

Agenda – Pwyllgor yr Economi, Seilwaith a Sgiliau

Lleoliad:	I gael rhagor o wybodaeth cysylltwch a:
Ystafell Bwyllgora 1 – Y Senedd	Gareth Price
Dyddiad: Dydd Mercher, 13 Mehefin 2018	Clerc y Pwyllgor 0300 200 6565
Amser: 09.00	SeneddESS@cynulliad.cymru

Rhag-gyfarfod preifat (09.00–09.15)

1 Cyflwyniad, ymddiheuriadau, dirprwyon a datgan buddiannau

2 Yr Athro Nigel Smith – Cyflwr y Ffyrdd yng Nghymru (Drwy fideogynhadledd)

(09.15–09.45)

(Tudalennau 1 – 47)

Yr Athro Nigel Smith, Athro Rheoli Prosiectau a Seilwaith Trafnidiaeth, y Sefydliad Seilwaith Gwydn, Ysgol Peirianeg Sifil, Prifysgol Leeds

Dogfennau atodol:

Briff Ymchwil

EIS(5)–15–18(p1) Yr Athro Nigel Smith (Saesneg yn unig)

EIS(5)–15–18(p2) Yr Athro Nigel Smith – Gwybodaeth ychwanegol (Saesneg yn unig)



3 Panel peirianeg – Cyflwr y Ffyrdd yng Nghymru

(09.45–11.00)

(Tudalennau 48 – 61)

Ed Evans, Cyfarwyddwr ac ysgrifennydd, Cymdeithas Contractwyr Peirianeg Sifil Cymru (CECA Wales Cymru)

Keith Jones, Cyfarwyddwr, Sefydliad y Peirianwyr Sifil Cymru (ICE Cymru)

Stuart Davies, Cadeirydd, Cymdeithas Syrfewyr Sirol Cymru

Dogfennau atodol:

EIS(5)–15–18(p3) Cymdeithas Contractwyr Peirianeg Sifil Cymru (CECA Wales Cymru) (Saesneg yn unig)

EIS(5)–15–18(p4) Cyfarwyddwr, Sefydliad y Peirianwyr Sifil Cymru (ICE Cymru) (Saesneg yn unig)

EIS(5)–15–18(p5) Cymdeithas Syrfewyr Sirol Cymru

Egwyl (11.00–11.15)

4 Sefydliadau defnyddwyr ffyrdd – Cyflwr y Ffyrdd yng Nghymru

(11.15–12.00)

John Pockett, Cyfarwyddwr, Cydffederasiwn Cludiant Teithwyr Cymru (CPT Cymru)

Gareth Mole, Cyfarwyddwr Peirianeg, Bws Caerdydd

Sally Gilson, Pennaeth Ymgyrchu Sgiliau, Sefydliad Trafnidiaeth Cludo Nwyddau

Duncan Buchanan, Cyfarwyddwr Polisi, Cymdeithas Cludiant Ffordd

5 Papurau i'w nodi

5.1 Llythyr at Ysgrifennydd y Cabinet dros yr Economi a Thrafnidiaeth ynghylch Deiseb P-05-780 Ail-agor Gorsaf Carno

(Tudalen 62)

Dogfennau atodol:

EIS(5)-15-18 (p6) Llythyr at Ysgrifennydd y Cabinet dros yr Economi a Thrafnidiaeth ynghylch Deiseb P-05-780 Ail-agor Gorsaf Carno

6 Cynnig o dan Reol Sefydlog 17.42 i benderfynu gwahardd y cyhoedd o weddill y cyfarfod

7 Trafodaeth ar flaenraglen waith y Pwyllgor ar gyfer yr hydref

(12.00-12.15)

(Tudalennau 63 - 64)

Dogfennau atodol:

EIS(5)-15-18(p7) Blaenraglen Waith (Saesneg yn unig)

Ôl-drafodaeth breifat (12.15-12.30)

Eitem 2

Mae cyfyngiadau ar y ddogfen hon

Nigel J. Smith BSc, MSc, PhD, CEng, FICE, FCIHT, FAPM, FHEA is Professor of Project & Transport Infrastructure Management, Institute for Resilient Infrastructure, School of Civil Engineering, University of Leeds. After working with contractors and the Department of Transport, he returned to academia he has researched and published widely in the field of transport infrastructure. He is author or co-author of a number of key reports on transport infrastructure for the Organisation for European Co-operation and Development, for the European Parliament and for the UK National Audit Office.

Team Members: Associate Professor K Moodley and Lecturer D Dawson,

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This written evidence is supplementary to the evidence related to highway maintenance management presented to the Welsh Assembly Public Accounts Committee, PAC, Inquiry into Value for Money in Motorway and Trunk Road Investment in 2015. This evidence relates specifically to the main parts of the first and third bullet points in the Terms of Reference, namely:

- The extent to which the current approach to the funding and delivery of maintenance programmes is effective and provides value for money
- Whether Wales is adopting a sustainable approach to the maintenance of its road network.

In addition the importance of increasing the resilience of the carriageway will be emphasised to demonstrate the importance of improving the resistance and reliability of highways in relation to value for money and sustainability.

The PAC evidence, (1), identified a number of key issues. Firstly that road carriageways maintained in good condition will not be adversely affected by winter

weather or normal traffic loadings. Secondly that although pot holes in major roads or those posing a serious threat to road safety will need to be repaired, widespread "pothole" repairs are not cost effective. Finally a sustainable and resilient maintenance strategy based on asset management principles should be adopted. The concept that in future the inclusion of energy audit/ decarbonisation/ green behaviour as integral aspects of any maintenance policy remains valid.

The evidence will first update the current position relating to highway maintenance in England and in Scotland. The situation in Wales will then be considered in terms of Asset management, sustainability and resilience. Unfortunately the timing of Inquiry does not permit the effects of the most recent, harsher winter to be fully addressed.

Background in England

Highways England is performing well by world standards, (2). The Strategic Road Network, SRN is managed on Whole Life Asset Management, WLAM, principles. Local Authorities assist in the maintenance management acting as agents. Investment has been in terms of addressing the lack of data and of staff with the correct skills and competencies to implement these approaches.

The Highways Maintenance Efficiency Programme, HMEP, (3), continues to receive support from the Department of Transport. HMEP is concerned with facilitating the change to highways services, so that greater savings and efficiencies can be achieved and the demand for improved highway services can be met. HMEP seeks to connect the networks across the highways sector and provides tools and resources to help managers transform the delivery of highways through greater efficiencies. The activities have moved towards building best practice. The key principles from the programme include the following.

- Prevention is better than cure. This includes the development and embedding of Asset Management into the structure of decision making for repairs and maintenance. The key objective is to reduce the level of reactive maintenance; for example filling potholes.
- Organisations need to make correct and informed choices. These have to be about creating solutions for permanent repairs.
- There should be knowledge sharing between stakeholders. Competency should be developed at both managerial and technical levels.
- The public should be engaged. Customer satisfaction should be monitored, performance benchmarked and success or failure communicated transparently.

Looking to the future the HMEP makes a number of broader recommendations:

- Permanent repairs should be first choice.

- Define potholes and develop a risk based response.
- Co-ordinate street works and highways openings with utility companies, (4)
- Public/User satisfaction with highways should be monitored.
- Develop competent people. Understanding of skills and competency is relevant to future efficiency and productivity of repairs and maintenance.
- Create an environment for new material and technology to be developed and applied.

Background in Scotland

The single authority in Scotland has ensured the sharing of information and a common approach to highway maintenance based on asset management principles. Transport Scotland has developed its Road Asset Management Programme over the last decade to the production of a road asset management plan for trunk road in 2016, (5). By embedding the practice of asset management in its decision making Transport Scotland is now in a position to plan and identify works, manage risks, establish value for money and more importantly establish the short term, (1-3 years), and the long term, (up to 20 years), maintenance needs of the network. This has enabled Transport Scotland to develop more accurate spending plans of road management and investment. As part of embedding best practice Transport Scotland is currently in process of seeking ISO 55000 Asset Management accreditation, (6). The approach adopted by Transport for Scotland is seen as an exemplar by the World Bank.

As part of their ongoing development of roads asset management Transport Scotland has also investigated the impact on economic, environmental and social conditions related to road maintenance spend, (7). This allowed the modelling of impacts of various road maintenance spend scenarios which revealed that as carriageways deteriorate, vehicles incur more costs through higher fuel consumption, the journey times are longer, particularly on high speed roads, and emissions are higher.

Reductions in road spending also had wide impacts, (8). Remote communities had weaker communication and transport links. Pedestrians and mobility-impaired people were impacted by deteriorating footpaths. Cyclists were exposed to more physical risks. Communities in general felt less secure as the quality of the roads deteriorated. These studies had a major impact on the development of the road asset management plan in Scotland.

Welsh Trunk Road Network

The trunk road network in Wales comprises 1,576km of trunk road and 133km of motorway with an asset value of around £13.5bn. The total road network which includes all Class A, B and C roads is 34,489km. Highway maintenance is influenced by the traffic, the weather and the maintenance regime.

Routine maintenance is intended to keep highway infrastructure safe, serviceable and reliable. The key to providing value for money is performing timely and appropriate maintenance interventions which will limit the adverse effects on road users; prevent further deterioration; and minimise whole-life costs. Typical UK winter weather will not cause problems for a pavement in good condition and prevention is the best cure for serious deterioration. Nevertheless over time the condition of the pavement starts to deteriorate and its condition will worsen. Timely routine maintenance interventions are very cost effective and return the pavement to its original condition or better. Road pavements in poor condition can develop “potholes”. This is usually dealt with quickly and effectively should it occur on the motorway and trunk road network but on minor roads is a significant and sensitive issue for all road users. Patching these pot holes offers a short term fix but it does not improve the overall pavement condition, the repairs often deteriorate very quickly and the cost is estimated to be around 20 times the cost of routine maintenance, (9).

Maintenance trends in Wales: How can delivery & performance be improved?

There is evidence to indicate that carriageway maintenance management is a worsening problem in England, Scotland and Wales but no evidence to show Wales is not obtaining equivalent value for money from the maintenance and management of the motorway and trunk road network in Wales. Welsh funding on the carriageway has increased to £5.1m but there is still a significant shortfall, (10).

Transport network resilience has been acknowledged as a key area of attention across UK, particularly regarding the effects of climate change, extreme weather, and winter weather (11, 12 and 13). The term resilience includes more detailed components: resistance, for example physical protection from hazards; reliability, for example maintaining operations during and after hazards; redundancy, for example available back up to support systems and services; and, response and recovery, for example, organizational ability to achieve recovery. Currently, there is no public policy response to resilience outlined for Wales’ transport network.

Flooding from rivers, coasts, and surface water drainage and extreme winter weather are the major challenges for asset management and maintenance of the carriageway. Climate change will affect maintenance costs through increased erosion of the carriageway surface, and damage to the structural layers of roads eventually causing failure. Socio-economic impacts will be incurred through increased closure of roads due to flooding and remedial repairs. In terms of general flood risk, Wales has ~930km of its road network at risk from river or coastal flooding, (14). This includes 15% of “A” roads, 10% of “B” roads, and 20% of its Motorways but this excludes surface water flooding. Heavier precipitation events are predicted across the UK, (15), and in Wales, it is predicted that mean winter precipitation, during the 2020s, could increase by ~8%. One study suggests that a 1% increase in precipitation results in an approximately 1% impact on the design life for a carriageway with low traffic levels, (16).

Recognising this, there has been specific, HMEP, guidance on the management of highway drainage assets to help quantify the condition of assets, prioritize

maintenance, and assess the ability of assets to deal with present and future flood risks, resilience, (10). Precipitation changes could also affect groundwater flood risk causing problems in low lying areas close to the water table. Prolonged saturation of parts of the road network lead to the carriageway structure becoming less resistant to traffic loading, due to a weakening of the load bearing capacity, particularly in winter with additional frost-thaw action. If this is compounded with surface water on the road, the hydraulic pressure caused by vehicles forces water into cracks or weaknesses and accelerates the process of structural deterioration, and increases the potential for pothole formation (10).

From the Welsh Assembly' transport statistics (2003-2017) relating to winter service costs, which include gritting and other related costs, it was shown that in some years the annual maintenance expenditure was double that of other years. It would appear that winter service costs which are significantly higher than average coincide with winters that are significantly colder or wetter than average. In terms of the effects of the roads, the number of Motorways requiring close monitoring of structural conditions has been gradually increasing since 1995, "A" Roads do not show any direct trends, and the number of Local Authority road networks needing further investigation has reduced

Asset Management Maintenance Recommendations

It is impractical and financially unrealistic to create a completely resilient road network in the short term. Therefore a prioritisation of asset management based maintenance investment and intervention must be made to ensure resistance and reliability are controlled. Increasing sustainability and resilience should be a vital part of highway maintenance asset management programmes, good practice towards this includes:

- Establishing a policy response to transport network resilience and climate change based on up to date and accurate condition data
- Examining and applying recommendations from HMEP to make appropriate and timely maintenance interventions
- Strategically maintaining roads and drainage assets to a good standard;
- Monitoring maintenance trends across the entire network
- Development of a set of key performance indicators
- Developing a strategic asset management approach for Wales

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12. HMEP Local Highway Authorities Collaborative Alliance Toolkit. HMSO (2012)
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This written evidence is given in the context of our recent work in England for the National Audit Office on infrastructure management. In-depth research in Wales has not been conducted. This evidence relates specifically to the second and third bullet points in the Terms of Reference, namely:

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

Background in England

In England the Highways Agency, HA; soon to be corporatised as Highways England, is performing well by world standards, (1). The Strategic Road Network, SRN is managed on Whole Life Asset Management, WLAM, principles. The corporatisation of the HA will provide access to additional sources of funding from both public and private sectors, provide a known level of continuous investment for contractors, minimise the effect of working in single financial years and support a pipeline of priority maintenance interventions.

The HA utilise Local Authorities as agents. However for non-SRN roads the road maintenance funding is fragmented and non-hypothecated which results in a wide spectrum of good to poor maintenance in terms of cost effectiveness and a lack of data and of staff with the correct skills and competencies to use HMEP/WLAM approaches. Consequently many minor roads are in poor condition.

The HA system or policy regarding funding is not clear on the balance between capital and operational maintenance funding. However it is too early to tell if the recent budget cuts are sustainable without adverse consequences. Expensive, emergency "pothole" repairs are not cost effective and a sustainable and resilient maintenance strategy including energy audit/ decarbonisation/ green behaviour as integral parts needs to be adopted.

Welsh Trunk Road Network

The trunk road network in Wales comprises 1,576km of trunk road and 133km of motorway with an asset value of around £13.5bn. The total road network which includes all Class A, B and C roads is 34,489km. Highway maintenance is influenced by the traffic, the weather and the maintenance regime. Recent figures show that traffic increased from 10.08bn vehicle kilometres in 2008 to 10.14bn vehicle kilometres in 2013 (2). Road condition is reported through SCANNER surveys of the road surface and Deflectograph assessment of the carriageway condition. The frequency of the Deflectograph surveys has changed from a 3 year cycle to a 5 year cycle. In 2013 only 69 percent of the motorway network and 68 percent of the trunk road network were surveyed, (2). The winters over the last few years have been relatively mild. The maintenance requirement is that "no more than 8 percent of the trunk road and motorway network to require maintenance at any one time" (3).

Since April 2012 routine maintenance has been undertaken by two public sector agents: North and Mid Wales Trunk Road Agent (NMWTRA) and South Wales Trunk Road Agent (SWTRA). In turn these agents operate on a partnership basis with local authorities, to a varying extent, to deliver the service. The management and maintenance are mainly funded through the

motorway and trunk road Spending Programme Area (SPA), of the Welsh Government budget. Budget figures for 2014/15 indicate £71m in capital expenditure and in £61m revenue expenditure. Typically capital activities include planned renewals/refurbishment and structural renewals, improvements and replacements. Revenue activities concerns routine maintenance and reactive maintenance and severe weather work. Set in global terms most of the large industrialised economies typically spend about 0.4 percent of GDP on road maintenance (4). Under the continued pressures for improved infrastructure service levels and from the need to make public sector budget savings the maintenance of the highways has to make its contribution. The Minister for Economy, Science and Transport published a statement in June 2014 focusing on improvements and savings.

The EU's transport policy has been reviewed several times since its establishment in 2001 and it identified a number of roads that form part of Trans-European Networks- Transport (TEN-T). In 2012 this has been superseded by the revised comprehensive network. In Wales the roads in this network include the M4/A48/A40/A477 corridor to the ports of Pembroke Dock and Fishguard in South Wales and the A55 to Holyhead in North Wales, (5). In 2015 there is one EU Priority Corridor in the UK (partially in Wales); the Felixstowe to Holyhead link. (6)

The Cycle of Routine Maintenance

Routine maintenance is intended to keep highway infrastructure safe, serviceable and reliable. The key to providing value for money is performing timely and appropriate maintenance interventions will:

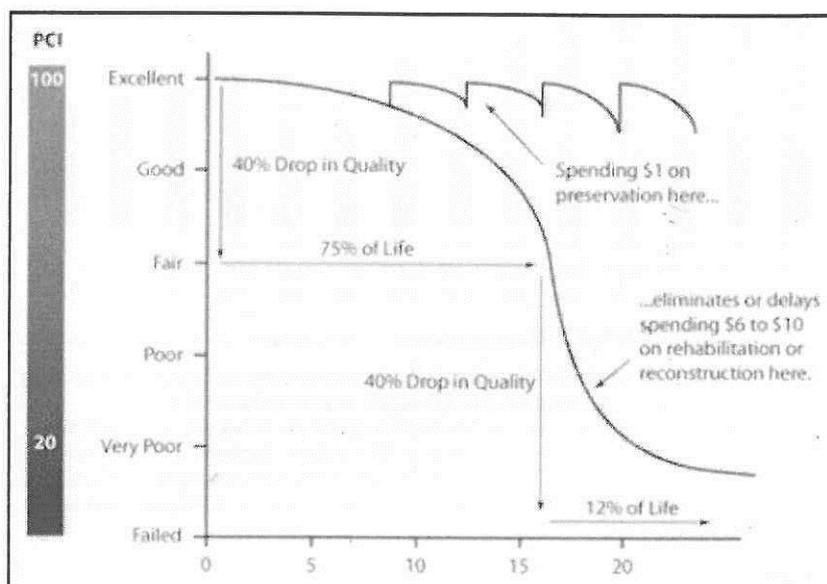
- limit the adverse effects on road users;
- prevent further deterioration; and
- minimise whole-life costs.

Intervening with planned routine maintenance at a suitable point during an asset's life can often restore it to its specified condition and hence extend the period of use between routine maintenance interventions. The importance of intervening at the right time for road repairs is paramount, in particular carrying out preventative maintenance to stop water penetrating the surface saves significant costs in later years." The Audit Commission reported that carrying out preventative maintenance during an asset's life costs less than a third of the price to reconstruct a road if it were allowed to fail", National Audit Office, (7).

Once constructed highways normally remain in service and require routine maintenance. If the regular cycle of routine maintenance is not adhered to and the period between interventions increases then the operational effectiveness of the asset decreases and the cost of maintenance intervention increases putting additional pressures on future budgets.

Recently constructed road pavements are appropriately designed and constructed with high quality materials and begin life in excellent condition. Typical UK winter weather will not cause problems for a pavement in excellent condition and prevention is the best cure for serious deterioration. Nevertheless over time the condition of the pavement starts to deteriorate and its condition will fall from excellent to good. Timely routine maintenance interventions are very cost effective and return the pavement to its excellent condition. This is shown in Figure 1 below (reproduced from the US Federal Highway Administrations Office of Asset Management, Pavements and Construction, (8)).

Figure 1: Deterioration Curves for highway pavements, Reproduced from FHAO, US (8)



If intervention is delayed the deterioration curve becomes increasingly steep and the cost and scale of maintenance required in increased in a non-linear manner. Under investment causing the delay of interventions leads to rapid and non-linear deterioration. Routine maintenance is replaced with carriageway reinstatement or even in extreme cases reconstruction of most or all of the layers which make up the carriageway. Extended delays in intervention will lead to a maintenance deficit being established with more roads offering lower operating standards and incurring higher maintenance costs in future. The asset value of the highway will also fall significantly.

Road pavements in poor condition can develop “potholes”. This is usually dealt with quickly and effectively should it occur on the motorway and trunk road network but on minor roads is a significant and sensitive issue for all road users. Patching these pot holes offers a short term fix but it does not improve the overall pavement condition, the repairs often deteriorate very quickly and the cost is estimated to be around 20 times the cost of routine maintenance, (9). This type of “worst first” strategy is very inefficient (10).

Highway Maintenance compared with Pavement Maintenance

Highways also contain bridges, tunnels, culverts, retaining walls and other structures as well as drainage, earthworks and signage that all requires routine maintenance – typically with very different design lives and very different operational periods. All elements of the highway require routine maintenance and most of the basic principles are common to but this evidence concentrates on the road pavement maintenance.

To be effective routine maintenance has to take place in a particular time frame, as shown by the deterioration curves discussed above. This requires an asset management plan.

The need for the Highways Maintenance Efficiency Programme Approach

The Highways Maintenance Efficiency Programme, HMEP, is a £6 million initiative, funded by the Department of Transport, to improve the efficiency of highways maintenance in England, using asset management principles, (11). The programme is concerned with facilitating the change to highways services, so that greater savings and efficiencies can be achieved and the demand for improved highway services can be met. HMEP seeks to connect the networks across the highways sector and provides tools and resources to help managers transform delivery of highways through greater efficiencies. The programme has ambitious goals to deliver 15% savings by 2015 and 30% by 2020 based on transforming the sector. The Asphalt Industries Alliance ALARM survey, (12), indicated that 80% of all local Authorities that responded to their recent survey were participating in HMEP.

HMEP is relevant in the context of Wales because there is recognition of the importance of well-maintained roads for economic prosperity. Roads that are fit for the future are the concern of government, business and communities. The HMEP programme is operating with a view to deliver improved roads in an environment of tighter budgets, rising costs and greater demands from consumers. HMEP seeks to enable and embed change at both a strategic and operational level. At the strategic level HMEP is seeking to engage with the leaders of local authorities including elected members, senior officers and practitioners to recognise the opportunities arising from change across the sector.

HMEP's strategic approach encourages new ways of organising and approaching delivery of services and include shared service models, scale economies and building capacity from within the sector network by sharing practice.

Asset management takes a long term, whole life approach to the management of new and existing highways assets. It allows for planned decision making rather than short term reactive decisions that inevitably cost more. HMEP has developed a number of guidance documents to support the development of asset management practices including a Lifecycle planning toolkit, (13). Where HMEP asset management has been adopted savings of 5 percent have been reported and in cases with more developed asset systems savings of 15 percent were reported. Asset management led decision making embeds a value and benefits achievement approach.

Collaboration is central to the change envisaged within HMEP. The approach is about creating the correct culture for opportunities for efficiency and improvement to flourish. HMEP encourages client/client as well as client/provider collaborations. It recognises that collaboration already exist and deliver improved performance but seeks to embed this culture. In support of collaboration it has developed a number of support guides and standards. These include; Maximising Client Provider collaboration toolkit for highways,(14), Local Authorities Collaborative Alliance Toolkit, (15), Shared Services Toolkit, (16), and Lean Toolkit, (17). One of the most significant outcomes is the reduction of disruption when highways and utilities collaborate on renewal and maintenance projects.

HMEP has developed guidance on procurement and contracts for highways. They seek to rationalise and consolidate documents that support delivery. These documents include the Form of Contract for Highways Maintenance Services, (18), procurement route choices toolkit for highways maintenance services, (19) and a supply chain collaborations toolkit, (20). Standardisation promotes greater certainty and consistency for clients and providers.

The ability to deliver improved efficiency is also dependent on the capability, competency and capacity of the participants. The new "Improving infrastructure delivery: project initiation routemap", supported by Infrastructure UK, (21), places a great deal of emphasis on the project management capability and competence of officials to deliver projects. It would therefore be relevant to consider a capability and competence audit within Transport Wales. Part of the work associated with HMEP also addressed competence and capability within organisations. It identified a lack of understanding of key decision making roles, an absence of whole life

management skills as well as project and collaborative management skills. To deliver efficient projects competent people are needed.

Maintenance trends in Wales

As in the rest of the UK the motorway network in Wales appears to be maintained to a high standard. There is no published evidence of increasing deterioration in the state of the motorway and trunk road network. However there is evidence that in recent years there have been fluctuations in the pavement condition with an improvement in the state of the asset from 2002 to 2010 but a significant downward trend in 2011 and 2012 back to 2002 levels. This is partially due to adverse weather conditions but other factors are likely to have been involved, including the recovery in vehicle kilometres, mentioned above, (11).

Spending on pot hole repairs continues. If all minor roads are included then last year some 156,00 potholes were filled, costing £7.4m but over £1.8m was paid out in compensation for damage and injuries caused by potholes (12).

How can delivery & performance be improved?

There is no evidence to indicate that there is a problem with the maintenance and management of the motorway and trunk road network in Wales. However like most aspects of the public sector budget there are pressures to delivery savings whilst not adversely affecting the levels of service. The “Do nothing” option, delaying intervention until a later time, can appear as a “free or cheap” option and without problems but this is not the true position. Further the strategy of “worst first”, usually applied to potholes is not cost or operationally effective.

Budget cuts must be considered in future and consideration given to how this can be achieved without detrimental effect of the network. From work with the HA and NAO in England, the following criteria have been identified to facilitate the improvement of the cost effective delivery of road network maintenance:

- Strategy must be based on HMEP asset management principles to make appropriate and timely maintenance interventions, (22)
- Staff must be trained appropriately
- Prioritisation criteria in line with the National Infrastructure Plan, (23)
- Up to date and accurate data on the condition of the network must be available
- Secure sustainable long term funding must be in place
- Development of a set of key performance indicators

It is likely that some initial investment is needed to ensure all these conditions exist before the savings in road pavement maintenance can be delivered. This will take time and it is likely that “savings” made by reducing funding before these conditions are satisfied will be detrimental and non-sustainable.

To provide a single strategic highways vision for Wales consideration should be given to the creation of a single entity that takes responsibility for the trunk and motorway network. This would facilitate a closer strategic delivery link between national infrastructure plan and a “new strategic roads agency”. The mechanisms for service delivery that follow can then be flexible.

In the longer term there are a number of maintenance options that deserve further consideration. One approach adopted in several countries around the world is the Toll-Operate Toll, TOT, system of road maintenance. Realistically this option is only viable where the motorway and trunk road network is wholly or partially tolled. Although unpopular, the option for variable, full-time, 24 hours for 7 days a week, tolling of the highway asset is likely to be introduced at some point in the future. TOT consists of transferring a length of road to the private sector, allowing tolls to be charged and using the dedicated income to upgrade, improve and maintain the road to a high standard for the duration of the PPP concession at which time it is either transferred back to the public sector as a toll road or re-contracted to a private operator.

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FAO Russell George AM

Dear Mr George,

25th April 2018

Cynulliad Cenedlaethol Cymru / National Assembly for Wales

Pwyllgor yr Economi, Seilwaith a Sgiliau/ Economy, Infrastructure and Skills Committee

Cyflwr y Ffyrdd yng Nghymru / State of Roads in Wales

Ymateb gan Gymdeithas Contractwyr Peirianeg Sifil Cymru / Evidence from the Civil Engineering Contractors Association (CECA) Wales

Thank you for the opportunity to provide evidence to the Economy, Infrastructure and Skills Committee on the State of Roads in Wales.

As a Chartered Civil Engineer and as Director for the Civil Engineering Contractors Association (CECA) Wales the state of roads in Wales has been a constant source of frustration for our sector and, therefore, I welcome your Inquiry. I also hope that it represents an opportunity to address the chronic under-investment in this sector and to explore ways of better utilising the investment that is made to deliver far greater value for money.

I note that your inquiry will focus on :

- The condition and approach to maintenance of the local road, trunk road and motorway network;
- Delivery of enhancement projects on the local road, trunk road and motorway network; and
- How far the approaches taken to highway maintenance and improvement are sustainable.

Accordingly, I have confined my response to these 3 areas.

1. The condition and approach to maintenance of the local road, trunk road and motorway network

The current condition of roads in Wales is plain for all to see but comes as no surprise given the lack of investment in roads maintenance despite increasing usage by motorists and the increasing regularity and severity of adverse winter weather conditions. Annual surveys of the network have highlighted the worsening condition of all categories of highway and, therefore, identification of the increasing problems is not the issue. Highway authorities receive regular reports from their highway engineers on road condition, relative priorities for action and the required levels of investment. However, proactive, planned maintenance schemes are rarely funded to anywhere

near reasonable levels as investment is diverted to other services such as health, social care and education. Whilst this is often understandable, given continuing public sector cuts, it is, nevertheless, an unsustainable situation and if left unchecked, will lead to critical failure in many areas. This will lead to detrimental effects on our economy and the ability of citizens to move around the country.

Whilst under-investment is the key factor it is exacerbated by funding mechanisms which further reduce value for money and impact the service to citizens. The limited investment which is available is often delivered in an ad hoc and haphazard way, largely as a result of annual under-spending within other departmental budgets which leads to the “mad-March” phenomenon. This occurs when “spikes” in investment are made in the highway network across Wales, largely during February and March, as Highway Authorities attempt to spend this money in a very small space of time to meet end of year budget timescales ie 31st March. This leads to 2 things :

1. A proliferation of traffic management schemes emerging across Wales for a short space of time impacting motorists and elongating journey times;
2. A poor use of funds as the civil engineering sector, particularly contractors and quarries, attempt to increase resources for a very short space of time to meet this “spike” in demand.

The first issue does nothing to minimise disruption to road users as the main objective is to spend this money as quickly as possible ie. improving the customer experience is not a prime objective.

The second issue of ad hoc and reactive funding and delivery of maintenance programmes for the local road, trunk road and motorway network in Wales does nothing to provide value for money as the private sector, largely comprising contractors and material suppliers such as quarries, cannot operate efficiently in dealing with such a huge demand over a short space of time. This leads to the workforce having to work longer hours than normal, with associated payment premiums for plant, labour and materials, and a consequential increase in costs to the public sector.

The solution to both the issues of poor value for money and motorist disruption will entail better programming of works and, hence, a need for investment over a much longer period. An ad hoc and reactive funding profile will never achieve this but the current annual funding profile, which is the best we have, still has severe limitations. A far more effective solution would be to provide funding over a minimum 3-year “rolling programme” so that Highway Authorities are able to programme works more effectively and the private sector has greater visibility of future work and can plan resources to make more efficient use of them. This will deliver greater value for money and a better experience for motorists. This is an approach adopted in a number of other countries.

2. The delivery of enhancement projects on the local road, trunk road and motorway network

The delivery of major enhancements and the ability to achieve value for money is affected by many factors, however, two factors, in particular, stand out :

- a. Procurement
- b. Speed of decision making.

I have also referred to the use of alternative forms of procurement in this section.

a. Procurement

Procurement in the public sector remains a contentious issue both for the procurer and the supplier. Welsh Government Procurement Policy is generally well accepted and we look forward to the outcomes of the current review of public sector procurement. The emphasis on social value is well accepted as is the focus on Welsh supply chains. However, implementation across Wales' Highway Authorities and their agents, particularly on smaller projects, remains highly variable with:

- i. "lowest price" tenders dominating along with an increase in open tenders;
- ii. a desire to transfer all-risks to the supply chains;
- iii. an increasingly bureaucratic process led by fewer people with relevant experience of the infrastructure sector; and
- iv. a diminishing level of engagement between suppliers and procurers.

i. Lowest price and "open" tendering

As public sector cuts continue to put pressure on budgets the drive for lowest price tenders has accelerated along with an increase in "open tenders". This allows an unlimited number of suppliers to bid, rather than a restricted process which involves pre-qualification followed by tendering to a smaller number of "pre-qualified" suppliers. Whilst this may appear to be a good way of increasing access to work opportunities, in reality, it creates a "free for all" and increases bidding costs whilst reducing the odds of winning work. In a sector which has so many variables and risks associated with it lowest price tendering, apart from very simple and straightforward projects, rarely produces good value for money.

ii. All-risk transfer

Transferring all risks to a supplier may appear to deliver a "belt and braces" solution where the procurer passes all risks to the supplier to avoid any further "comeback" should certain risks materialise. However, suppliers need to make allowances for these risks and effectively build these into their price - regardless of whether the risks materialise. In reality, there are risks which suppliers are better placed to manage, there are risks which procurers should retain as they are best placed to manage them and there are other risks which are best shared. This sophisticated approach is best termed "risk management" as opposed to the more blunt "all-risk transfer". Comparisons could be drawn with the holiday insurance sector where the insurance company offers to accept risks from the tourist who pays a premium. The more risk transferred to the company the higher the premium. If all risks are transferred then it's unlikely the tourist will travel as the premium will be too high. But if the premium is paid and no risks arise then the tourist receives no recompense - but has been reassured!

There are of course suppliers who will be prepared to take on all risks in an effort to win work (and keep workers in employment) and in some cases, if risks don't materialise, all is well. However, given the significant risks posed by major highway enhancements, this rarely happens with the potential for highly adversarial relationships, arbitration and, in some cases, liquidation and the loss of jobs. Is this the type of arrangement which should be advocated by the public sector?

iii. Bureaucratic processes

The complexity of tendering arrangements put in place by certain procurers is gradually transforming the process of obtaining infrastructure work in the public sector into an extremely expensive “artform” with the unintended consequences of increasing bidding costs (which will be passed back to the public sector in various forms) and gradually “shutting out” smaller and more local suppliers who are unable to deal with the complexity of these arrangements.

Whilst there clearly needs to be a process of differentiation this needs to be as simple as possible and certainly commensurate with the scale and value of work being offered. Expecting a supplier to put significant work into bidding for a small contract in competition with 10 or more other suppliers is unrealistic, does little to achieve value for money and even less to encourage smaller suppliers. It also reflects poorly on the capabilities of the procurer.

iv. Communication and Engagement

Communication and engagement during the early stages of a project ie pre-design/pre-tendering is essential to ensuring that all suppliers fully understand the requirements of a procurer and can ensure that their proposal or bid best meets those requirements. Clearly it needs to be done in a transparent way which respects the competitive nature of any future bidding but without this any procurer is at risk of receiving sub-standard bids which will effectively translate into poor value for money.

There are many examples in the public sector where this happens well. However, there are far too many occasions where it does not. This again reflects the highly variable nature of procurement practices across Wales where the better practices are not adopted more widely which impacts adversely on suppliers and the public purse.

For your information I have attached a copy of a report which CECA Wales produced in partnership with the Association of Consulting Engineers (ACE) and the County Surveyors Society (CSS) Cymru which comprises officers from Wales' Highway Authorities. Titled “Streamlining Public Procurement” it highlights a number of challenges and recommendations and proposes opportunities for the future.

b. Speed of decision making

Speed of decision making, or rather, the lack of it, is another factor in reducing our ability to achieve value for money through major highway enhancement projects. We can all appreciate the need for sufficient time to be given to consider the merits of any major infrastructure project, given that it impacts on the lives of so many either directly or indirectly. The infrastructure sector is well accustomed to the processes which need to be followed to take projects from concept to implementation and the associated statutory periods for consideration eg planning considerations, Public Inquiry, etc. However, the political process continues to stifle and hinder progress with consequent impacts on our economy and the lives of our citizens. The impacts on the infrastructure sector are significant as these delays :

- i. build more risk into projects which are inevitably passed on in the overall project cost;

- ii. affect continuity of employment, training and upskilling as contractors cannot indefinitely hold onto people as they await decisions; and
- iii. impact on business opportunities for local supply chains who may move elsewhere or simply collapse.

At a macro level studies by Arcadis (“The spiralling costs of indecision”) have demonstrated that an average delay of 1 month to a decision being made on a major highway enhancement in the UK National Infrastructure Investment Plan represents a £2bn loss in GDP to the economy equivalent to almost £50k for every minute of delay.

c. “Alternative” Forms of Procurement - in delivering major highway projects

Given the complexity and risks associated with major highway enhancement projects on the local road, trunk road and motorway network procurement practices have evolved over time to deliver greater value for money. The Welsh Government’s use of the **Early Contractor Involvement (ECI)** approach is an example of this and whilst it is unlikely that any approach will provide a perfect solution given the risks and complexities the use of ECI has been widely applauded by many as giving an optimum solution - as long as it is well understood and sensitively applied by competent people.

In essence this form of procurement allows procurers/clients to engage with a preferred supplier/contractor and designers at an early stage to help to develop a solution to a particular problem. This process recognises the complexity and risks associated with major infrastructure projects and allows all parties to “pool” their expertise to develop the “best/optimum” solution. Concerns are sometimes expressed that price competition can be lost as a main supplier is selected very early in the process although there are mechanisms such as target costs to help to regulate this.

The process can be frustrating for different parties if the target cost has to be adjusted to allow for unforeseen risks. However, if sufficient work is done early in the process to examine ground conditions, etc, then these risks can be mitigated. The upfront planning period, if used wisely, can also lead to better outcomes in terms of social value as support structures to facilitate employment and training can be established ahead of the commencement of construction.

The opportunities offered by the Welsh Government’s **Mutual Investment Model** need to be viewed in a different way as it has more to do with the means of financing a project or programme rather than as a method of procurement - although ECI may well feature as a means of delivering projects within this financing scheme.

3. How far the approaches taken to highway maintenance and improvement are sustainable.

Key Welsh legislation, such as the Well-being of Future Generations (Wales) Act 2015 and the Active Travel (Wales) Act 2013, have only relatively recently been introduced and it is too early to form a clear view of whether Wales is adopting a sustainable approach to the maintenance and enhancement of its road network. However, what is clear is that greater effort needs to be made to embed these pieces of legislation into the activities of those responsible for delivering highway services particularly into the processes for justifying and prioritising investment. Many will be

familiar with the economic-focus for justification and setting priorities and also the focus on motorised vehicles as being the primary beneficiaries of roads investment.

If the WFG Act is to be implemented in this sector then the 7 wellbeing goals and the 5 ways of working must be applied to any justification model and clear reasons set out for the decisions made. This would represent a significant departure from the traditional “cost-benefit” model where both costs and benefits are represented in monetary terms.

If the Active Travel Act is to start making an impact then the needs of cyclists and pedestrians need to be given a far higher priority in terms of any decision-making process.

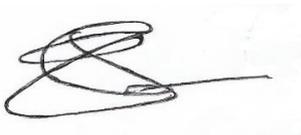
In both cases a significant culture shift will be needed amongst not only those who deliver the technical solutions but also those who deliver the investment needed to deliver the solutions.

If the sustainability of this sector is to develop in this way we would hope to see significant opportunities for Welsh suppliers in the infrastructure sector. We would hope to see a range of broader community benefits or social value accrue from the investment in infrastructure eg growing local supply chains, extending skills and training opportunities, direct benefits to local communities and employment opportunities for disadvantaged groups. Whilst the Welsh Government’s Procurement Policy Statements and associated guidance set out how much of this can be achieved there is an opportunity, via this new legislation, to develop multi-agency approaches to properly coordinate activities. This should be established in advance of any contract awards to proactively support those delivering infrastructure to maximise these wider benefits.

We would also expect to see greater engagement of the civil engineering contracting sector by procurers whilst assessing the implications for the procurement process from the Wellbeing of Future Generations Act. This could take the form of joint workshop involving highway authorities, the civil engineering contracting sector and the Future Generations Commissioner to test opportunities via the procurement process.

I trust that these views and observations are helpful to you and your Committee but please contact me should you wish to discuss these matters in greater detail.

Yours sincerely



Ed Evans
Director, CECA Wales/Cymru



17 April 2018

By email: SeneddEIS@assembly.wales

Dear Sir / Madam,

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The National Assembly for Wales' Economy, Infrastructure and Skills Committee inquiry into the State of Roads in Wales.

I am delighted to provide input into the Committee's inquiry into these issues. I note that you have split the inquiry into three sections and I have given my input accordingly.

- ***The current condition of roads in Wales and whether the approach to funding and delivery of maintenance programmes for the local road, trunk road and motorway network in Wales is effective, managed so as to minimise disruption to road users, and provides value for money.***
1. There has been a long term underinvestment into the local road network in Wales. Whilst the investment into the maintenance of the motorway network was probably sufficient, and the trunk road network less so, the local (Unitary Council maintained) roads have severely lacked investment. Latterly however, the conditions of parts of the Motorway and All-Purpose Trunk Road networks are showing signs of a need to carry out repairs – potholes on these roads are growing. This is of particular concern as these are generally high speed routes.
 2. Considering that the road infrastructure represents arguably the most important infrastructure in Wales, this underinvestment is particularly alarming. All sectors Wales the business, commercial and residential sectors rely and use the road transport network at all times of the day and night. It is vital that this underinvestment is changed and given the priority status it deserves.
 3. Although politicians across all sectors have very difficult decisions to make across competing demands for funds with priorities given to Health, Education and Social Services – statutory Services, it must be remembered that all of these services rely on safe, well maintained roads to access their services and property.





4. The poorly maintained roads have an adverse effect on some road users, not just damaging tyres and suspensions but affect ambulances who need to gain rapid, safe (and smooth) movements for their patients as well as some vulnerable users – cyclists and motorcyclists. Accidents involving these users can be tragic.
5. Regrettably, without a well-planned long term asset management system in place – where regular planned maintenance does not take place, roads deteriorate and require higher cost surfacing and reconstruction. Roads are particularly vulnerable to frost and icy conditions, small cracks that form through lack of maintenance or poor utility reinstatement widen from a process termed ‘freeze thaw’ where water ingress into a crack expands on the formation of ice. This is repeated during night / day – freeze / thaw and destroys the fabric of the roads – both carriageway and footways. Well maintained roads are sealed and do not allow the formation of cracks that water can access.
6. Whilst Councils could for example enable some one percent of their local roads to be resurfaced in a year, for a resident this would mean that on average each road is only resurfaced every one hundred years; thus residents are unlikely to ever see their local road resurfaced in their lifetime.
7. There is a well proven link between investment in the infrastructure of a country (Wales) and its economic growth. Wales must continue to invest in the road infrastructure. For every pound invested, there is a rate of return multiplier of 2.85%.
8. An immediate capital injection of funds to address the backlog of repairs is needed together with adequate funds for the future. Highway maintenance is not an elective service, it is a statutory duty.
 - ***Whether major enhancement projects on the local road, trunk road and motorway network are prioritised, funded, planned and delivered effectively, and provide value for money. Relevant issues include the implementation of the Early Contractor Involvement approach and the opportunities offered by the Welsh Government’s Mutual Investment Model.***
9. Wales needs and deserves an efficient and reliable road transport network. The lack of investment in a capital programme for the road transport network has led to a backlog of projects that need to be constructed. The change from the use of the former ICE 5th and 6th Editions of the Conditions of Contract to a non-adversarial type of contract e.g. the NEC 3 suite of contracts provides better value for money for clients with all parties to the contracts having a stake in a successful output. One of the main changes is the introduction of Early Contractor Involvement where the construction expertise of contractors working closely with designers achieves better, sustainable results. Each sharing in a common goal of a successful project delivered on time and to budget.





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10. There is a growing backlog of projects that are required to be completed across Wales. Examples include the A465, Caernarfon to Bontnewydd, Newtown By-pass as well as improvements to the A55.
11. The Welsh Government Mutual Investment Model (MIM) is a way to invest in public infrastructure developed in Wales. MIM has been designed by the Welsh Government to finance major capital projects due to a scarcity of capital funding. The MIM can support additional investment in social and economic infrastructure projects and help to improve public services in Wales. MIM schemes can see private partners build and maintain public assets. In return, the Welsh Government will pay a fee to the private partner, which will cover the cost of construction, maintenance and financing the project. At the end of the contract the asset will be transferred into public ownership. These types of funding are not widely used for road projects in Wales; they are a form of funding used for example for hospitals and have been widely criticised because of the high long term costs and non-sustainable approach.
 - ***Whether Wales is adopting a sustainable approach to the maintenance and enhancement of its road network in the context of key legislation such as the Well-being of Future Generations (Wales) Act 2015 and the Active Travel (Wales) Act 2013.***
12. All funding in Wales needs to be considered in the context of the Well-being of Future Generations (Wales) Act 2015. Wales needs to be adopting the principles of sustainable development and changing the modal split to more sustainable forms of transport and considering the requirements of the Active Travel (Wales) Act 2013. An excellent example of how this can be done is with the proposed M4 Corridor around Newport. Not only does the project address the long needed full efficient motorway access through the blockages / pinch points associated with the Bryn Glas Tunnels but the existing (to be former) motorway network can be changed to provide better bus/cycling/walking services.

On behalf of the Institution of Civil Engineers Wales Cymru I would like to express our thanks for giving me the opportunity to comment on these issues.

Yours sincerely,

Keith Jones

Director, ICE Wales Cymru

Notes:

The Institution of Civil Engineers (ICE) was founded in 1818 to ensure professionalism in civil engineering. It represents 90,000 qualified and student civil engineers in the UK and across the globe and has over 3,600 members in Wales

ICE has long worked with governments of the day to help it to achieve its objectives, and has worked with industry to ensure that construction and civil engineering remain major contributors to the UK economy and UK exports For further information visit www.ice.org.uk and www.ice.org.uk/wales



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Mae'r nodyn hwn yn rhoi ymateb i ymchwiliad Pwyllgor Economi, Seilwaith a Sgiliau Cynulliad Cenedlaethol Cymru i **Gyflwr y Ffyrdd yng Nghymru**, a hynny ar ran Cymdeithas Syrfewyr Sirol (CSS) Cymru.

I roi rhywfaint o gefndir, cymdeithas a chanddi aelodau o bob un o'r 22 o Awdurdodau Lleol yng Nghymru yw CSS. Mae'r prif bwyllgor yn cynnwys Cyfarwyddwyr a Phenaethiaid y Priffyrdd, Trafnidiaeth, Gwastraff ac Amgylchedd. Mae nifer o is-grwpiau o dan y prif bwyllgor gan gynnwys: rheoli asedau priffyrdd, perfformiad, meincnodi, gwastraff, traffig a pheirianeg. Mae CSS yn cydweithio'n agos ag WLGA, CECA Cymru a chyrff eraill ledled Prydain gan gynnwys ADEPT (Cymdeithas Cyfarwyddwyr yr Amgylchedd, yr Economi, Cynllunio a Thrafnidiaeth) ac UKRLG (Grŵp Cyswllt y Ffyrdd y DU). Mae CSS wedi ymrwmo i rannu gwybodaeth a datblygu arfer orau i sicrhau bod gwasanaethau'r priffyrdd, trafndiaeth a'r amgylchedd yng Nghymru yn cael eu darparu yn y modd mwyaf effeithlon ac effeithiol.

Mae'r ymateb hwn wedi cael ei strwythuro ar sail y tri phennawd allweddol:

Safbwyntiau ynghylch cyflwr presennol y ffyrdd yng Nghymru, ac a yw'r dull o ariannu a chyflawni rhaglenni cynnal a chadw ar gyfer y rhwydwaith o ffyrdd lleol, y cefnffyrdd a'r traffyrdd yng Nghymru yn effeithiol, yn cael ei reoli i amharu cyn lleied â phosibl ar ddefnyddwyr ffyrdd, ac yn darparu gwerth am arian;

Cyflwr y Ffyrdd

Mae CSS yn cydnabod mor bwysig yw rheoli asedau priffyrdd yn dda ac mae wedi bwrw ati'n ddiwyd i gywain a datblygu data ynghylch cyflwr y ffyrdd yng Nghymru. Mae CSS wedi darparu cyllid ar gyfer prosiect rheoli asedau priffyrdd gan ddefnyddio ymgynghorwyr allanol arbenigol dros gyfnod o sawl blwyddyn. Datblygwyd y prosiect hwn yn wreiddiol ar y cyd â'n cydweithwyr yn yr Alban (SCOTS) a chyfeiriwyd ato ledled y DU fel enghraifft o arfer orau. Mae CSS yn cydweithio'n agos â Llywodraeth Cymru i sicrhau bod arolygon rheolaidd a gwyddonol yn digwydd ar gyflwr y cefnffyrdd yn ogystal â rhwydweithiau ffyrdd A, B ac C. Mae pob Cyngor ar draws Cymru yn llunio Cynllun Rheoli Asedau'r Priffyrdd (HAMP) sy'n ddogfen hanfodol ar gyfer sicrhau dulliau effeithlon ac effeithiol o gynnal a chadw'r ased drutaf a phwysicaf a reolir gan y Cyngorau.

Mae tystiolaeth glir bod gwaith cynnal a chadw sylweddol yn aros i gael ei wneud ar yr holl ffyrdd (lleol, cefnffyrdd a traffyrdd) yng Nghymru. Cyfeirir at y gwaith hwn sy'n

aros i gael ei wneud yn adroddiad ALARM diweddar Cynghrair y Diwydiant Asphalt sy'n amcangyfrif y byddai'n costio dros £600m i godi'r seilwaith priffyrdd i safon dderbyniol. Dyma ganlyniadau cael rhestr hir o waith cynnal a chadw sy'n aros i gael ei wneud:

- Mae swmp y gwaith cynnal a chadw adweithiol yn cynyddu o gymharu â'r gwaith cynnal a chadw a gynllunnir. Mae hyn yn llai cost effeithiol o lawer ac felly nid yw cystal o ran gwerth am arian.
- Mae mwy o waith cynnal a chadw adweithiol yn arwain at fwy o amharu ar ddefnyddwyr y ffyrdd yn sgil bod mwy o waith ar y ffyrdd a bod ffyrdd yn cael eu cau'n ddirybudd.
- Nod ymdrechion cynnal a chadw adweithiol yw atgyweirio'r ffordd ac atal peryglon yn hytrach nag ymestyn bywyd y briffordd, ac felly gwneir llawer mwy o dasgau di-fudd a mynych sydd â chost ariannol ac amgylcheddol.
- Mwy o hawliadau gan drydydd partion yn erbyn yr awdurdodau priffyrdd a mwy o beryglon i ddefnyddwyr y ffyrdd.

Cyllid

Nid yw'r lefelau cyllido presennol yn ddigonol ar gyfer cadw'r ffyrdd a'r troedffyrdd mewn cyflwr sefydlog, heb sôn am wella'u cyflwr. Mae rhagamcanion llawer o Gynghorau ar gyfer cyflwr y ffyrdd yn dangos, ar sail y lefelau cyllido presennol, y bydd nifer y ffyrdd sydd mewn cyflwr gwael yn dyblu o gymharu â heddiw.

Ym mis Mawrth eleni cyhoeddodd Llywodraeth Cymru fuddsoddiad cyfalaf ychwanegol o £30m i awdurdodau lleol tuag at gynnal a chadw'r priffyrdd. Mae gwir angen amdano, yn enwedig ar ôl gaeaf sydd wedi cael effaith ddramatig iawn ar gyflwr y ffyrdd. Fodd bynnag, mae'n amlwg bod angen buddsoddi'n gynyddol a chyson yn y rhwydweithiau priffyrdd. Roedd y Fenter Benthycyca Llywodraeth Leol (2012/13 hyd 2014/15) yn darparu tair blynedd o gyllid i Gynghorau, sef oddeutu £50m y flwyddyn. Cafodd y buddsoddiad hwn effaith amlwg ar gyflwr y ffyrdd o ran y cyflwr gweledol yn ogystal ag ar y data ar gyfer cyflwr y ffordd, gan fynd yn groes i'r duedd o ddirywiad. Mae CSS o'r farn y dylai fod rhagor o gyllid ar gael, sy'n parhau o flwyddyn i flwyddyn, i Gynghorau ei wario ar gynnal a chadw priffyrdd. Cydnabyddir bod pwysau ariannol sylweddol ar y pwrs cyhoeddus. Ond byddai buddsoddiad cyfalaf parhaus o oddeutu £50m yn dechrau gwneud gwahaniaeth go iawn wrth fynd i'r afael â'r gwaith ar y priffyrdd sy'n aros i gael ei wneud.

Yn ychwanegol at y diffyg cyllid, mae anhawster sylweddol hefyd gyda setliadau cyllideb un flwyddyn, sy'n arwain at anawsterau gyda chynllunio, caffael a darparu gwaith cynnal a chadw priffyrdd. Gwaethygir natur 'sydyn' y ddarpariaeth am mai ar ddiwedd y flwyddyn y bydd rhagor o gyllideb cyfalaf ar gael. Croesewir y cyllid ychwanegol ond caiff y gwaith ei ychwanegu at gyfnod prysur dros ben rhwng Rhagfyr a Mawrth. Yn ogystal â'r her i gontractwyr a chyflenwyr gyflawni'r gwaith, mae anawsterau pellach o ran tywydd gwael ac oerfel sy'n llai addas ar gyfer gosod deunydd ar wyneb y ffordd. Mae'r llwythi gwaith ar adegau brig yn aml yn effeithio ar gystadleurwydd y tendrau – mae'r gwaith yn ddrutach yn sgil yr egwyddorion cyflenwi a galw.

Safbwyntiau ynghylch a yw'r prosiectau mawr ar gyfer gwella'r rhwydwaith ffyrdd, cefnffyrdd a thraffyrdd lleol yn cael eu blaenoriaethu, eu hariannu, eu cynllunio a'u cyflwyno'n effeithiol, ac a ydynt yn darparu gwerth am arian. Ymhlith y materion perthnasol mae Ymwneud yn Gynnar â'r Contractwr a'r cyfleoedd a gynnigir gan Fodel Cyd-fuddsoddi Llywodraeth Cymru.

Mae'r dull o flaenoriaethu prosiectau mawr wedi cael ei adolygu gan Lywodraeth Cymru yn ddiweddar ac mae proses asesu diwygiedig WeITAG (Arweiniad ar Arfarnu Trafnidiaeth Cymru) wedi cael ei lansio. Mae'r broses hon yn cynnwys dolen glir i Ddeddf Llesiant Cenedlaethau'r Dyfodol. Bydd effeithiolrwydd y broses ddiwygiedig yn dod yn amlwg maes o law. Fodd bynnag mae'n bwysig fod prosesau blaenoriaethu yn gymesur â maint y cynlluniau a ddatblygir. Mynegwyd pryderon dros y blynyddoedd ynglŷn â phrosesau asesu a phrosesau blaenoriaethu trwsogl tu hwnt ar gyfer mân gynlluniau gwella. Dylai'r asesiad ar gyfer cyfiawnhau a blaenoriaethu cynlluniau fod yn gymesur. Bydd CSS yn parhau i gydweithio â swyddogion Llywodraeth Cymru i sicrhau nad yw'r prosesau yn or-fiwrocraidd.

Mae'r cyllid ar gyfer cynlluniau trafndiaeth awdurdodau lleol wedi gostwng yn anferthol dros y blynyddoedd diwethaf – yn 2008 roedd oddeutu £120m o gyllid grantiau trafndiaeth ar gael, ond erbyn 2017/18 roedd hyn wedi gostwng i oddeutu £20m. Mae'r gostyngiad hwn yn y cyllid wedi cael effaith sylweddol ar ddarparu cynlluniau a nodir drwy'r Cynlluniau Trafnidiaeth Lleol. Cydnabyddir bod Llywodraeth Cymru yn ariannu'n uniongyrchol nifer o gynlluniau seilwaith mawr, trawsnewidiol ar y rhwydweithiau o gefnffyrdd a thraffyrdd, a bydd y rhain yn cael effaith sylweddol ar economi Cymru. Serch hynny, ni ddylent gael eu hariannu ar draul cynlluniau trafndiaeth lleol a fydd yn gwella diogelwch, hygyrchedd a'r dewisiadau o ran trafndiaeth ledled Cymru. Cred CSS fod angen cynyddu'r cyllid yn sylweddol ar gyfer gwelliannau ac ymyriadau a reolir gan awdurdodau lleol.

Mae'r dull presennol o setliadau ariannu o un flwyddyn ar gyfer prosiectau trafndiaeth lleol yn gwbl annerbyniol. Mae'r canlynol ymhlith heriau'r prosiectau hyn:

- Lleihau dyheadau – datblygir cynlluniau ar sail yr hyn y gellir ei gyflawni mewn blwyddyn yn hytrach na'r hyn sydd ei angen mewn gwirionedd.
- Natur bytiog y cynlluniau, lle mae'n rhaid torri cynlluniau mawr i lawr i ddarnau bychain y gellir eu cyflawni mewn blwyddyn gan arwain at lawer o gontractwyr a diffyg gwerth am arian.
- Diffyg cysondeb o ran adnoddau ar gyfer datblygu, caffael a chyflenwi'r cynlluniau gan arwain at gynnydd sylweddol mewn llwythi gwaith ar ddiwedd y flwyddyn ariannol. Mae hyn yn ei dro yn arwain at heriau o ran darparu cynlluniau a diffyg gwerth am arian gan dendrwy'r am fod cyfyngiadau ar adnoddau.
- Ansicrwydd ar gyfer timau cynllunio ac ymgynghorwyr awdurdodau lleol am nad yw'n eglur beth yw'r llwythi gwaith sydd ar y gweill. Mae hyn yn creu anhawster wrth recriwtio, datblygu a chadw staff proffesiynol, sy'n cael effaith ar yr economi leol.

Mae'n amlwg fod Llywodraeth Cymru yn gweld manteision setliadau cyllidebol sy'n para sawl blwyddyn gan ei bod wedi cyhoeddi cyllidebau pum mlynedd o hyd ar gyfer Trafnidiaeth Cymru sydd newydd ei sefydlu. Felly mae'n hanfodol fod Llywodraeth Cymru yn ymbellhau o setliadau cyllidebol un flwyddyn cyn gynted â phosibl. Byddai CSS yn annog newid y dulliau cyllido hyn ar unwaith, i gyllidebau treigl sy'n para sawl blwyddyn.

Mae manteision cryf iawn i ddulliau caffael sy'n seiliedig ar Ymwneud yn Gynnar â'r Contractwr o ran cyfuno gwybodaeth a sgiliau'r cleient a'r contractwr i ddatblygu'r datrysiad gorau. Mae'r dulliau hyn yn arbennig o fanteisiol ar gyfer prosiectau mawr cymhleth sydd ag elfen fawr o ansicrwydd. .

Mae'r Model Cyd-fuddsoddi yn enghraifft o bartneriaeth breifat a chyhoeddus lle darperir cyllid gan y partner o'r sector cyhoeddus a gwneir y taliadau gan Lywodraeth Cymru dros nifer o flynyddoedd. Mae angen ystyried yn ddwys a yw'r math hwn o gaffael a chyllido yn addas a gwir yn cynnig gwerth am arian. Mae angen asesu apêl trefniadau 'prynu nawr, talu nes ymlaen', ar sail y gost uwch o fenthycia y mae'r sector preifat yn ei phrofi, yn ogystal â rheoli risg. Cwestiwn allweddol yw faint o risg sydd yn y prosiect ac ymhle y mae modd rheoli'r risg orau. Golyga pob risg fod ansicrwydd ac mae ansicrwydd yn arwain at ragor o gostau. Dros nifer o flynyddoedd gall hyn ychwanegu costau sylweddol at brosiect a gyllidir yn breifat. Mae enghreifftiau cynyddol o drefniadau Menter Cyllid Preifat (PFI) a sefydlwyd yn y gorffennol ac sydd heb gynnydd fawr o werth am arian o gwbl.

Safbwyntiau ynghylch a yw Cymru'n mabwysiadu ymagwedd gynaliadwy tuag at gynnal a gwella ei rhwydwaith ffyrdd yng nghyd-destun deddfwriaeth allweddol megis Deddf Llesiant Cenedlaethau'r Dyfodol (Cymru) 2015 a Deddf Teithio Llesol (Cymru) 2013;

Deddf Llesiant Cenedlaethau'r Dyfodol

Mae egwyddorion Deddf Llesiant a Chenedlaethau'r Dyfodol yn rhai cymeradwy ond ar hyn o bryd mae'n amlwg bod angen gwneud llawer o waith i sefydlu'r egwyddorion a chyflawni'r dyheadau o ran cynnal a chadw a gwella'r rhwydwaith ffyrdd.

Mae ansicrwydd o ran lefelau cyllido a chyllidebau blwyddyn yn unig o hyd yn cael effaith ddifrifol ar gynllunio, dylunio a chyflenwi adnoddau. Mae hyn yn creu anawsterau wrth recriwtio, datblygu a chadw staff. Dylid cydnabod fod y sector adeiladu sy'n gysylltiedig â chynnal a chadw a gwella'r rhwydwaith ffyrdd yn darparu amrywiaeth eang o gyfleoedd gwaith yng Nghymru. Mae'r arian cyfyngedig a'r llwythi gwaith cyfnewidiol yn cynnig heriau go iawn o ran hyfywedd y sefydliadau cyhoeddus a phreifat sy'n gwneud y gwaith. Mae llawer o swyddi medrus, o safon sy'n hanfodol ar gyfer yr economi ledled Cymru ond gallai'r dulliau presennol arwain at sefyllfa lle mae mwy o weithwyr o du hwnt i Gymru yn gwneud y gwaith.

Mae economi gref yn hanfodol ar gyfer cenedlaethau'r dyfodol yng Nghymru ac ni ellir gorbwysleisio mor bwysig yw cysylltiadau trafndiaeth effeithlon a hwylus. Mae'n hollbwysig fod rhagor o fuddsoddiad yn cael ei ddarparu i gynnal a chadw a gwella'r

cysylltiadau trafniadaeth ledled Cymru i sicrhau fod y wlad yn gallu denu buddsoddiad a bod yn fwy cystadleuol yn erbyn gwledydd a rhanbarthau eraill.

Rhaid i drefn effeithiol o reoli asedau fod wrth wraidd y gweithgareddau ac mae sicrhau buddsoddiad priodol i'r rhwydwaith priffyrdd yn hanfodol. Cafodd cynlluniau rheoli asedau'r priffyrdd (HAMP) eu datblygu'n wreiddiol yn Seland Newydd a chydabuwyd nad oedd yn briodol gadael i asedau'r priffyrdd ddirywio a gadael y problemau i genedlaethau'r dyfodol. Os bydd gwaith sylweddol yn aros i gael ei wneud ar y priffyrdd bydd prosesau llai effeithlon ar waith ar gyfer cynnal a chadw adweithiol, sy'n gofyn am fwy o adnoddau (deunyddiau crai, llafur, tanwydd ac ati). Dyma agwedd sâl o ran cynaliadwyedd amgylcheddol. Hefyd, tariffir yn fwy ar ddefnyddwyr ffyrdd gan gynyddu tagfeydd ac effeithio yn ei dro ar yr economi a'r amgylchedd. Mae cyfle go iawn gan Gymru fynd i'r afael â'r mater hwn a dangos ymrwymiad go iawn i gyllido'r gwaith o gynnal a chadw'r priffyrdd mewn modd cynaliadwy.

Y Ddeddf Teithio Llesol

Cyflwynwyd y Ddeddf Teithio Llesol heb fawr o gyllid ychwanegol sy'n cynnig heriau sylweddol i'r awdurdodau sy'n gyfrifol am gyflawni'r canlyniadau. Mae amcanion y Ddeddf yn eglur ond ni fydd cyflawni'r nod yn dasg hawdd. Bydd yna densiynau lle bydd angen tynnu ymaith y lle a'r flaenoriaeth a roddir i gerbydau modur a'u rhoi i ffyrdd llesol o deithio. Mae sefydlu egwyddorion dylunio'r Ddeddf ym mhob cynllun yn gam cadarnhaol ond rhaid cydnabod bod rhagor o gostau yn aml yn dod yn sgil hynny. Dyma broblem benodol pan fo ond hyn a hyn o gyllid ar gyfer gwelliannau i drafniadaeth a gan fod yn rhaid cyfaddawdu er mwyn darparu'r cynllun.

Mae'r pwysau ariannol sy'n wynebu llywodraeth leol yn arwain at flaenoriaethu rhai mathau o weithgarwch yn hytrach nag eraill. Enghraifft o hyn yw'r gwaith o gynnal a chadw llwybrau beicio oddi ar y ffordd lle caiff gweithgarwch cynnal a chadw ei flaenoriaethu yn ôl y defnydd a wneir o'r llwybrau, sy'n golygu mai ychydig iawn o waith fyddai'n cael ei wneud ar lawer o lwybrau beicio. Fodd bynnag, os mai annog teithio llesol yw'r nod efallai y byddai angen cynnal a chadw'n fwy. Byddai hyn yn costio mwy ac yn gofyn am setliadau refeniw uwch ar gyfer cynnal a chadw.

Byddai CSS Cymru yn hapus i helpu gydag unrhyw elfen o'r ymchwiliad hwn ac rydym yn ddiolchgar am y cyfle i gyflwyno ymateb ar y pwnc hynod bwysig hwn.

Ken Skates AC,
Ysgrifennydd y Cabinet dros yr Economi a Thrafnidiaeth

8 Mehefin 2018

Ailagor Gorsaf Carno

Annwyl Ysgrifennydd y Cabinet,

Cefais lythyr gan Gadeirydd y Pwyllgor Deisebau, dyddiedig 18 Mai 2018, a gwelaf i chi gael copi ohono hefyd, ynghylch deiseb i ailagor gorsaf Carno.

Yn dilyn eich cyhoeddiad o ran Caffael ar gyfer Gwasanaeth Rheilffordd Cymru a'r Gororau a Metro De Cymru a wnaed ar 4 Mehefin, byddai'r Pwyllgor yn croesawu diweddariad o ran pa gynlluniau y bydd y fasnachfaint newydd yn eu darparu ar gyfer gorsafoedd newydd yng Nghymru, pa broses sydd yn ei lle i gymunedau ymgyrchu dros orsafoedd newydd yn gyffredinol, ac yn benodol yng Ngharno.

Dymuniadau gorau,



Russell George AC,

Cadeirydd Pwyllgor yr Economi, Seilwaith a Sgiliau



Mae cyfyngiadau ar y ddogfen hon