad – Rhan 2 Marwth 2015**

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## **Public Accounts Committee**

Value for Money of Motorway and Trunk Road  
Investment

## **Consultation Responses – Part 2 March 2015**

# Cynnws | Contents

\*Ar gael yn Gymraeg | \*Available in Welsh

Rhif   Number	Sefylliad	Organisation
MTRI 07a	Asiant Cefnffyrdd De Cymru, Gwybodaeth Ychwanegol	South Wales Trunk Road Agent Additional Information
MTRI 12	Cymdeithas Llywodraeth Leol Cymru	Welsh Local Government Association
MTRI 13	Costain	Costain
MTRI 14	Archwilydd Cyffredinol Cymru	Auditor General for Wales
MTRI 15	Cyngor Bwrdeistref Sirol	Conwy County Borough Council
MTRI 16	Cymdeithas Syrfewyr Sirol Cymru	County Surveyors Society Cymru
MTRI 17	Ysgol Beirianeg Prifysgol Caerdydd	Cardiff University School of Engineering
MTRI 18	Sefydliad Siartredig Priffyrdd a Chludiant (Cangen De Cymru)	Chartered Institution of Highways and Transportation (South Wales Branch)
MTRI 19	Gwasanaeth Tân ac Achub De Cymru	South Wales Fire and Rescue Service
MTRI 20	Gwasanaeth Tân ac Achub Canolbarth a Gorllewin Cymru	Mid and West Wales Fire and Rescue Service
MTRI 21	Uned Cysylltu'r Heddlu ar ran pedwar Heddlu Cymru	Police Liaison Unit on behalf of all four welsh police forces
MTRI 22	Gwasanaeth Tân ac Achub Gogledd Cymru	North Wales Fire and Rescue Service

# South Wales Trunk Road Agent

Managing and Improving  
Motorways and Trunk Roads  
through South Wales



# Asiant Cefnffyrdd De Cymru

Rheoli a Gwella'r Traffyrdd  
a'r Cefnffyrdd yn Ne  
Cymru

## National Assembly for Wales Public Account Committee Inquiry into Value for Money of Motorway and Trunk Road Investment

South Wales Trunk Road Agent  
Supplementary Questions - Written Response

18<sup>th</sup> March 2015



# National Assembly for Wales Public Accounts Committee: Inquiry into Value for Money of Motorway and Trunk Road Investment

*South Wales Trunk Road Agent- Supplementary Questions: Written Response 18th March 2015*

## **1. Introduction**

- 1.1 Neath Port Talbot County Borough Council are appointed as Agents to the Welsh Government (WG) to act on their behalf in managing, improving and maintaining the strategic road network in South Wales on a day to day basis.
- 1.2 Neath Port Talbot operate under delegated authority from WG under the Highways Act 1980 and the required scope and service levels are as defined in the Welsh Government Management Agent Agreement (WGMA).
- 1.3 The role of Agent includes the following:-
  - Provision of technical advice
  - Operational management of the network including incident management and adverse weather planning
  - Inspection of all highway assets to determine asset condition and the identification of defects
  - Delivery of routine, cyclical and reactive maintenance
  - Design and deliver planned major maintenance renewal, upgrade and improvement works

## **2. The staffing levels at the South Wales Trunk Road Agent including local authority staff involved in delivery and any local authority staff seconded for the years 2011 – 2015.**

- 2.1 The SWTRA staff structure currently stands at 124 to manage the day to day operations of 178kms of Motorway and 436kms of Trunk Road and its associated budget of approximately £50million to deliver a programme of maintenance and improvements.
- 2.2 The South Wales Trunk Road Agent operating model agreed with WG in 2005 has been of an enabling organisation but with all delegated function delivered directly by the management unit in order to deliver improved control and consistency. In terms of the Technical Administration function, it is only specialist asset inspections including drainage and structures, which are brought in from the supply chain and are not delivered directly by the Agent.
- 2.3 SWTRA as an organisation is managed in four divisions; Network Management, Delivery, Asset Management and Business Management. The Staff Structure numbers by division for 2010/11 to 2014/15 are presented in table 1:

# National Assembly for Wales Public Accounts Committee: Inquiry into Value for Money of Motorway and Trunk Road Investment

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Table 1: SWTRA Staff Structure Numbers

Year	2010/11	2011/12	2012/13	2013/14	2014/15
Network Management	29	51	49	50	50
Delivery	30	30	31	29	29
Asset Management	26	26	27	27	27
Business Management	18	17	16	18	18
Total Post Numbers	103	124	123	124	124

- 2.4 The most significant change in the number of staff posts within the Agency structure relates to the transfer of the control room operations function from the Traffic Wales Contract in 2012 to enable the implementation and development of an integrated Incident response service incorporating the traffic officer service, traffic management, adverse weather and incident response service.
- 2.5 The primary roles and responsibility of the four SWTRA divisions are contained below:
- 2.6 Asset Management. This division is responsible for inspecting, assessing and providing recommendations for maintaining the condition of Welsh Government' Motorway and trunk road assets. These assets include the highway, bridges and structures (including tunnels), street lighting, traffic signals and the soft estate.
- 2.7 Delivery. The Delivery division is responsible for the development and implementation of programmes of both maintenance and asset improvement schemes. The maintenance schemes can range from the delivery of routine and cyclical maintenance to larger asset renewal and improvement schemes. The delivery of projects requires the procurement, commissioning and management of services through the supply chain of public and private sector partners.

## National Assembly for Wales Public Accounts Committee: Inquiry into Value for Money of Motorway and Trunk Road Investment

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- 2.8 Business Management. This division undertakes and delivers the business functions which are key in maintaining operations and supports all aspects of service delivery. The business management is responsible for the business related functions of: Financial Management, Business Planning, Performance Management, 3<sup>rd</sup> Party Claims administration, Health and Safety, Customer Services, ICT Management and Quality Management.
- 2.9 Network Management. The Network Management division is responsible for the operational management and resilience of the network. The division is based at the South Wales Traffic Management Centre, Cardiff and is responsible for the functions of: Network Contingency Planning, Incident Response, Adverse Weather Service, Road space and Traffic Management, Abnormal Load Routing, Tunnel Management, Major Event Planning and the Traffic Officer Service.

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## **3. Provide information on traffic management arrangements**

- 3.1 In the operation and maintenance of highway networks, it is necessary from time to time to put in place temporary traffic management measures to facilitate safe road works, temporary or incident management whilst keeping the traffic flowing as freely as possible. With high traffic flows and speeds on many roads, it is particularly important to plan all works activities and temporary road closures to optimise safety, road space and work efficiently, whilst minimising road user congestion, delay and inconvenience. All reasonable steps should be taken to ensure that the effects of the works are reduced to a minimum whilst ensuring the safety of both the travelling public and the workforce (extract from Chapter 8 of the Traffic Signs Manual).
- 3.2 In order to minimise congestion without compromising safety the Trunk Road Agents in conjunction with Welsh Government have developed a guidance document for planning and coordination purposes outlining restrictions in relation to times that traffic management can be installed on the motorway and trunk road network. The restrictions are based on hourly traffic flows and refer to closures on the main carriageway. In South Wales especially on the M4 corridor between Newport and Cardiff (average traffic flows of 80,000 vehicles per day of which approximately 10,000 are HGVs), traffic flows dictate that a significant volume of work is undertaken at night where flows are lower. In areas where daytime working is permissible work is generally undertaken during off peak with the extent of traffic management and peak time working minimised as far as practicable.
- 3.3 Additional care in the approval of road works is taken during periods of increased flows such as school holiday periods especially on holiday routes and total road works embargoes are applied on public holiday weekends
- 3.4 Applications to undertake road works on the network are closely monitored on a weekly basis by the Agents Route Stewards with each application assessed, with durations and works content agreed in advance. Details of the planned works are then coordinated and communicated to all stakeholders on a Friday to advise of the week ahead (Sunday to Sunday). Details of major or high impact road works are also publicised on the Traffic Wales Website. Work is currently on-going in the development of the Traffic Wales website in order to improve the display of advance works planning information, road closures and events on the motorway and trunk road network.



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3.5 In terms of longer term planning and coordination of works with local authorities, the trunk road agents on behalf of Welsh Government have a statutory duty to attend quarterly coordination meetings with all local authorities and utility companies to plan and coordinate work in order that network conflicts do not occur in relation to the use of diversion routes etc. As part of the coordination and consultation process, stakeholders are advised of these proposals and their feedback welcomed. Occasionally, emergencies do arise and works have to be undertaken to ensure public safety but in these circumstances everything possible is undertaken to mitigate any adverse effects.

## **4. Provide details of how accidents and major incidents on the trunk road and motorway network are managed.**

4.1 The Network Management Team at the Traffic Management Centre has been implemented to ensure that processes and systems are in place to deliver a prompt and effective response to incidents so that the effect can be minimised and any congestion resulting from the event impacting on the travelling public reduced.

4.2 The incidents which the team are required to be capable of responding to are detailed in Welsh Government' Trunk Road Maintenance Manual (TRMM) and include adverse weather events, road traffic collisions, obstructions, damage or sudden deterioration of the highway assets (which are classified as Category 1 defects and represent an immediate or imminent hazard to the road user).

4.3 The incident response times vary across the network from a 1 - 1.5 hour response during the day to a 2 hour during the night. The resources levels established ensure that the current the Performance indicator for Incident response in accordance with the stipulated target for the route is at 99%. The main emergency response resources available for use by SWTRA are:

- South Wales Control Room Operators. (24hr shift basis /365 days a year)
- Wales Traffic Officer Service- daytime hours only, M4 junction 22-35, A48M, A4232 (Culverhouse Cross to Jct 33) and A470 (Jct 32 to Abercynon)

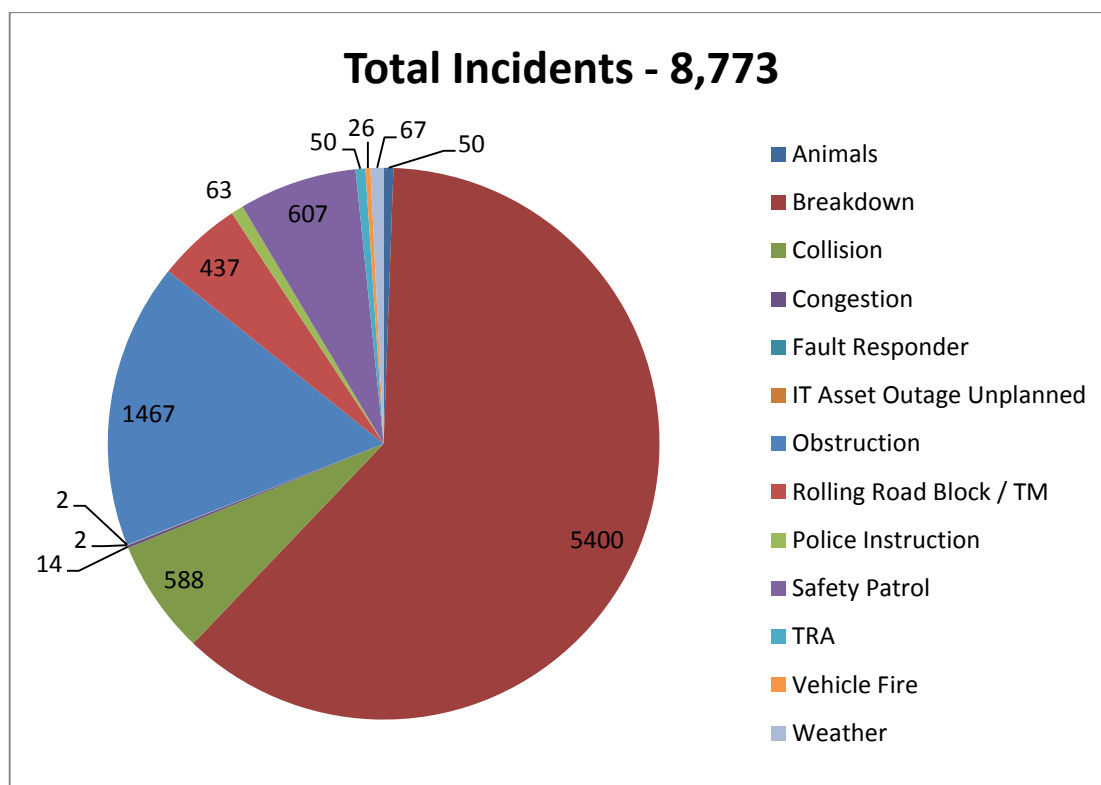
# National Assembly for Wales Public Accounts Committee: Inquiry into Value for Money of Motorway and Trunk Road Investment

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- Emergency response teams (24hrs a day) provided by the Regional Maintenance Partnerships. These teams undertake the initial response to remove debris and make the site safe.
  - Dedicated Route Steward to coordinate response and facilitate repair where required.
- 4.4 South Wales Traffic Management Centre. The role of the control room is to monitor network activity via CCTV cameras in order to ensure that free flow of the network is maintained and provides a single point of contact for Police in the management of incidents on the network.
- 4.5 The South Wales Traffic Management Centre deal with excess of 24,000 calls each year in relation to incidents on the network ranging from vehicle breakdowns to road traffic collisions. In the event of an incident the operators set appropriate signs to advise the road user of the risk and to set advisory speed limits or implement diversion routes. The operators also dispatch the traffic officers (where operational) to incidents as well as the Emergency response teams to clear up and repair damage, monitoring their response and maintaining detailed incident logs for record purposes.
- 4.6 The Traffic Officer Service was introduced in South Wales in February 2010 originally patrolling the M4 and A470. The service was officially extended in September 2013 to include the A4232 and the A48M. The Traffic Officer Service in South Wales consists of 24 on road Traffic Officers and 3 Incident Managers. The Purpose of the Traffic Officer Service is to undertake general and road traffic management task thus enabling the Police to focus on tackling crime. The role of the traffic officer is to deal with routine incidents including non-injury road traffic collisions and to assist the emergency services through implementing emergency traffic management at more serious incidents.
- 4.7 The introduction of such a service assists to minimise disruption to road user by providing a safe and timely response to incidents in order to manage traffic, assess on site requirements in terms of debris clearance and infrastructure damage/repairs, liaise with emergency services where necessary and relieve congestion as soon as possible. In 2013/14 Traffic Officers attended a total of 8773 incidents and the below table provides an illustration of the incident types and activities undertaken by the service.

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## 4.8 Network Resilience and Contingency Planning

4.8.1 The resilience of a road network is based on a number of factors including the capacity of the route, the availability of a suitable alternative routes and clear lines of communication across incident responders to ensure that there is a coordinated approach which minimises the time taken to restore the network to its normal operating state.

4.8.2 SWTRA have developed a Network Contingency Plan which documents the structured approach that major and critical incidents are to be managed on the network. It provides a clear escalation and management strategy to an incident in the style of that of a Category 2 Responder under the Civil Contingencies Act 2004 detailing the roles and responsibilities at Operational (Bronze) to Tactical (Silver) and Strategic (Gold) levels. This document is a key reference point for the provision of a SWTRA 24hr response to incidents through daytime tactical managers based at the South Wales Traffic Management Centre and on call Duty Managers out of hours.

4.8.3 SWTRA liaise closely with Welsh Government, Emergency Services, Local Authorities, Supply chain partners and other key stakeholders in the development of these plans which are also

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used to reference agreed strategic and tactical and diversion routes with supporting signs to divert traffic in the event of a closure on the Motorway. SWTRA are currently in the process of developing and agreeing appropriate diversion routes for the trunk road network.

- 4.8.4 The multi-agency response is recognised through SWTRA' engagement with three Local Resilience Forums in the South Wales Area which are used to review operating plans, share best practice and test communication protocols and procedures through regular Emergency exercises.
- 4.8.5 The close working with the key stakeholders listed is also extended to the planning for major events where SWTRA were active partners in the successful planning and coordination of traffic management for the Ryder Cup in 2010, Olympic Torch Relay 2012, and the NATO Wales Summit in 2014. Through this multi-agency planning for such events disruption to the road user was kept to a minimum by way of ensuring that measures were in place to both inform and assist those using the network who may be attending events or commuting.
- 4.8.6 During these events the South Wales Traffic Management Centre has been used as an important communication hub for providing notifications to Welsh Government, key stakeholders and the travelling public.
- 4.8.7 The SWTRA provide details of incidents or congestion to the WG Traffic Wales Information service which is provided by the Welsh Transport Technology Consultant (WTTC) on behalf of Welsh Government, which enables traffic alerts to be issued to the public. Traffic bulletin details are also provided by the INRIX service from the SWTMC

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## 5. Provide statistics on the volume of roadworks and number of accidents and associated downtime on the network.

**5.1 Accidents (Road Traffic Collisions) and the associated downtime (disruption to the network).** The below statistics indicate the number of road traffic collisions which have been recorded and collated for all South Wales trunk roads in accordance with Welsh Government' reporting requirements for the financial year 2013/14. The numbers of Road Traffic Collisions are grouped to illustrate the associated disruption which occurs as a result. These figures indicate that the largest proportion of collisions are attended / managed without disruption being caused to the travelling public. Table 2 indicates the numbers of Fatal and Serious Injury Road Traffic Collisions which result in disruption in excess of 4 hours in order to facilitate scene recovery and accident investigation.

Table: 1

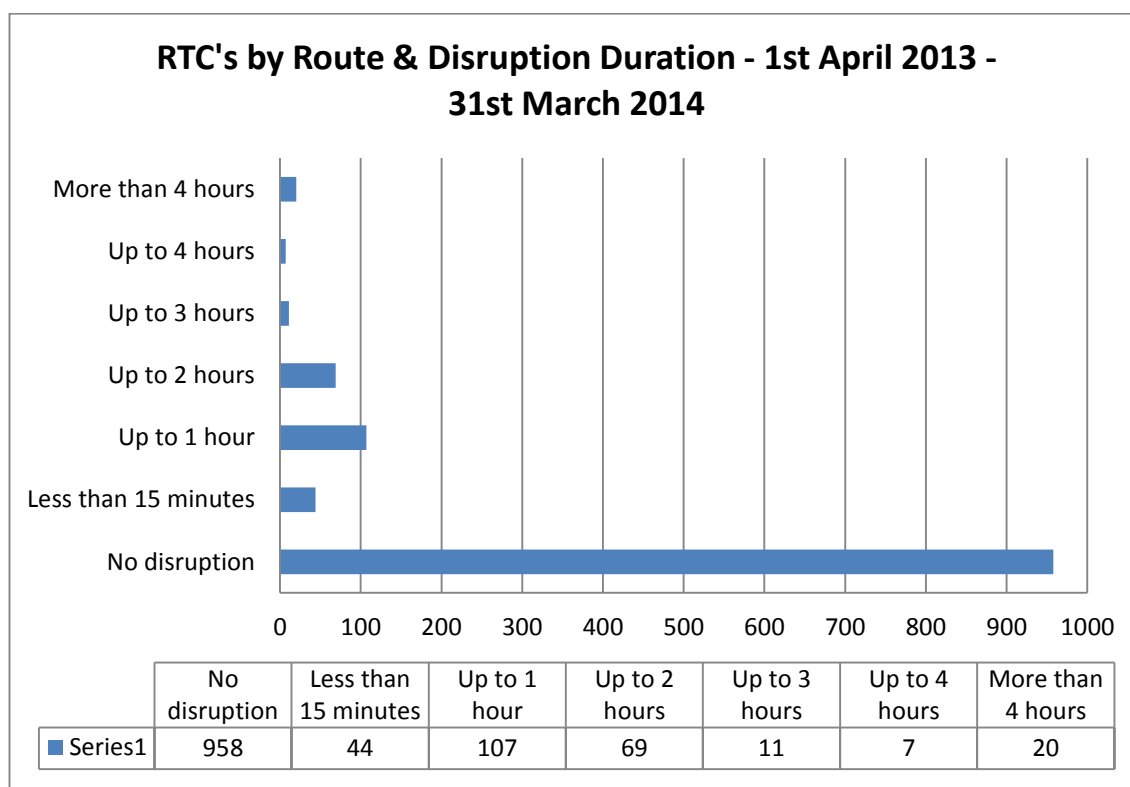


Table 2

Financial Year	Fatal Road Traffic Collisions	No. of Incidents >4hrs	Average (hrs)	Serious Injury, Road Traffic Collisions	No. of Incidents >4hrs	Average (hrs)
2011/12	14	10	7.1	23	7	4.3
2012/13	18	17	6.1	36	14	5
2013/14	14	14	6.6	23	6	4.3

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## 5.2 Volume of road works

Please note that within the timescales available for this information request and in order to provide detailed information for the most critical route in the SWTRA area, statistics are restricted to the M4 Motorway between the Second Severn Crossing and J49 Pont Abraham for the financial year 2013/14.

## 5.3 Traffic Management (TM) implemented between the 1<sup>st</sup> April 2013 and 31<sup>st</sup> March 2014 on the M4 SSC to J49 was required for the following planned and reactive works and projects in accordance with Welsh Government requirements:

- Cyclic Maintenance
- Planned Maintenance
- Category 1 Defects
- Surveys and Inspections
- Tunnel Closures
- Major Maintenance Schemes
- Statutory Undertakers

For clarity:

- Daytime period is considered to be between 09.30- 15.30
- Peak Time are considered as 06.00 to 09.30 and 15.30 to 20.00 including weekends
- Overnight period is considered to be between 20.00 and 06.00

## 5.4 A summary of the volume of road works / traffic management associated with the above operations and contracts can be quantified as follows:

- Total number of overnight (20.00 -06.00) work sites = 2082 over 275 nights,
- Total number of daytime (off peak 09.30-15.30) work sites= 1551 sites over 200 days (meaning 165 days where no TM was implented during this period)
- Number of days with no TM in place at all within 24 hour period = 31days

## 6. **Compensation claims from Road Users resulting from the condition of the network.**

### 6.1 Information relating to the settlement of claims is held by Welsh Government and is subject to a separate response.

National Assembly for Wales Public Accounts Committee: Inquiry  
into Value for Money of Motorway and Trunk Road Investment

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**Richard Jones** BSc(Hons) C.Eng C Mgr C.Env FICE FCIHT FCMI,

Head of Service – South Wales Trunk Road Agent, Unit 12 Llandarcy House,  
The Courtyard, Llandarcy, Neath SA10 6EJ

### **The effectiveness of Welsh Government planning and costing of schemes;**

- **The approach to project delivery and evaluation of projects; and**
- **How the Welsh Government could improve its approach to planning and delivery of schemes.**

We are not in a position to comment on the effectiveness of WG planning and costing. Following the recent decision to remove the planning functions from the Trunk Road Agents and to house within Welsh Government, we would expect processes to be put in place to ensure that there are regular discussions between Welsh Government and local government for joint consideration and planning on issues such as network planning, maintenance and community/user concerns.

### **The extent to which the current approach to routine maintenance and improvement of the network via Trunk Road Agents has delivered value for money;**

The operation of the Trunk Road Agents has been subject to a number of audits and reviews and the findings have found the performance and operation effective.

The location of the TRA within local authorities brings many benefits and financial efficiencies for Welsh Government and Local Authorities. Local authorities can muster significant resources to deal with exceptional events. Current arrangements also ensure that a significant proportion of the works are undertaken using local resources and contractors, this makes a positive contribution to the local economy in terms of jobs and spend in the local area. There has been good co-operation between Welsh Government, Trunk Road Agencies and local authorities on issues of winter service. However, it is important that gritting routes are planned to maximise efficiency of journeys, minimising 'dead miles'.

### **How the maintenance and improvement functions delivered by the Trunk Road Agents can be improved, in the context of the on-going Welsh Government review of these agents.**

The maintenance and improvement of Motorway and trunk road network should not be planned in isolation from the county roads. Indeed, all parts of the network should be planned and maintained with a high degree of co-operation. For the user, travelling along routes that involve differently managed parts of the network, it does not make sense to have a high standard of maintenance on motorways and trunk roads if the county roads network is below standard or vice versa. Future ongoing funding of the highway network for which local authorities have responsibility is of concern and local authorities have requested the continuation of the Local



Government Borrowing Initiative to enable continued investment in the highway asset, however, this is not being taken forward by WG at the current time.

There may be future opportunities to consider how services are procured to enable more local or regional suppliers to bid for work as this could support local businesses and may produce a cost saving by procuring work locally.

**1. Whether the Welsh Government’s approach to delivery of major trunk road projects provides value for money including:**

I consider that the approach adopted by the Welsh Government for the procurement and delivery of major trunk road schemes does provide value for money through;

- Early contractor involvement (ECI) provides buildability and the opportunity to manage risks, deliver innovative solutions and provide local economic benefit.
- The lower risk profile of ECI procurement attracts a lower premium when pricing the schemes.
- The procurement route encourages the “right behaviours” from contractors when tendering.

**2. How the Welsh Government could improve its approach to planning and delivery of schemes.**

- The lack of transparency and certainty in the pipeline has a detrimental impact on business planning and gaining financial commitment to invest in major schemes in Wales
- At present schemes are individually procured and delivered. There is no synergy between projects, there is no sharing of best practice or resources between contractors. In England the sharing of innovation / best practice between contractors is far more advanced.

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Mr Darren Millar AM  
Chair of the Public Accounts Committee  
National Assembly for Wales  
Cardiff Bay  
Cardiff CF99 1NA

Date: 26 February 2015  
Our ref: HVT/2268/fgb  
Page: 1 of 4

*Dea Darren*

### **MOTORWAY AND TRUNK ROAD INVESTMENT**

The PAC's clerking team has invited me to comment on the material submitted by the Welsh Government on 13 February 2015 in respect of the Committee's inquiry into the value for money of motorway and trunk road investment. Wales Audit Office staff have reviewed the information supplied by the Welsh Government, although they have not had the opportunity to discuss the detail of it with Welsh Government officials.

The information provided by the Welsh Government includes a response to recommendations from my January 2011 report on *Major Transport Projects*. I have appended to this letter some commentary on the Welsh Government response to my recommendations which highlights a number of areas where the Committee could ask for more detailed information and clarification during the course of its inquiry.

My report highlighted that major road and rail projects completed in the period from 2004 to 2010 had cost substantially more and taken longer to complete than expected. However, my report recognised that the Welsh Government had, over time, taken steps to strengthen its management of schemes under its direct control and to exercise greater control over local authority managed projects which it was funding through the Transport Grant mechanism (which has since come to an end). My report noted that these major transport projects can have a total lifespan in excess of 20 years from the point of their initial conception through to completion.

The Welsh Government has provided a breakdown of estimated and outturn costs for trunk road projects completed since the start of 2011, as well as an updated outturn cost figure for the M4 widening. Focusing specifically on the cost increases from key stage six (construction contract award) to the final outturn, these figures suggest some improvement in performance. My 2011 report pointed to a 15 per cent increase in costs between these stages for nine previously completed trunk road projects. The analysis at that time assumed that the M4 widening would be delivered at the same cost as estimated at key stage six, rather than at the lower cost now reported by the Welsh Government. However, even using the revised figure I would still have reported a 14 per cent increase in total costs between these stages for the nine projects examined.

My report noted that the Welsh Government's procurement of trunk road projects had evolved in line with common practice, moving towards Early Contractor Involvement as the preferred approach for contracts worth more than £18 million. Early Contractor Involvement (ECI) is a partnering approach to contracting, in which the construction contractor is engaged before the detailed design stage and completion of statutory processes, to assist in planning the project and estimating its cost. The papers supplied by the Welsh Government confirm that the majority of major trunk road projects have adopted this form of contract. The Committee could explore further with the Welsh Government the extent to which Early Contractor Involvement was applied across the range of schemes summarised in the figures that the Welsh Government has provided. In percentage terms, some of the lower value schemes appear to have experienced more significant cost increases after key stage six.

I am not in a position to comment on the evidence provided by the Welsh Government in respect of trunk road maintenance. These issues were outside the remit of my January 2011 report and Wales Audit Office staff have not examined this area since that time. I understand however that the PAC's clerking team may have requested some further information from the Welsh Government about its previous reviews of the trunk road agencies.

The Committee might also benefit from some additional breakdown of the Welsh Government's capital and revenue expenditure, and the associated expenditure by the trunk road agencies, including figures for 2013-14 and future expenditure plans. Apart from some reference to the remaining stages of the A465 improvement, the material provided by the Welsh Government does not comment on major projects in progress. For example, in addition to the obvious example of the development of plans for the M4 Relief Road, I am aware of plans for the A487 Caernarfon to Bontnewydd Bypass. That scheme has progressed beyond the preferred route stage (key stage three). As at mid-2014, the Welsh Government was estimating an outturn cost for that scheme of £145 million. There are also two trunk road schemes that featured in the list of projects in preparation at the time of my 2011 report that I understand have not progressed since that time (A40 St Clears to Haverfordwest [b] Llanddewi Velfrey – Penblewin; and A483 Llandeilo Eastern Bypass). Some indication of short-term priorities for expenditure within the context of the Welsh Government's published budget would therefore be helpful and the Committee could explore further with the Welsh Government how it is prioritising its expenditure.

I would note that the Welsh Government's material states that the financial records related to the data the Welsh Government has provided for 2011-12 and 2012-13, for both capital and revenue expenditure, were independently audited by the Wales Audit Office on behalf of the Welsh Government. This is a misleading statement. Whilst the Welsh Government's overall financial statements were audited by Wales Audit Office staff on my behalf to support my statutory audit certificate, the specific figures quoted by the Welsh Government do not feature explicitly in the financial statements, nor has my

financial audit team reviewed the detail of the Welsh Government's revenue and capital expenditure on motorways and trunk roads.

On other matters, the Welsh Government has supplied some information about the A55 PFI contract and has stated that the National Audit Office carried out an investigation subsequent to the construction of the road, reporting in February 2005. The work undertaken by the National Audit Office Wales at that time, on behalf of the then Auditor General for Wales (Sir John Bourn), did not constitute a full value-for-money examination. The work was undertaken in response to concerns raised in correspondence by the former Assembly Member Jenny Randerson and passed on to the Auditor General via the then Audit Committee of the National Assembly. Based on the evidence reviewed at that point in time, the response from the Auditor General concluded that:

- There had been benefits and disbenefits in adopting the PFI approach.
- The structure of the contract was reasonable and reflected industry best practice at the time of the procurement.
- The payment mechanism contained certain safeguards to limit the Welsh Government's exposure to variations in cost, although a 'safety performance' adjustment – a minor element of the contract – did not offer good value for money as it compared safety on the A55 to busier highways elsewhere in Wales.
- During its first three years, the costs of the contract had been slightly lower than expected. In addition, the Net Present Value of the contract was significantly lower than that of the Public Sector Comparator, which suggested that it had the potential to offer good value for money when the contract was let, but the actuality depended on the extent to which risk transfers to the private sector partner. In this case, the contractor faced considerable construction problems, which led to additional costs, despite which the road opened well ahead of schedule.
- UK Highways retained responsibility for the maintenance of the road, the associated environmental mitigation measures in a highly sensitive area, and was contractually obliged to comply fully with the Welsh Government's trunk road maintenance standards.
- Welsh Government officials had indicated that a shortage of capital for major road schemes would have rendered the construction of the A55 across Anglesey unlikely, at least in a single project, without PFI.

To close, you also wrote to me recently about the purchase of land and property along routes under consideration for the proposed M4 Relief Road. My financial audit team for the Welsh Government has been looking into this issue and I am aiming to respond to you separately on that matter in advance of the evidence session that you have scheduled with the Welsh Government on 24 March 2015, although we still need to check some matters of factual detail with the Welsh Government.

Finally, I am aware that you have also received correspondence relating to safety issues and associated work on the A470/A494 junction near Dolgellau. The same issue has been raised with me and I am aware that related concerns have also been raised with the Petitions Committee. Wales Audit Office staff will be discussing with Welsh Government officials the background circumstances. However, in the first instance I am waiting to consider the extent to which the Committee's inquiry addresses the specific or broader issues of concern raised in that correspondence before determining the scope for and merits of any further audit scrutiny.

Yours



**HUW VAUGHAN THOMAS**  
AUDITOR GENERAL FOR WALES

Enc: **Annex: Welsh Government response to recommendations in the Auditor General's January 2011 report on Major Transport Projects**

**WELSH GOVERNMENT RESPONSE TO RECOMMENDATIONS IN THE AUDITOR GENERAL'S JANUARY 2011 REPORT ON MAJOR TRANSPORT PROJECTS**

**RECOMMENDATION**

**WELSH GOVERNMENT UPDATE -  
FEBRUARY 2015**

**WALES AUDIT OFFICE  
STUDY TEAM COMMENTARY**

**Information systems and analysis of project performance**

**Recommendation 1**

We recommend that the Assembly Government should ensure that the new [management information] system can:

- a) record information to track the performance of all major transport projects at key stages of their delivery;
- b) incorporate the information needed to facilitate benchmarking project performance against projects in other parts of the UK;

- The delivery of all major road projects is tracked through a Key Stage Delivery Process. Progression of projects is subject to a review of the Business Case to ensure continued policy fit and a value for money assessment and requires Ministerial sign off.

- Information to track the performance of major road projects is recorded in a suite of spreadsheets, with individual projects combined to oversee the delivery of the roads programme. This suite of spreadsheets is subject to review to reduce complexity and ensure accuracy of management information. An Integrated Road Information System (IRIS) is now operational, we will explore ways of integrating with this system.

This recommendation was based on the Welsh Government's own recognition that it had been without an adequate information system to support the collection and analysis of data on the performance of major trunk road projects.

While it merits confirming with the Welsh Government, we understand from enquiries made during the course of our current study on rail services that the Welsh Government had plans to procure a new information management system to work in conjunction with its financial management system. However, a change in the Welsh Government's financial management system meant this was no longer possible.

The reference in the Welsh Government response to a suite of spreadsheets appears to reflect the position described in the Auditor General's report (paragraphs 2.20-2.21). There would be merit in the

- c) record all changes in project costs that occur through the lifecycle of the project, including changes in land costs; and
- d) facilitate the analysis and sharing, on an annual basis, of the reasons for cost increases and delays on individual projects across all Assembly Government transport programmes.

- Projects are benchmarked against industry wide data when budgets are reviewed at key stage boundaries. The procurement of all transport projects is subject to EU compliant competitive tendering process.

Committee exploring further with the Welsh Government issues relating to its management information systems and the possible integration with the IRIS system that has been developed to support network maintenance.

The key stage process that the Welsh Government has referred to was outlined in the Auditor General's report. We are not aware of any significant changes to the process since 2011, although the Committee might wish to confirm this during its evidence sessions.

### **Project and contract management**

#### ***Recommendation 2***

We recommend that the Assembly Government takes action to ensure that:

- a) gateway reviews become custom and practice for all current and future major projects;

- Gateway Reviews (Assurance Reviews) are a mandatory element within the key stage process and are conducted at critical stages of the projects lifecycle on all major projects, in general accordance with the OGC gateway process.

- Fifteen major transport projects have been completed since 2006. Five of these schemes have been complete for approximately 18 months or less. Post Opening Project Evaluations (POPE) for these five schemes are underway or programmed to commence shortly.

This recommendation reflected our finding that although the Welsh Government introduced Gateway reviews for all major trunk road and Transport Grant funded projects in late 2006, the reviews had not been carried out consistently and the requirement to undertake them had not been included in Transport Grant guidance and terms and conditions.



b) all major transport projects completed since the end of 2006 are subject to a benefits realisation review; and

c) benefits realisation reviews are started within 12 to 18 months of the completion of the main construction works.

- Of the remaining ten schemes, full benefits realisation assessments have been completed or are ongoing as part of the Post Opening Project Evaluation review. The only exception to this is the A465 Section 1, where current construction work on the adjoining Sections 2 & 3 would affect any results obtained. This review will therefore be finalised once the other two sections have been completed.

- The content of the POPE reviews undertaken is based on Highways Agency guidelines and is in the process of being included within Transport Division's Procedures Guidance.

- An evaluation of the Wider Economic Benefits and impact on Cross Cutting Themes (Equality & Diversity, Tackling Poverty and Social Exclusion) will be completed on the A465 Section 3 project once it is open to traffic (12 months & 5 years post-opening)

The Welsh Government's response provides some assurance that it has addressed this issue. However, it is not entirely clear whether the reference to benefits realisation reviews for 15 major projects completed since 2006 includes Transport Grant funded projects.

Not only should the Post Opening Project Evaluations provide benefits evaluation at the end of a project, but if the Welsh Government is making full and consistent use of the Gateway process, each review at each key stage of the project should provide assurance on whether the project is on track to deliver the stated benefits. The Gateway 5 review concerns itself with whether the benefits of the project have been realised and how these benefits can be sustained, owned and monitored once the project has been transitioned into business as usual. It would appear, albeit at face value, that the Post Opening Project Evaluation review is the equivalent of the Gateway 5 review.

- We have also introduced the 'Community Benefit Measurement Toolkit' which has been compiled in line with the guidance 'Delivering Maximum Value for the Welsh Pound -2014'. It is a mandatory requirement that this toolkit is populated for all our schemes to track the direct contribution they make to the local and national economy during delivery. This information is recorded quarterly.
- In addition, on the A465 dualling schemes we are working with Cardiff Business School to produce a socio-economic dashboard of information which quantifies the indirect effects to the local and Welsh economy of the spend on the project during delivery. Contractors involved in these schemes provide the relevant information and it is intended that this work will:
  - Facilitate reporting of the longer term legacies for the Heads of the Valleys economy.

There would be merit in the Committee exploring with Welsh Government officials the extent to which the evidence emerging from its post-project evaluation work demonstrates that the benefits envisaged from projects are being realised. The Committee could also explore how this evidence is shared with relevant stakeholders, notably local authorities.

- Show how the construction elements of the projects lead to socio-economic benefits in surrounding local authority areas, in particular highlighting economic effects linked to local purchasing, and the spending of wage incomes in the area.
- Chart the local development of skills and training as part of the road building projects
- Explore how the managing contractors work with the local community through the construction process, and identify how best practice feeds through to softer social and economic outcomes.

**Recommendation 3**

We recommend that the Assembly Government should encourage the use of a common set of key performance indicators across all major transport projects in Wales and, in doing so:

- a) ensure that contractors are clear about the way in which the key performance indicator system gives credit for the delivery of projects earlier or at lower cost than planned, while ensuring that quality is not compromised;
- b) for projects under its direct control, quality assure the performance indicator scores given by the independent project manager (employer's agent); and

- Maintenance of a common set of KPIs through an extranet platform has been operated on WG major road projects for a number of years, to monitor performance and influence procurement. This system has been reviewed in order to reduce complexity and improve transparency.

- As a result, a new Key Performance Indicator (KPI) system with a set of evidence-based, standardised KPIs to monitor and track the performance of consultants and contractors during schemes has been developed. This system is currently being piloted on the A465 dualling schemes, and will be rolled out on all future WG major road projects.

- The KPIs have been developed with input from contractors and consultants and through research of the metrics used by as Constructing Excellence (Wales), Highways Agency, CEEQUAL, Considerate Constructors Scheme and other soft Welsh Government KPIs.

The Auditor General's report found that the Welsh Government's key performance indicators were designed to provide an incentive for contractors to perform well and assessed performance then informs the tender process for future projects.

However, the application of these key performance indicators was not fully developed and there were mixed views on the value of the key performance indicators. The latest Welsh Government response suggests that the system has been the subject of further review, with a new approach now being piloted.

The key performance indicator system used at the time of our previous report focused on cost and time, quality and project/relationship management issues. Overall results would contribute to 30 per cent of a contractor's pre-qualification mark for future procurement exercises.

c) share and analyse information on contractor performance to help identify and address common areas of underperformance.

- The KPI assessment is conducted quarterly at meetings between the Employer's Agent and Contractor.
- Account of the KPI data will continue to be part of the selection process for suppliers of future projects.
- The new KPI system is due to be presented to the Civil Engineering Contractors Association (CECA) Wales and the Association of Consulting Engineers (ACE).

In light of the Welsh Government response, the Committee might wish to explore how the new system differs from the system in place at the time of the Auditor General's report. The Committee could also confirm how, specifically, the Welsh Government is addressing through the new system the recommendations in the Auditor General's report, for example how it is quality assuring the process.

#### **Recommendation 4**

We recommend that the Assembly Government develops and communicates to local authorities detailed guidance that sets out its expectations and general good practice in the planning and delivery of major transport projects. Particular issues highlighted by our examination which might be addressed in any new guidance include:

- With the exception of legacy road schemes where there are outstanding land issues, there will be no further major local authority transport projects funded by Welsh Government through the Transport Grant process.
- Given that the Transport Grant-funded programme has ended, new guidance for local authorities in relation to major transport projects has not been produced.

This recommendation was formed on the basis that the Welsh Government had not provided any detailed guidance for local authorities in terms of how they should manage the key stages of major transport projects. We saw no reason why the core practices that underpin the successful delivery of local authority managed major transport projects should be any different from those managed by the Welsh Government.

- a) the use of appropriate inflation indices, construction material cost indices and optimism bias when estimating project costs;
- b) the use of project risk registers, encouraging the public sector employer and construction contractor to agree and maintain a joint risk register
- c) advice on the use of different types of contractual models;
- d) the use of key performance indicators;
- e) expectations in terms of local project management arrangements; and
- f) how the scope of the processes set out in Welsh Transport Planning and Appraisal Guidance and gateway reviews guidance relate to each other.

- Learning from our management of trunk road schemes to transport grant schemes by allocating a project engineer to all local authority major road projects to advise on delivery and project management as well as overseeing financial control.

- Detailed Regional Transport Consortia Grant Delivery Plan Guidelines set out our expectations in relation to risk management, and project management.

- The Welsh Transport Planning and Appraisal Guidance is being reviewed so that it can be applied appropriately not only to major schemes but also to packages of small schemes and to minor projects.

Although we accept there are no longer any local authority transport projects funded through the Transport Grant process, some of the principles relating to major projects should still be applicable for smaller projects.

We understand that while local authorities are being encouraged to be creative in seeking additional funding to support transport spending, Welsh Government funding could be made available for local authority schemes in future where identified and prioritised in the approved local transport plan. This could include larger projects and, on that basis, we consider that our recommendation still holds.

The Committee might therefore wish to clarify aspects of the Welsh Government response to this recommendation, although the scope of the inquiry does not extend to local authority managed projects.

**Working with utility companies*****Recommendation 5***

We recommend that the Assembly Government engages with local government and the utility companies to develop some clearly agreed principles in terms of how they should work together throughout the lifecycle of major transport projects. Options that the Assembly Government could explore include:

a) developing a more formal memorandum of understanding with utility companies, for example to include provision for the regular monthly reporting of actual and forecast costs and timescales of utilities work during the construction phase;

- We are a member of the Welsh Highways Authorities & Utilities Committee and, through that Committee, we are developing a Streetworks Strategy. The Streetworks Strategy will set out an agreed approach to a range of issues including effective management of utilities work. This is currently in draft and will go out for consultation in Spring 2015, prior to Ministerial approval. Co-ordination has also taken place via the Trunk Road Agents attending regional HAUC Co-ordination meetings.

- We have revised our standard contract documents to transfer the programme risk of the statutory undertaker performance to the contractor as they are best placed to manage the risk.

- We participate in a number of UK expert groups, for example the UK Network Operators Group and the UK Network Management Board, which provide an opportunity to share good practice.

We made this recommendation having concluded that relationships with utility companies were often problematic, leading to construction delays and cost increases.

Our recommendation was not prescriptive about how best to resolve these issues but encouraged the Welsh Government to consider a range of options. Although the Welsh Government has made some progress in developing a 'Streetworks strategy' and revising standard contract documents, it seems from the evidence provided by the Welsh Government that issues relating to utilities are still part of the reason for some of the more significant delays or cost overruns on some recently completed trunk road schemes.

The Committee might also wish to confirm that the Streetworks Strategy will cover issues relevant to major transport projects. At the time of the Auditor General's report, the Welsh Government had already collaborated with the UK Government to produce, in 2007, a good practice guide on managing works in the street aimed at project employers and utility companies.

b) working with the UK Government's Department for Transport to update the existing good practice guide to managing works in the street to refer more explicitly to the delivery of major transport projects;

c) whether there is scope, particularly within an Early Contractor Involvement approach, for the construction contractor to undertake more preparatory work on behalf of utility companies; and

d) if necessary, the scope for a change in the supporting legislation (the New Roads and Street Works Act 1991 and the Street Works - Sharing the Cost of Works [Wales] Regulations 2005) to place a greater onus on utility companies to deliver their work in a way that is cost-effective and timely from the perspective of the public sector employer.

- We encourage our contractors where possible to undertake the civil elements of necessary diversion work on behalf of utility companies but cannot compel them to do so. There are issues around where liability for the work sits between the utility company and the contractor and both are often reluctant for the work to be completed in this way.

- We do not propose to make any legislative change at the current time.

However, that guidance did not refer explicitly to major projects and the potentially significant impact of poor communication between highways authorities and utility companies.

When James Price appeared before the previous Public Accounts Committee in March 2011, he said that the Welsh Government had begun to explore how it could strengthen the relationship with utility companies. He stated that the Welsh Government was looking to get a high-level agreement at a UK level because this was a common problem across the UK. It is not clear from the Welsh Government response whether it has obtained the sort of bilateral agreement on a way forward that appeared to have been envisaged at the time of the Auditor General's report.



**Overseeing the delivery of local authority managed projects*****Recommendation 6***

We recommend that, towards the end of 2011-12, the Assembly Government should commission a review to provide an early check of the effectiveness of its arrangements for overseeing the delivery of the regional transport plans.

- In response to the Report, work was undertaken which led to a strengthening of the oversight of delivery of Regional Transport Plans. Key Performance Indicators were introduced to measure performance associated with the delivery of the Regional Transport Plans and to drive improvements. These were reviewed on a quarterly basis. Since April 2014, funding to support transport improvements has been directed through local authorities. The processes adopted with the Regional Transport Consortia have informed the management processes adopted for the new funding arrangement. A subsequent Internal Audit exercise gave the grant processes full assurance.

We note the Welsh Government's response. It appears that this recommendation has been discharged and that events have since overtaken the recommendation.

***Recommendation 7***

We recommend that the Assembly Government should examine whether the technical capacity it employs is being deployed to best effect between the management of trunk road projects and the Assembly Government's oversight of

- All major road schemes being delivered through the Transport Grant process are now open to traffic. Resources have been allocated to assist local authorities to manage the remaining issues arising from these improvements. In the main, these relate to land matters. The Transport Grant programme is no longer open to new applications.

The Welsh Government response confirms that resources were allocated to assist with the legacy Transport Grant programme. It is not clear whether, in committing these resources, the Welsh Government delegated more responsibility for managing trunk road projects to the employer's agent.

local authority managed projects. In doing so, the Assembly Government should consider the risks and benefits of delegating more responsibility for managing trunk road projects to the employer's agent.

Taking into account the impact of workforce reduction and early departures, the Committee might wish to explore with the Welsh Government whether it is confident that it has sufficient in house capacity and capability to manage its trunk road programme and how it strikes the balance between in house resourcing and the use of external consultants.

Evidence that the Welsh Government submitted to the previous Public Accounts Committee in March 2011 set out details of the re-organisation of the then Department for Economy and Transport and the creation of an Infrastructure Group. This group was designed to 'develop and deliver major infrastructure projects ensuring a more co-ordinated and better controlled approach to these schemes' and to 'consider how the expertise we have can be best used to deliver improvements in the way we manage the design and delivery of major projects and how we support our partners to do this also'.

The Committee may wish to explore whether the Infrastructure Group was successful in delivering these aspirations. The latest Welsh Government response indicates that these projects are still the responsibility of an infrastructure delivery division of the Transport Department.

Public Accounts Committee  
National Assembly for Wales  
Cardiff Bay  
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Gofynnwch am / Please ask for: **Mr. A.Wilkinson**

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Ein Cyf / Our Ref: **AW/SJ**

Eich Cyf / Your Ref:

Dyddiad / Date: **02.03.2015**

Dear Sir,

### **Inquiry into value for money of Motorway and Trunk Road Investment**

I write on behalf of Conwy County Borough Council in response to the consultation regarding value for money in the maintenance and improvement of the Welsh trunk road network. Conwy is a key stakeholder in the network due to our strategic location at the intersection of the A470 north-south route and the A55, and our role in both consultancy and operational service delivery as a partner of NMWTRA.

Conwy's view is that the existing service delivery model in North and Mid Wales, with consultancy and integrated operational services procured through local authority partners, is the most cost-effective methodology and represents the best overall value for public money.

Over the past year or so, North Wales local authorities and NMWTRA have been working together on improving transparency and efficiency through a major revision of the Schedule of Rates process and the consultancy commissioning system. We believe these improvements will deliver savings and suggest that transparency could be taken a step further by all partners adopting an open book approach to their costs and recharges.

Further improvements will be most effectively achieved collaboratively, making full use of the knowledge and skill base within local authorities – skills that we must retain in order to manage and maintain the county road network. An example is the consultancy project that Conwy is currently undertaking, to review and optimise the gritting routes for all eight North and Mid Wales authorities. Using our in-house expertise is cheaper and more efficient than bringing in an external consultant who would spend chargeable time getting to the same starting point.

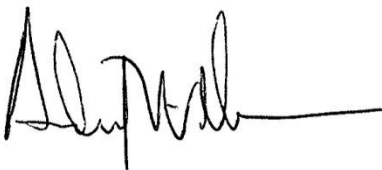
From an operational maintenance perspective, there are obvious and demonstrable advantages in the combined service model, particularly in the areas of resilience/capacity and minimisation of fixed costs such as plant and depots. The availability of the local authority workforce in emergency situations or extreme weather conditions, and the local knowledge they hold, is of significant benefit to Welsh Government and in our view would be impossible or unaffordable to match through a specification in an outsourced contract.

Improvements to the function of NMWTRA and its local authority partners must inevitably be considered in the context of the financial realities facing the entire public sector. Local authorities are already in the process of transforming their services and reducing management structures to reflect the huge cuts in their budgets. We would expect a similar approach from NMWTRA and Welsh Government.


In Conwy, we are also looking at the factors that influence demand on front line services, including our own specifications and service standards and how we manage risk. We are therefore concerned that certain aspects of the 2015 WGTRMM will increase costs rather than drive savings, being too focussed on risk management of extreme events. Service delivery in extreme events should take advantage of the resilience built into the local authority delivery model rather than setting inflexible specifications that increase costs of 'normal' service eg the requirement for a two hour depot to depot time for gritting routes.

Finally, we strongly suggest that any assessment of value for money on the trunk road network should consider the overall cost to the public of the entire trunk and county road network of Wales. Any initiative to reduce trunk road costs should not increase the burden on local authorities.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'Andrew Wilkinson', with a long horizontal line extending to the right.

Andrew Wilkinson  
**Head of Neighbourhood Services**

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<b>Ein Cyf/Our Ref:</b>		<b>Eich Cyf/Your Ref:</b>	DT/cssw/20150303	<b>Dyddiad/Date:</b>	3 March 2015

Kirsty Cilia,  
 Team Support  
 Chamber and Committee Service  
 National Assembly for Wales

Dear Sirs,

**Welsh Government Inquiry into Value for Money of Motorway and Trunk Road Investment.**

Thank you for the opportunity to provide views to the above Inquiry. I apologise for the late submission of comments.

I am writing on behalf of The County Surveyors' Society (Wales). CSS Wales is the professional association of all the Directors/Heads of Service of technical services in Wales. Membership includes all 22 of the Welsh unitary authorities.

In providing these views, it is to be stressed that they are provided in a constructive aspect, and are intended to help develop the existing excellent working relationships with the other local authority stakeholders, service providers, local communities, WG and the trunk road agencies.

Local authorities view the strategic road network as of vital importance to improving the economy of individual counties, and the whole of Wales. The perception, the availability and efficiency of the strategic network as viewed by industry and the travelling public, is a crucial factor to any future investment and business development.

A number of local authorities (LA's) are involved in regional maintenance arrangements for operational services to Welsh Government (WG), via their Trunk Road Agents. The provision of motorway and trunk road maintenance services includes routine highway maintenance, emergency response, and winter maintenance.

1) Whether the WG's approach to delivery of major trunk road projects provides value for money:

A. The effectiveness of WG planning and costing of schemes.

The planning of schemes and combining links with other forms of public transport are crucial to develop sustainable growth.

It is considered that there are in some cases the opportunity to improve the information flow from WG to local communities, for example announcements relating to the programmes of proposed schemes, particularly where these cannot be delivered on time, possibly for good reason. One example quoted by a member is the £45M, M4 Brynglas Tunnel improvement scheme, that was due to be completed this financial year. To date no works have been undertaken, consequently, the strategic network and surrounding LA networks are potentially more at risk.

An illustration of the current WG good practice dialogue with local communities was provided in relation to the series of A465 Heads of the Valleys improvements, which was noted as being positive. Even though challenging schemes such as these will inevitably cause disruption, the local community in the main, understand and welcome the potential safety improvement and economy benefits of the schemes.

B. The approach to project delivery and evaluation of projects.

Some concern has been expressed regarding the delivery of certain schemes. Some are relatively small schemes, but create regular and significant problems to local communities when the strategic network is not available, and trunk road traffic has to be diverted onto unsuitable LA roads. Residents are put at risk and the LA diversion route extensively damaged. The public perception of local authorities and WG has the potential to be harmed by these events.

2) The extent to which the current approach to routine maintenance and improvement of the network via Trunk Road Agents has delivered value for money

The comments in this section are in the context of a number of Councils being in a supply partnership, to provide trunk road maintenance services to WG, via their trunk road agents

In relation to South Wales, in 2009, the eight individual local authorities that were providing routine highway maintenance, emergency response and winter maintenance services on the trunk road network in South Wales, reorganised themselves into a body of three lead authorities and five partner authorities. The primary goals were to reduce overheads, reduce the number of interfaces between the LA service providers and the WG managing agents, SWTRA, and to provide a consistent level of service delivery, throughout South Wales. The level of service is based on a significantly detailed and priced service level agreement document, with the designated WG agent authority, Neath Port Talbot.

The current SWTRA SLA document was redrafted in 2012 and is based on a 3 year, 1 year+1 year performance based contract. The LA's produced an average 6% saving on the major components of the SLA, and offered an annual Retail Price Indicator minus 2% reduction, for each year of the SLA. The performance criteria have been met and the SLA arrangement extended to April 2016.

Feedback from Society Members is that it is considered the current public service model, which has been continually refined since 2006, has reduced costs year on year, and produced a quality assured service, that has been performance based and measured. The view expressed is that the WG can be assured that the prices indicated within the SLA for cyclical activities, will be the actual outcome costs. The intention is to enable WG to accurately forecast its maintenance costs, for a period of years ahead.

The LA's are all committed to provide a premier service, and have local knowledge, local resources and local SME's available to meet any demand required. The aspects of emergency response and winter maintenance are crucial aspects of the service, and must be available 24/7.

The LA's working closely in conjunction with trunk road agencies, the Police, the Fire Service, the Ambulance Service and the excellent trunk road Traffic Officers, has produced a cadre of service orientated public service employees, who often work in difficult and hazardous circumstances, and who take a pride and ownership of the network.

3) How the maintenance and improvements functions delivered by Trunk Road Agents can be improved, in the context of the on going Welsh Government review of these agents.

The ongoing collaborative approach is positive and essential. Particular feedback from the SWTRA region was highlighted, in terms of efficiency, consistency and ongoing reducing LA costs to the WG.

A potential next step could be the closer integration of the LA's and the managing agent, to ensure that staff overheads are as effective as possible, and to use the LA's in house public sector consultancy resources, when cost effective to do so.

It is considered that works on the strategic network could be undertaken more efficiently, if network access was improved, and priority given to the LA service providers. However, it is acknowledged that this is not easy, as other contractors must be accommodated and could only move forward on the basis that delays to the travelling public are reduced to the minimum.

Some consideration could be given to trunk road agents developing communications with the local community, to that end they could interact with community groups that are directly affected by the strategic network. Many trunk roads influence the daily environment of residents, who are sometimes confused by the different management approaches to the trunk road network and the adjacent LA highway network, such as the approach to street lighting switch offs.



I hope this feedback is of assistance to your Inquiry.

Yours sincerely

A handwritten signature in purple ink that reads "D. Thomas". The signature is written in a cursive style with a horizontal line underneath the name.

**Darren Thomas**  
**Chair County Surveyors' Society (Wales)**

cc: Rob Evans, Secretary CSS Wales Engineering Subgroup

Welsh Assembly Public Accounts Committee

Professor R J Lark BSc(Eng), ACGI, PhD, CEng, FICE

Dean of Education and Students  
College of Physical Sciences and Engineering  
Deputy Director  
Cardiff School of Engineering  
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Robert (Bob) Lark is a Professor of Civil Engineering at the Cardiff School of Engineering, Cardiff University and has been involved in research, design and construction allied to the UK's transport infrastructure over a period of nearly 40 years. Of particular relevance to this inquiry is the time he spent with the then Gwent County Council, where he was involved with the assessment, repair and maintenance of the County's highway structures; his involvement with ICE Wales, Cymru, of which he was Chair in 2008/09 and to whose "State of the Nation" reports he has contributed; and his research interest in the application of BIM (Building Information Modelling) to the design, construction, maintenance and management of our highway infrastructure, which he is currently undertaking in collaboration with the Welsh Assembly Government, the UK Transport Catapult and both private and public service providers who work with the Welsh Government to deliver the design, construction and maintenance of Wales' highway network.

This written evidence is given in the context of the above experience and represents a personal opinion. In-depth research has not been carried out into any of the issues identified, either in Wales or the rest of the UK, but it does address all three of the bullet points in the Terms of Reference, albeit only superficially in the case of the first of these.

**Does the Welsh Government's approach to delivery of major trunk road projects provide value for money?**

The procedures that are currently being adopted by the Welsh Government are consistent with what is generally considered to be good practice in the industry. Early Contractor Involvement (ECI) is considered to be key to efficient planning, the provision of reliable cost and completion date estimates and the timely delivery of project outputs. The Welsh Government has been closely involved with the development of ECI and, while there are still undoubtedly procedural and contractual issues that would benefit from refinement, it doesn't seem unreasonable to assume that this still represents an attractive and viable way of ensuring value for money in the delivery of trunk road projects. What may be further investigated is whether even closer alliances / public private partnerships / private finance initiatives might be established with such providers to benefit from their commercial management and ability to invest in research and development, although this may detract from the benefits of competitive tendering that can be obtained at different points in the current procurement protocols.

### **Highway maintenance and improvement.**

Highway maintenance requires consideration of many diverse assets including the highway pavement, bridge structures, culverts, tunnels, retaining walls, earthworks, drainage, lighting and street furniture such as signage, all of which are currently dealt with in many different ways. In some cases, such as for the highway pavement, condition monitoring techniques are relatively sophisticated and the management of maintenance and repair regimes can follow well established protocols. However, in the case of highway structures and secondary features such as drainage, maintenance is often much more reactive, albeit often being triggered as a result of a routine inspection. Asset management procedures are less well-developed and, as a consequence, the timing and cost certainty of the work that is required is much less well defined leading to inefficiencies and reduced value for money.

Equally challenging is that currently there is very little linkage between the management systems that are used for the different asset categories and therefore when it comes to cross asset prioritisation comparable measures of value, reliability and risk are not readily available. Bridge and Structure management systems have been developed and, in some cases, very successfully deployed, but their output cannot readily be compared to or combined with that of the widely available pavement management systems or the more ad-hoc and often locally developed databases used for managing drainage systems, lighting networks, road markings and signage etc. Research is required to identify common characteristics, measures of condition, reliability and risk and techniques whereby these measures can be compared across assets so that informed and defensible decisions can be made as to how to ensure best value is achieved in highway maintenance and improvement.

The Highways Maintenance Efficiency Programme, HMEP, funded by the Department of Transport, seeks to deliver improved highways management in an environment of tighter budgets, rising costs and greater demand from consumers by providing tools and resources to address the above challenges. It is appropriately based on asset management principles and provides a framework for a whole-life approach to the management of highway assets, which has the potential to yield significant savings if it can be applied across the board. For this to happen collaboration is essential and while HMEP provides 'toolkits' to facilitate this, what is still lacking is a universally applicable methodology that can truly support and drive forward this approach.

To achieve this, a step change in highway infrastructure asset management is required in the form of a high powered (Cloud Computing based), intelligent and BIM compliant decision making framework for the "real time operation, maintenance and improvement of a highway network". This should provide a flexible system that would enable the Welsh Government and their Maintaining Agents to meet their statutory duties for safety, while minimising the whole life costs of the assets for which they are responsible and achieving their wider policy objectives. It would be founded on BIM based standards/processes that could combine traditional inventory and condition data with the output of condition monitoring and evaluation surveys to provide a basis for the real time performance management, decision making and intervention required to optimise scheme development and prioritise budget limited asset group investment strategies. The innovation required to facilitate this would lie in the development of BIM (level 2) standards for highways to facilitate real time and risk based multi-criteria decision making through the processing of large scale "big data" supplied by multiple, life cycle stakeholders.

The big picture would be to enhance the decision making processes associated with the management of highway networks to ensure that service levels are sufficient to meet the needs of Wales' economy, health and education agendas. Such a development could provide vital tools to enhance the optimisation and decision making processes that are fundamental to maintaining the serviceability and safety of a highway network within the constraints of a limited budget. As such it could underpin a smarter and more cost effective approach to asset management and offer the step change needed for a more sustainable approach. Such a development could also demonstrate how science and lateral thinking might contribute to improving highway management practice and facilitating behavioural change.

To conclude, to achieve a more efficient approach to the management of Wales' highway network and to obtain better value for the money invested for this purpose there is a need for greater collaboration between the Welsh Government, their agents and the contractors responsible for the delivery of both new works and the maintenance of existing infrastructure. To achieve this there is a need for research and development into the deployment of BIM compliant highway management systems that can build on the recently developed Integrated Road Information System (IRIS) and, given the special characteristics of the Welsh highway network, a Welsh based public / private partnership might be an appropriate way of delivering this.

R. J. Lark  
04/03/15



**National Assembly for Wales Public Accounts Committee  
Inquiry into the value for money of motorway and trunk road investment**

**Comments from Chartered Institution of Highways and Transportation (South Wales Branch)**

**Note: These comments supplement those provided by the North Wales Branch – Evidence reference MTRI 08 and should be read in conjunction with them.**

**1 Background**

1.1 The Chartered Institution of Highways and Transportation (CIHT) was established in 1930 as the Institute of Highway Engineers; it was granted its Royal Charter in 2009. Today it has around 13,000 members worldwide, with over 700 members in Wales, across both the public and private sectors and a range of transportation disciplines. There are currently two branches in Wales – North and South – but from May 2015 there will be one branch representing the whole of Wales.

1.2 CIHT will be represented by:

a). Eurling David Meller, BSc(Hons), CEng, CEnv, MICE, FCIHT, MAPM, a committee member of the North Wales Branch with 30 years' experience in the highway industry, working on both trunk and county road improvements and maintenance projects. He has delivered a number of trunk road major projects in North Wales over the last 20 years, working direct to Welsh Government as client, and also worked extensively for North and Mid Wales Trunk Road Agent (NMWTRA).

b). Russell Bennett, BEng (Hons), MBA, CEng, MICE, MCIHT, MCMI, chair of the South Wales Branch. Russell has 26 years' experience of delivering major projects across Wales, including ones for the Welsh Government. He was previously Head of Major Projects in the Transport Department (2007 to 2012) of Welsh Government and is currently the Regional Director (Highways) with WSP Parson Brinckerhoff, a global engineering consultancy which has a long track record of delivering projects and services for the Welsh Government and SWTRA, NMWTRA and many local authorities in Wales.

The following comments focus on the issues relevant to South Wales and the experiences of committee members in the Branch. It should be noted that the South Wales branch of CIHT includes a wide range of members who work in both the private sector so the views try to provide a balanced view of our membership.

**2 Whether the Welsh Government's approach to delivery of major trunk road projects provides value for money**

**2.1 The effectiveness of Welsh Government planning and costing of schemes**

2.1.1 The Welsh Government's (WG's) approach to planning and costing of major trunk road projects is generally good. Our main observations are:

- i. The regular publication of a National Transport Plan (NTP) and formerly the Trunk Road Forward Programme (TRFP) provides industry with a clear view of forthcoming schemes giving time and opportunity to prepare for tendering and delivery, thus providing cost effective, high value delivery. There is however a tendency for schemes to be delayed through budgetary uncertainty and competing priorities for scarce resources as well as political indifference to road schemes generally. There are also a number of schemes which have remained in the NTP and TRFP for over a decade with no prospect of moving forward.
- ii. Whilst there are regular procurement updates to the supply chain on the timing and priority of schemes these are insufficient without clear Ministerial statements for industry to make investment decisions in their workforce and provide training to meet the increasing pipeline of work. Even the regular Wales Infrastructure Investment Plan updates do not provide sufficient certainty on the detail and timing of schemes.
- iii. The WG faces a difficult challenge in assessing the cost of schemes, particularly at the early stage of development. There isn't a large database of historical data to draw from so the WG is reliant on the expertise of its engineering advisors. There are rules for the application of allowances for optimism bias and calculating risk but these can't always be relied upon particularly as the Welsh Trunk Road network is diverse and includes some challenging terrain, as is being faced on the construction of the A465 Heads of the Valleys scheme between Gilwern and Brynmawr (Section 2).
- iv. Since the introduction of alternative forms of procurement, particularly the use of Early Contractor Involvement (ECI) forms of contract, the accuracy of the WGs planning and cost forecasting of its major highway schemes has improved. Schemes such as the M4 Widening around Cardiff, the A470 Cwmbach to Newbridge and the A477 St Clears to Red Roses improvement have all been delivered on time and within budget. The delivery of small to medium term size projects continue to face problems due to a variety of reasons but including the difficulty in accurately planning and costing schemes as mentioned above.
- v. The WG has improved the link between project delivery and future management of the resulting asset. The provision of whole life cost solutions is now being addressed during the design and construction stages of project. However, the WG has yet to embrace the full benefits of Building Information Modelling (BIM) techniques in both the delivery and future maintenance of its highways assets.

## **2.2 The approach to project delivery and evaluation of projects**

2.2.1 The Welsh Government's (WG's) approach to the delivery of major trunk road projects is generally good. However, we consider the approach to the evaluation of projects, particularly post-completion is in need of improvement. Our main observations are:

- i. The WG uses the delivery processes set out in the UK Design Manual for Roads and Bridges (DMRB) as well as its own Road Procedures Guidance (RPG) which applies the WGs own requirements for the delivery and evaluation of projects. The RPG requires investment to enable processes to be modernised to reflect current practices across the industry in the UK.
- ii. The standardisation of more modern contract forms and the increased use of expert technical advisors has resulted in better governance and more accurate contract outcomes.
- iii. The interim evaluation of projects during the delivery stage doesn't appear to be routinely undertaken although internal Gateway Reviews are carried out on major projects.
- iv. We are aware that the post-completion evaluation of project delivery is routinely undertaken but the results are rarely published to enable lessons and good practice to be disseminated.

### **2.3 How the Welsh Government could improve its approach to planning and delivery of schemes**

#### **2.3.1 The WG could consider the following actions/initiatives:**

- i. The publication of confirmed longer term budgets (greater than 1 to 3 years) for forward pipelines of work would provide greater certainty and confidence in the supply chain. In addition, committed timescales for individual projects with more accurate dates for delivery would be beneficial.
- ii. The WG should consult with other public sector bodies who procure highways projects (but particularly Highways England) to determine current best practice and lessons learned. The WG should consult more closely with industry, trade organisations and Institutions such as the CIHT (and the Institution of Civil Engineers - ICE).
- iii. The WG should work with the Highways Agency (soon to be Highways England) to develop joint cost databases which have a greater depth and range of information to inform/validate the costing of schemes.
- iv. Whilst the use of ECI forms of contract has improved the planning and costing of major schemes the WG should look for similar, innovative approaches to its medium and smaller scheme programme of work. The Highways Agency has developed Optimised Contractor Involvement (OCI) forms of contract which determine the best time to involve the constructing team in the development of projects. In general, the WG should investigate newer, more innovative forms of contract which could lead to greater efficiencies and increased value for money.
- v. The WG should provide detailed guidance on its requirement for BIM and give a firm commitment to implementing BIM Level 2 on all its projects by 2016 in line with the UK Government's commitment to do the same.

- vi. The WG should routinely publish the results of its project evaluation analyses to enable best practice and lessons learned to be disseminated across industry.

### **3 The extent to which the current approach to routine maintenance and improvement of the network via Trunk Road Agents has delivered value for money**

3.1 There has been significant improvement in the delivery of routine maintenance and improvement of the Trunk Road and Motorway by the WGs Agents'. Our main observations are:

- i. The lack of confirmed longer term budgets (greater than 3 years) provides uncertainty and an inability to plan for the longer term. Investment decisions are also focused on the short term as budgets are generally insufficient to enable proper whole life cost decisions to be made.
- ii. There have been significant efficiency gains in SWTRA by adopting best practice from around the UK. To step to the next level consideration should be given to the benefits of more modern asset management style contracts (as adopted by the Highways Agency in England).
- iii. There have been improved efficiencies through greater collaboration with the supply chain and local authority direct labour organisations. The current model for delivering smaller maintenance and improvements schemes in SWTRA utilises long term frameworks with the private sector supply chain which has contributed to this, although local authorities still have an important part to play particularly in rural areas.
- iv. There are pros and cons with regard to whether the Agents' are best placed to deliver trunk road improvement schemes. The loss of in-house capability and capacity has meant the private sector supply has had to be engaged. The benefits include access to wider UK and International best practice whilst the disbenefits can be the loss of long term knowledge and local expertise within the Agent organisations.

### **4 How the maintenance and improvement functions delivered by the Trunk Road Agents can be improved, in the context of the on-going Welsh Government review of these agents.**

4.1 We have the following observations on areas of potential improvement:

- i. Budget certainty should be provided with longer term commitments to funding of routine and major maintenance. Funding periods of up to 5 years (as is proposed for Highways England and used by Network Rail for its 'Control Periods') should be considered to provide a more robust platform for whole life cost investment decision. The approach in England should be closely monitored to determine if similar arrangements should be implemented in Wales.
- ii. The WG should consult with other public sector bodies who procure highways maintenance contracts to determine the value (or otherwise) of engaging the private sector more closely and on longer term framework arrangements. The implementation of asset management contracts (with or without private funding)



should be considered. More innovative funding methods, including the establishment of a Not-for-Dividend organisations to maintain the network should be considered.

## **5 Conclusions**

- 7.1 The WG generally obtains a good level of value for money in the maintenance and improvement of the Welsh trunk road network. The delivery of major trunk road projects is generally good, with scope for improvement in most areas.
- 7.2 Major project delivery would benefit from improved transparency for the supply chain on the timing of schemes as well more use of alternative, modern forms of contract. Increased guidance and investment in BIM as well as access to best practice and the lessons learned from previous projects would help provide increased value for money.
- 7.3 The WGs Trunk Road Agents would provide greater efficiency and value for money if they were provided with longer term budget certainty so that more robust, longer term whole life cost investment decisions can be made.
- 7.4 The WG should consult more closely with other public sector bodies, but particularly Highways England, to assess the value of adopting best practice and the use of more modern forms of procurement and funding.

Public Accounts Committee  
Value for Money Motorway and Trunk Road Investment  
MTRI 19 – South Wales Fire and Rescue Service

Public Account Committee  
National Assembly for Wales  
Cardiff Bay  
CF99 1NA

Date: 19 March 2015

Contact: SM Paul Mason  
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Dear Sir/Madam

**RESPONSE TO INQUIRY INTO VALUE FOR MONEY OF MOTORWAY AND TRUNK ROAD INVESTMENT**

Thank you for the opportunity to provide views to the above Inquiry.

In providing views for this Inquiry it is stressed that comments are provided in a constructive fashion.

The Service has considered the issues in relation to managing road traffic accidents, details of guidance for Fire Authorities in Wales when dealing with road traffic accidents, closure times, co-ordination of the response with highway authorities and other emergency services and the use of screens.

The relevant response is attached for consideration.

We have no further comments on the terms of reference as set out in the inquiry. Although, we would recommend appropriate turnaround times for responses considering the plethora of consultations taking place for organisations at this moment in time.

Yours faithfully

Paul Mason  
Station Manager – Staff Officer (ELT)  
for **CHIEF FIRE OFFICER**

## **SOUTH WALES FIRE AND RESCUE SERVICE**

### **RESPONSE TO INQUIRY INTO VALUE FOR MONEY OF MOTORWAY AND TRUNK ROAD INVESTMENT**

In relation to your latest correspondence dated 11 March 2015, and your inquiry into Value for Money of Motorway and Trunk Road Investment, please find the following observations from South Wales Fire and Rescue Services Perspective in relation to managing road traffic accidents, details of guidance for Fire Authorities in Wales when dealing with road traffic accidents, closure times, co-ordination of the response with highway authorities and other emergency services and the use of screens. We have no further comments on the terms of reference as set out in the inquiry.

Fire and Rescue Services (FRSs) are considered to be the principal rescue service for Road Traffic Collisions throughout the UK; this would be replicated within Wales.

There are a number of legal and policy documents which set out the role and duties of Fire and Rescue Authorities (FRAs) and FRSs in relation to road traffic collisions.

#### ***Legal and Policy considerations***

The Fire and Rescue Services Act 2004 sets out the statutory obligations of all FRAs to provide effective emergency response, including a requirement for them to make provision for undertaking rescues from road traffic accidents, and protecting people from harm in the same.

The Programme for Government sets out how the Welsh Government intends to deliver on a renewed set of ambitions that will result in a fairer, safer and more prosperous Wales. The document includes references to the role of the FRSs in helping to achieve these aims, both in terms of their community fire safety activities, and in the arena of road safety. In particular the Programme identifies key vulnerable groups, and talks about the need for the Services to “*Target high-risk road users (motor cyclists, young drivers and vulnerable road users) through a combination of measures including education, engineering and enforcement.*”

**Fire and Rescue Service Act 2004 - section 8 as stated below:**

**8 Road traffic accidents**

(1) A fire and rescue authority must make provision for the purpose of—

- (a) rescuing people in the event of road traffic accidents in its area;
- (b) protecting people from serious harm, to the extent that it considers it reasonable to do so, in the event of road traffic accidents in its area.

(2) In making provision under subsection (1) a fire and rescue authority must in particular—

- (a) secure the provision of the personnel, services and equipment necessary efficiently to meet all normal requirements;
- (b) secure the provision of training for personnel;
- (c) make arrangements for dealing with calls for help and for summoning personnel;
- (d) make arrangements for obtaining information needed for the purpose mentioned in subsection (1);
- (e) make arrangements for ensuring that reasonable steps are taken to prevent or limit damage to property resulting from action taken for the purpose mentioned in subsection (1).

**In addition, Supplementary Powers in the event of emergency include:**

**44. Powers of fire-fighters etc in an emergency etc**

(1) An employee of a fire and rescue authority who is authorised in writing by the authority for the purposes of this section may do anything he reasonably believes to be necessary—

- (a) if he reasonably believes a fire to have broken out or to be about to break out, for the purpose of extinguishing or preventing the fire or protecting life or property;
- (b) if he reasonably believes a road traffic accident to have occurred, for the purpose of rescuing people or protecting them from serious harm;
- (c) if he reasonably believes an emergency of another kind to have occurred, for the purpose of discharging any function conferred on the fire and rescue authority in relation to the emergency;
- (d) for the purpose of preventing or limiting damage to property resulting from action taken as mentioned in paragraph (a), (b) or (c).

(2) In particular, an employee of a fire and rescue authority who is authorised as mentioned in subsection (1) may under that subsection—

- (a) enter premises or a place, by force if necessary, without the consent of the owner or occupier of the premises or place;
- (b) move or break into a vehicle without the consent of its owner;
- (c) close a highway;
- (d) stop and regulate traffic;

### **Command and Control of Incidents**

In view of the above legislation Fire and Rescue Services would have primacy for any rescues and or extrications of casualties from a Road Traffic Collision (RTC). Police would retain overall responsibility for Road Traffic Law & Investigation and the Ambulance responsible for primary casualty care at such incidents.

The Incident Command System (ICS) constitutes the doctrine of the Fire and Rescue Services in the context of operational incident management, leadership and the functional control processes that flow from it.

The ICS is the recognised “nationwide safe and effective system for managing operations”. It represents the key elements of effective incident command in three functional areas:

- Organisation on the Incident ground
- Incident Risk Management
- Command Competence

Cordons are employed as an effective method of controlling resources and maintaining safety on the incident ground. The incident commander must consider the safety of fire-fighters, the public, members of other emergency services and voluntary agencies attending. However, it must be noted that overall responsibility for the health and safety of personnel working within the inner cordon remains with the individual agencies. Such agencies should ensure that personnel arriving at the scene have appropriate PPE and are adequately trained and briefed for the work they are to undertake within the cordon.

Fire and Rescue Services are trained and equipped to manage gateways into the inner cordon, therefore it is important that local planning and exercising is conducted to ensure misunderstandings about roles and responsibilities do not occur during an incident.

This has been enhanced further through the Joint Emergency Services Interoperability Principles (JESIP) training. The focus for JESIP is primarily the operational response in the initial stages of a major or complex incident of:

- Police Services
- Fire and Rescue Services
- Ambulance Services

The clarity that JESIP aims to bring to the operational commanders at the scene will make the integration of the activities of wider responders, easier and more beneficial for all.

The JESIP Joint Doctrine aims to define what the operational and tactical commanders from police, fire and ambulance will do on the scene during the initial stages of a major or complex incident. All relevant staff within police, fire and ambulance services will receive appropriate training in the JESIP Joint Doctrine.

At local level, Local Resilience Forums (LRFs) co-ordinate the planning and multi-agency response to emergencies and civil unrest. These forums are made up of representation from the local authority, local police, fire and ambulance services as well as other Category 1 & 2 responders and government agencies.

Training and co-ordination at local level is paramount to ensure any changes through motorway and trunk road investment enable improved service delivery of emergency response and traffic management functions. Hence co-ordination of response with highway authorities and other emergency services is the key to success in the most expedient way. With this in mind it is prudent Highway Agency personnel and other responders are kept up to date with any changes to existing protocols and engage in frequent dialog with other emergency responders to ensure protocols and procedures remain fit for purpose. A further consideration here would be to enhance the communication protocols between such responders to accurately pinpoint the location of any emergency incident, this will ensure responders are provided with precise information as to the incident location, which eliminates confusion, expedites any extrication necessary and reduces the resulting congestion.

The 'golden hour' is a key facet with any extrication of a casualty. This is the time deemed critical in releasing a casualty from an emergency incident. This refers to a time period lasting for one hour following traumatic injury being sustained by a casualty or medical emergency, during which there is the highest likelihood that prompt medical treatment will prevent death. It is well established that the patient's chances of survival are greatest if they receive care within a short period of time after a severe injury.

## **Closure Times and use of Screens**

It is appreciated that transport is at the heart of life in Wales, with other services dependent on it in one way shape or form, with transport being an essential part of the thriving economy and on the day to day activities of people's lives. Efficient and effective road networks are crucial for the economy in Wales. However, during any incident involving a RTC on the road networks the priority for emergency services is the Health, Safety & Welfare of its personnel. Such safe systems of work maintain compliance with the H&S at Work Act, Management of Health and Safety etc to name but a few. Therefore, whilst additional pressures are put on the Police and Highways agencies to re-open motorway lanes and other trunk roads, the safety of emergency workers is vital.

Communication is key to ensuring a smooth transition before, during and following incidents so that appropriate diversionary opportunities can be scoped, implemented and or considered.

Every frontline appliance within South Wales Fire and Rescue Service area is equipped with state of the art cutting and extrication equipment. In addition to the equipment on each frontline appliance, six specialist Rescue tenders are strategically located throughout the arterial routes providing enhanced RTC capabilities.

Every firefighter is trained to high standard in RTC extrication to deal with the diverse demands such an incident may place onto the service and or individual.

We would agree that the trunk road networks in Wales provides critical connectivity to many communities and an efficient and effective motorway and trunk road network has an important role to play in supporting the Welsh economy enabling access across Wales as a whole. Although, the pinch points throughout South Wales on the M4 the Motorway and Trunk Roads are a concern to the emergency services and sometimes hinder the smooth transition of traffic throughout Wales following an incident and at times of peak heavy traffic flow. We supported the introduction of a variable speed limit system in 2011 of the M4 between Junctions 24 and 28 to improve traffic flow in the short term. We note that the system has resulted in a reduction in accidents and welcome this trend. Therefore, any further improvements to the network following the inquiry into the value for money of motorway and trunk road investment would be readily supported.

South Wales Fire and Rescue Service is considered a high performing organization in many facets including Command and Control, RTC training and many other arenas'. Such is the extent of our knowledge, understanding, skills and expertise that we train other Fire and Rescue Services, both in the UK and International and facilitate training for other emergency services on a regular basis. We have worldwide accolade in extrication with our teams winning both national and International competitions.

The use of screens we believe to be subjective in that we have not trialed any such equipment and have not been privy to any reports on the benefits of such. Our experience has shown that extrications are completed as expediently as possible depending on numerous factors such a number of vehicles involved, scope and size of the incident, numbers of persons involved, complexity of incident, daytime / night time, weather conditions etc. Therefore, we would question would screens actually stop other motorist viewing the scene of operations, how big would they need to be, who would carry these screens and how long would they take to arrive at the scene of operations?

## **Road Safety Education**

The Welsh Government (WG) is committed to improving road safety and reducing the number of people killed and seriously injured on trunk roads in South Wales and South Wales Fire and Rescue Service (SWFRS) have a key part to play in supporting WG to achieve this.

In making the people of Wales safer from the dangers of fire and other emergencies, there are three main strands to be addressed – Prevention, Protection and Response. Clearly, preventing fires and other emergencies provides the greatest benefit to the public. Where fires and emergencies occur, their impact should be reduced wherever possible.

As a service SWFRS are cognisant of the high costs involved in re-engineering roads and as such a specialist road safety team guides and manages SWFRS road safety initiatives across the 10 Unitary Authorities served.

Considerable improvement in road safety has been witnessed in recent years and the Welsh Government's recent *Road Safety Framework for Wales* sets out the challenging vision of:

**“A continued reduction in the number of people killed and seriously injured on Welsh roads, with the ultimate aspiration of no fatalities”.**

The same document proposes the following targets, compared to the average figures for Wales between 2004 and 2008:

- **A 40% reduction** in the total number of people killed and seriously injured (KSI) on Welsh roads by 2020, meaning 562 fewer killed and seriously injured casualties;
- **A 25% reduction** in the number of motorcyclists killed and seriously injured on Welsh roads by 2020, meaning 64 fewer motorcyclist killed and seriously injured casualties;

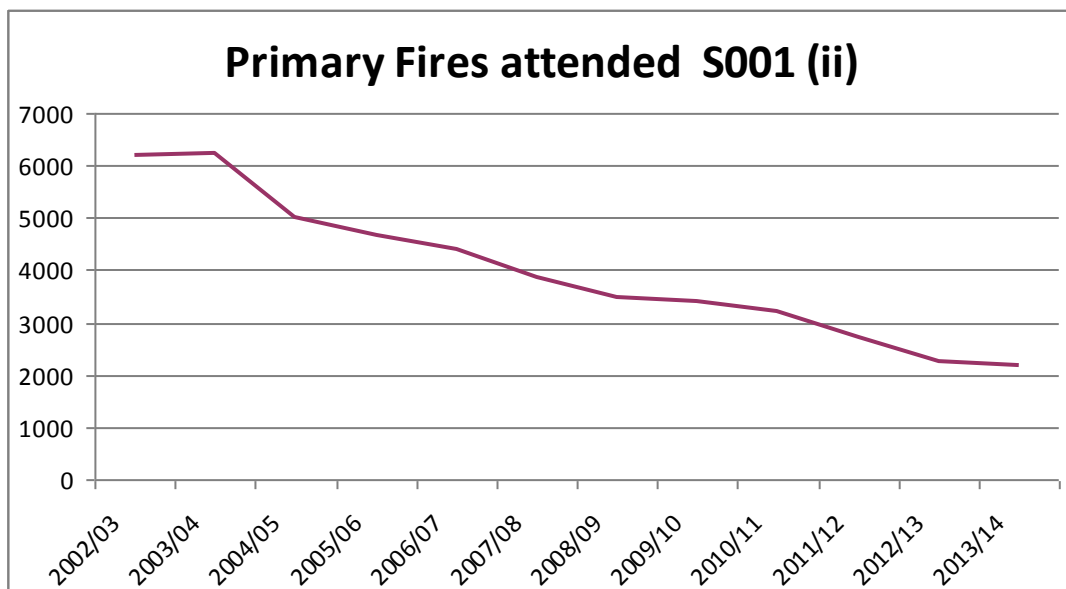


- **A 40% reduction** in the number of young people (aged 16-24) killed and seriously injured on Welsh roads by 2020, meaning 139 fewer young people killed and seriously injured casualties.

## The Challenge

In order to meet the challenges faced across the principality the 3 Welsh FRS road safety teams have written and are about to publish a *Welsh Fire and Rescue Services Road Safety Strategy 2015 onwards* which sets out how the Welsh FRSs will work to support the achievement of the challenging targets laid out in the *Road Safety Framework for Wales*.

South Wales FRS have seen impressive reductions in the number of fires attended over the last 10 years mainly due to innovative education initiatives both individually as a stand alone service and also by working in partnership with key organizations (see chart below).



The current position and future vision in order to contribute to the reduction of Road Traffic Collisions of all types across South Wales is to replicate this success and work closely with partner agencies in order to achieve the common goals and targets as set out in the *Road Safety Framework for Wales*.

The 3 E's of Road Safety (Education, Enforcement and Engineering) are pivotal to SWFRS work to achieve these targets from firstly an Education perspective by targeting those members of our communities who are most vulnerable on our roads by working in partnership with the Welsh Government and other stakeholders, delivering meaningful road safety initiatives that will make a positive difference and reduce the number of incidents.

SWFRS are key partners in a number of Enforcement initiatives led by our Police partners where SWFRS premises are used as focal points for initiatives.

For further information on these enforcement initiatives and all SWFRS road safety initiatives please see the attached link;

<http://fshqsp:30000/English/yoursafety/Domino/Pages/Home.aspx>

With regard to Engineering solutions SWFRS are key partners in providing statistical data and evidence to a number of all Wales Collaborative Road Safety Groups such as The Welsh Roads Policing Regional Strategic Group with partners Road Safety Wales, ROSPA, DVLA, Brake, WAST, GOSAFE, All 4 Welsh Police Forces, WG (Policy and Road Engineering departments). SWFRS are also standing members of the All Wales Strategic Road Safety Group which includes regional representation from all 22 Unitary Authorities, WLGA, and all the aforementioned partners from the Roads Policing Strategic Group.

By providing data on the number of instances (and severity therein) attended across the many arterial trunk roads throughout the South Wales area we as a Service have contributed evidence which shows that not only do accidents on these major roads cost lives and cause immeasurable human suffering, but they also have a significant economic impact on communities, costing the Welsh/South Wales economy millions of pounds per year in attendance of various agencies, recovery and investigation, in legal proceedings and insurance claims, in repairs to roads and carriageways, in delays to other road users and in lost economic output. The Department for Transport recently estimated that the value to society in preventing fatal road casualties in Great Britain was over £1.6m per death.

Examples of the major “pinch points” on trunk roads within the SWFRS area are:

- The A465 Heads of the Valleys road
- The A470
- The A4232 and Butetown Tunnels
- The M4 corridor and in particular the Brynglas Tunnels

Any incidents on these roads leading to delays/road closures hamper SWFRS response capabilities severely, not only to the incident in question but to any other incidents across the service area such as any type of fire or any of the many special service calls attended by SWFRS due to the impact on the wider road network due to an incident on a major trunk road. This congestion not only impacts on SWFRS but also on any other emergency service attempting to reach an emergency incident.

As previously stated by working with Partner agencies across our service area we have been able to provide data with regard to incidents attended on these routes and also the severity of such incidents.

The ongoing engineering work currently taking place on the A465 has seen a reduction in RTC's attended and will no doubt see a reduction going forward due to the newly engineered solutions being implemented. However it should be noted that SWFRS are only one of many organisations who are contributing to achieving the challenging targets set out in the *Road Safety Framework for Wales*.

In order to best target Education initiatives SWFRS use MAST (Market Analysis Segmentation Tools) which is an online resource for road safety professionals. The unique system provides national collision data for in-depth analysis, and gives insight into the people involved. It accesses data for all road collisions and builds profiles of risk groups in specific areas. This means that resident risk and crash migration can be monitored in ways that were previously impossible. MAST is the first national online tool of its kind, and is helping SWFRS improve and maintain safety standards throughout and across our region. Used in conjunction with our own bespoke data (MAST captures all incidents that have occurred and some of these SWFRS may not have attended) SWFRS are able to provide an accurate reflection of incidents and in particular incident hot spots across South Wales that may require Engineered solutions alongside Education and Enforcement.



Mr Darren Millar AM  
Committee Chair  
National Assembly for Wales  
Public Accounts Committee  
Cardiff Bay  
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RQ/MT

*Eich Cyf/Your Ref:*

*Dyddiad/Date:*

20 March 2015

Dear Sir

### **Inquiry into value for money of Motorway and Trunk Road Investment**

Thank you for the opportunity to provide views to the above inquiry on behalf of Mid and West Wales Fire and Rescue Service (MAWWFRS). We recognise that for our six constituent authorities to have a dynamic and sustainable economy an important factor is access and connectivity and the effectiveness of the motorways and trunk roads are thus critical in this regard.

MAWWFRS covers approximately 4500square miles of varying trunk road networks from motorway/dual carriageways to rural single carriageways. Single carriageways also vary from heavily wooded sections to high mountain passes and coastal sections and these all present differing challenges for crews responding to road traffic collisions (RTC).

MAWWFRS continues to employ a multi-agency approach to reducing the number killed or seriously injured on the roads. MAWWFRS works in partnership with key stakeholders to educate road users, engage vulnerable groups, and contribute to the wider road safety agenda. MWWFRS also plays a proactive role in facilitating multi-agency data sharing and the development of progressive methods of identifying engineered solutions to these complex issues.

In response to the specific matters, I provide comments as follows:

#### **Guidance for Fire and Rescue Services**

The Fire and Rescue Services Act 2004 represented the most significant legislative change in the operation of the Fire and Rescue Service (FRS) in over 50 years. The Fire Services Act 1947 focused on preparing Fire and Rescue Authorities to respond to fires, with no responsibilities or duties placed upon them in relation to RTCs or other emergencies. Over time society's expectations and public demands have resulted in the role of the FRS evolving and changing and the 2004 Act sets out a much broader range of statutory duties.

In particular, the new Act recognised that the FRS is a primary rescue service at RTCs and Part 2, section 8, of the Act places a statutory duty on FRS to prepare for rescuing people from RTCs.

This recognition reflects the increasing workload on FRS, partly attributable to their attendance at RTCs. The statutory changes also reflected the contribution made by Fire and Rescue Authorities over the years to ensure that FRS were able to assist and effect an efficient extrication of casualties even though at the time there was no statutory duty to do so.

The FRS therefore has a key role to play with our partners in preventing RTCs and the resultant damage to human life, in the same way as it does to reduce fire related deaths and injuries, engineering and investment in the road transport network is critical to this. The operational and tactical guidance for dealing with RTCs is both detailed and technical, identifying the associated risks and procedures for crews attending incidents of RTC. The strategic guidance however is less so and projects such as the multi-agency CLEAR initiative which is a joint initiative between the Department for Transport (DfT), Highways Agency (HA), Association of Chief Police Officers (ACPO), Chief Fire Officers Association (CFOA) and Association of Ambulance Chief Executives (AACE) in England has to date not been pursued in Wales.

The initiative included objectives to implement measures, including the use of innovative laser scanning equipment, to reduce congestion and costs associated with motorway closures following incidents.

#### **Impact of road traffic collisions**

Whilst the impact of any RTC on the immediate road network is usually clearly visible to all, it must be considered, particularly in the rural areas of the country the impact that occurs on the surrounding network.

The roads that serve as the diversionary routes off the main trunk road are often of very little classification and often become gridlocked due to lack of passing spaces for large heavy goods vehicles (HGV) and public service vehicles (PSV). This can be problematic for emergency services attempting to respond to other calls in the area. It may be considered that an element of investment into pre-emptive work in the area of diversionary routes, enabling swifter implementation of the routes may be better than a continual reactive response to such occurrences.

Road traffic collisions do not have a single cause. They result from a number of contributory factors that combine in a way that leads to a road user failing to cope in a particular situation. Road safety directly involves all road users, whether on foot or in a vehicle and the impact of road traffic collisions can cause immense human suffering and distress.

#### **The approach to accident management**

Various documents, policies and procedures remind practitioners of the requirement to gather, preserve and secure evidence at the scene of collisions whilst always being mindful of the economic, social and other impacts of protracted road closures and of the need for the police, Highways Agency and others to properly 'inform' those affected by a closure.

The CLEAR programme in England claims to have been successful in embedding an understanding of the importance of free flow on the strategic road network, recognising the need to balance evidence gathering with reopening roads and it has brought Government closer to the motorway responders and other partner agencies who have responsibilities in this area.

### **Co-ordination of response**

Whilst there is a good tactical understanding at the scene of an RTC about the roles and responsibilities of the emergency services in responding to and managing serious incidents, the effective 'choreography' and 'combination' of the assets, capabilities and resources of multiple partners on scene is based on the foundation set by the JESIP programme.

The structured programme of work to over 100 organisations ran until September 2014 and had a number of strategic objectives as laid out below:

- To establish joint interoperability principles and ways of working (joint doctrine)
- To develop greater understanding of roles, responsibilities and capabilities amongst tri-service responders
- To improve communication, information sharing and mobilisation procedures between services including their control rooms
- To implement a training strategy for all levels of command
- To implement a joint testing and exercising strategy for all levels of command to ensure lessons identified progress into learning and procedural change

Whilst not specific to RTCs and applicable to all multi-agency serious incidents the impact of JESIP will be to provide a consistent joint emergency services response to incidents wherever the incident may take place across the country. Notably though the JESIP programme does not include any agencies outside that of the tri-services, particularly with regard to the trunk road networks, the absence of the Welsh Government's Transport Officers in the multi-agency learning that is taken from the programme.

Police, Fire and Ambulance Services are trained in the application of joint command decision and assessment models. They now better understand the roles and responsibilities of their peers in each service which leads to a coherent and commonly understood way of working. Debriefs which are held immediately after an incident also offer learning opportunities and the potential to escalate the debrief process to a multi-agency formal process should the need arise.

Workshops such as those run via the JESIP programme, which include "Table Top" joint training exercises to test hypothetical scenarios to tease out best practice are always beneficial in harmonising any multi-agency response at live incidents.

### **Use of Screens**

Incident screens, which aim to help reduce the impact of 'rubbernecking' by screening off an incident, were deployed seven times during the Olympic period on behalf of the Highways Agency. Incident screens have been introduced by the Traffic Officer Service in England with the first phase rolled out during 2013.

The screens were however first introduced in England during early 2012 but there is little empirical evidence available to support the premise that this approach has a significant beneficial effect in improving traffic flow and reducing further accidents in and around the scene. Whilst it is accepted that the screens will obscure the scene of operations any additional positive gain, such as reducing 'rubbernecking' and ensuring that the flow of

traffic keeps moving is debatable and requires further research to support either way. This measure is critical for the Welsh economy as even small reductions in the traffic build up can have a significant effect for the economy.

It can be argued that the slow-down on the opposing side of the carriageway happens when approaching drivers see any activity, particularly a mass of blue lights ahead and thus reduce their speed accordingly. Often from a distance it is not always even possible to identify on which side of the motorway the problem lies. This has a cumulative effect of reducing the average speed, which then may indeed be exacerbated by everyone having a good look. It again could be argued that it is a natural reaction to slow when blue lights are seen, as they generally indicate a potentially hazardous situation.

The information is provided in a non-biased form and I hope that the Committee are able to find some of the points beneficial to the inquiry into value for money and trunk road investment.

Yours faithfully

A handwritten signature in black ink, appearing to read 'R Quin', with a long horizontal flourish extending to the right.

R Quin  
Director of Risk



Llywodraeth Cymru  
Welsh Government

## Police Liaison Unit Welsh Government, Cathays Park

<b>Protective Marking:</b>	<b>NOT PROTECTIVELY MARKED</b>
<b>Author:</b>	Collated by Inspector Mark Davies, Police Liaison- on behalf of all four welsh police forces
<b>Title:</b>	Welsh Police Response into Inquiry into value for money of Motorway and Trunk Road Investment
<b>Version:</b>	V2
<b>Summary:</b>	Please see attached a written response to the Public Accounts Committee looking into the value for money of Motorway and Trunk Road Investment
<b>Circulation list:</b>	<a href="mailto:leanne.hatcher@assembly.wales">leanne.hatcher@assembly.wales</a>
<b>Authorised by:</b>	Chief Superintendent Alun Thomas
<b>Date sent:</b>	20 <sup>th</sup> March 2015

### Subject: Inquiry into value for money of Motorway and Trunk Road Investment

Dear Public Accounts Committee,

Thank you for the opportunity for the Welsh police forces to provide you with a response on your inquiry into the value for money of Motorway and Trunk Road Investment.

We have restricted our response to the areas that directly relate to police involvement with the Trunk Roads and therefore have focused on the penultimate paragraph of your letter.

#### Managing road traffic accidents

A recent review of the working practices of SWTRA/ NMWTRA route stewards who attend scenes of fatalities or serious injury on the strategic road network has been carried out. Instruction has gone out to the four Welsh police forces for early discussion between the police at scene and route stewards, so that damage to the road surface and/or associated road furniture can be assessed at an early stage, allowing the stewards to make the necessary arrangements and not further delay the opening of the road.

For any major incident/ collision on the M4/A55 the respective police forces for that area will send a police liaison to the relevant traffic management centre so that the incident can be managed effectively, an example being the recent bus crash on the M4 at junction 33.





### Closure times

On assessing data held by SWTRA, it shows the following:

- a) 2011 – 11 confirmed Fatal RTC's.  
Approximate average length of road closure 5.36 hours
- b) 2012 – 13 confirmed Fatal RTC's.  
Approximate average length of road closure 6.85 hours
- c) 2013 – 21 confirmed Fatal RTC's.  
Approximate average length of road closure 6.47 hours
- d) 2014 - 19 confirmed Fatal RTC's.  
Approximate average length of road closure 6.66 hours
- e) 2015 to date – 3 confirmed Fatal RTC's.  
Approximate average length of road closure 6.1 hours

Therefore based on this rough data the average closure times on our network in the last few years is approximately 6.25 hours. It is anticipated that with the greater use of the 3D Laser Scanners on the road network we will hopefully see a reduction in the average closure times.

We are conscious of the need to balance the economic cost of, and the disruption caused by, road closures as a result of serious or fatal road traffic collisions; with the necessary duty to investigate such matters on behalf of victims, the court or the coroner.

### Co-ordination of the response with highway authorities and other emergency services

It is agreed best practice across Wales that when investigating a fatal or a serious life changing collision, and the assistance of a collision investigator/ crime scene examiner is required, the road is closed. This is to protect the scene and maintain its integrity, and to allow for evidence to be gathered from the scene. There is then the vehicle recovery element and finally the repair/ assessment by a route engineer, before it is deemed safe to re open. This will vary greatly, depending on any number of factors, however the police work closely with highways authorities to set up effective diversionary routes, and other emergency services to ensure disruption is kept to a minimum.

### Use of screens

The route manager of SWTRA has been in liaison with the Highways agency and they are expecting delivery of a set of screens in April, these come on a trailer and consist of 30 screens, when placed end to end, cover a length of 75m. They will be stored at a service providers depot in Malpas, Gwent and will service the M4 from the toll gates to Junction 35. They will be on a 12 month trial, if successful, then a further roll out will be suggested to cover M4 west and A55. In 2012 they were priced at 22k, it is hoped that the trial will show a reduction/ prevention of secondary incidents caused by passing motorists concentrating more on the incident as opposed to what is in front of them.



Llywodraeth Cymru  
Welsh Government

We would like to make note that the 'Police Authorities' mentioned in your letter have been replaced by Police and Crime Commissioners.

We thank you again for the opportunity to contribute to the Public Accounts Committee inquiry into the value for money of Motorway and Trunk Road Investment, and hope this response will be useful to you.

Yours Sincerely  
Alun Thomas  
Chief Superintendent

20 March 2015

Public Accounts Committee  
Value for Money Motorway and Trunk Road Investment  
MTRI 21 – North Wales Fire and Rescue Service



**Gwasanaeth Tân ac Achub  
Fire and Rescue Service**

Simon A Smith  
Prif Swyddog Tân / Chief Fire Officer

Darren Millar AM  
Committee Chair  
Public Accounts Committee  
Cardiff Bay  
Cardiff  
CF99 1NA

Dear Mr Millar

### **Inquiry into value for money of Motorway and Trunk Road Investment**

Chief Fire Officer, Simon Smith has asked me as the Head of Operational Service Delivery to respond to your letter of 11 March 2015 on his behalf.

In respect of the above inquiry, the Terms of Reference stated in your letter appear to be broad enough to consider all of the issues and options available to ensure effectiveness and value for money. The North Wales Fire and Rescue Service has no further comment to make on this area.

In response to your query regarding the Service's approach to managing road traffic accidents I can confirm that all road traffic collisions attended by North Wales Fire and Rescue Service are done so with the nearest available resource to ensure that any casualties can be released in the shortest timeframe. Road traffic incidents that we attend are notified to us via the 999 emergency lines and by our partners in the Welsh Ambulance Service and the North Wales Police. Where notification comes from our partners in North Wales Police, this is done so at a very early stage due to the co-location of our Services in the Joint Control Centre at Crud Y Dderwen, St Asaph.

Where we attend incidents that involve the closure of the road, the Service is already in an informed position due to being on scene, which allows the routing of other appliances around the affected area to attend other incidents. This is carried out through direction from our main Control room.

The Service is not required to attend all road traffic collisions and where these result in the closure of a road, on these occasions the Service is informed by the North Wales Trunk Road Agency for the main A55 and the Local Authorities for minor roads. This enables the Service to instigate diversions should there be a requirement to mobilise an appliance elsewhere.

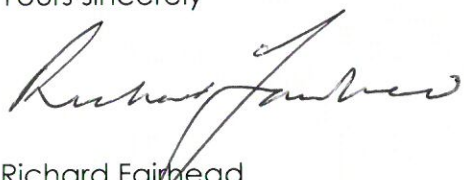
Whilst on scene and dealing with road traffic collisions, North Wales Fire and Rescue Service work closely with all partners to ensure that all actions are undertaken as efficiently as possible in regards to casualty extrication, making the vehicle safe and extinguishing fires. Where possible, crews utilise equipment on appliances to inhibit the view of the scene from passing motorists. Large salvage sheets are used for this purpose and generally cover the immediate sensitive area of the incident. The ability to screen off the whole area is unachievable by the Fire and Rescue Service and no specific equipment is provided for this.

Continued.....

The Service has a statutory duty to respond to road traffic collisions under Section 8 of the Fire and Rescue Services Act 2004, and responds in line with the guidance set within the *Fire and Rescue Service Manual, Volume 2, Fire Service Operations, Incidents Involving Rescue from Road Vehicles* (HM Fire Service Inspectorate Publications Section, TSO, 2007).

If you require any further information please contact me.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Richard Fairhead', written in a cursive style.

Richard Fairhead  
**Assistant Chief Fire Officer**