

**RURAL ECONOMY AND CONNECTIVITY COMMITTEE**  
**PRE-BUDGET/FINANCIAL SCRUTINY ON ROADS MAINTENANCE IN SCOTLAND**  
**SUBMISSION FROM INSTITUTION OF CIVIL ENGINEERS -SCOTLAND**

## **1 Introduction**

An efficient road network, which requires maintenance to operate at any reasonable level, is inextricably linked with the Government's goal of achieving sustainable economic growth. It provides a way for health services to effectively function and for goods to be moved around the country. The Institution of Civil Engineers (ICE) Scotland welcomes the opportunity to contribute written evidence to the Rural Economy and Connectivity Committee. Our response addresses the Committee's questions about road maintenance but also provides some introductory views on our findings which have developed over time together with some comments on the art and science of road maintenance. The importance of maintenance from local level to national infrastructure will be obvious to all and in particular the need to maintain the value of an asset. Arguably, maintaining an existing asset is more important than building new assets.

ICE is the independent voice of infrastructure and the leading source of expertise in infrastructure and engineering policy. The Institution is a global body with 92,000 members. Our 8500 Scottish members, who are drawn from public and private sectors and academia, design, build and maintain Scotland's vital transport, water, flooding, energy and waste infrastructure and educate the next generation of engineers. Our members are at the heart of road maintenance in Scotland. However, we are not a trade body. Our Royal Charter requires that we act in the public interest.

## **2 Previous Considerations**

Road maintenance issues have been a feature of ICE Scotland investigations and published comment for a number of years. Our previous views on road maintenance are summarized below:

### **2.1 State of the Nation Transport 2013 – Roads Maintenance**

*Improvements to the trunk road network must be set against the poor condition of local roads. The National Roads Maintenance Review has helped conditions to stabilise but the estimated backlog of repair work is estimated at £1.5bn<sup>1</sup>. Strategies to improve maintenance regimes and resilience against extreme weather are in place, but in practice financial constraints sometimes result in ineffective patch and mend repairs.*

*ICE Scotland believes that failure to act decisively risks prolonging the underlying problem. We therefore recommend:*

- *Action to identify and clear the backlog of repairs prior to a shift to a planned, proactive maintenance regime. This may have short-term costs but will deliver greater efficiencies and cost savings over the long term.*

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<sup>1</sup> Maintaining Scotland's Roads (Audit Scotland, 2013)

- *Councils should look for opportunities to pool resources to tackle maintenance across a wider geographical area. The recently announced Ayrshire Roads Alliance offers an example of the type of alliance that could be explored.*

## 2.2 State of the Nation 2015 – Transport

*Maintenance, and improvement, of the value of Scotland's road network should be made a statutory duty to prevent financial under-prioritisation in the face of continued pressure on Local Authority budgets, and to prevent further deterioration. A scheme of planned and preventative maintenance should be adopted. Consideration should be given to new ways of funding investment and maintenance – including hypothecation of VED and road user charging.*

## 2.3 State of the Nation Finance 2017 – Roads

*The Scottish Government and Local Authorities should commit to multi-year funding for roads. The Scottish Government should consider how replacements for VED and fuel duty could be used to fund road asset maintenance and should consider potential benefits from the regulation of Scotland's roads.*

## 2.4 Full versions of our previous reports can be found:

[https://www.ice.org.uk/getattachment/news-and-insight/policy/state-of-the-nation-2013-scotland/SoN-Transport-Scotland.pdf.aspx#\\_ga=2.175771810.101153443.1567596926-577318021.1567596926](https://www.ice.org.uk/getattachment/news-and-insight/policy/state-of-the-nation-2013-scotland/SoN-Transport-Scotland.pdf.aspx#_ga=2.175771810.101153443.1567596926-577318021.1567596926)

[https://www.ice.org.uk/getattachment/news-and-insight/policy/state-of-the-nation-scotland-infrastructure-2015/SoN\\_Scotland\\_INFRASTRUCTURE\\_2015\\_3.pdf.aspx#\\_ga=2.23399357.626160487.1567615436-1574506209.1567615436](https://www.ice.org.uk/getattachment/news-and-insight/policy/state-of-the-nation-scotland-infrastructure-2015/SoN_Scotland_INFRASTRUCTURE_2015_3.pdf.aspx#_ga=2.23399357.626160487.1567615436-1574506209.1567615436)

<https://www.ice.org.uk/ICEDevelopmentWebPortal/media/Documents/News/ICE%20News/State-of-the-Nation-Scotland-2018.pdf>

## 3 The art and science of road maintenance

A road comprises of the pavement (a complex structure on which vehicles travel), bridges and culverts, footways (on which pedestrians travel), drainage, earthworks, street furniture, lighting and driver information systems. These all need maintained and replaced when life expired.

The road also acts (with the exception of motorways) as a utilities corridor with consequent problems of access and repair.

Some comments on roads:

- Road pavements are designed with a finite life and to fail (i.e. the design envisages time related maintenance)
- Road pavements do not self-heal
- Filling potholes sorts the symptom not the disease of a lack of maintenance

- You can expect a new road to need resurfacing (top layers) every 10 years or so
- You can expect a new road to need full depth reconstruction every 30 to 40 years or so
- If you do not maintain the surface courses deterioration happens faster due to water ingress and lack of strength
- Poor utility reinstatements cause more and faster deterioration
- Maintenance of subsurface drainage is an essential part of pavement maintenance
- Damage to roads are significantly higher from heavier vehicles such as HGVs and buses
- Bridges and earthworks also require maintenance (they have long design lives but do not last infinitely)
- Imposition of bridge weight limits can restrict access
- Maintenance of street furniture and driver information systems is a public safety issue.
- Poor maintenance has an effect on amenity.

In Scotland outside the main urban areas roads are the only way for the people of travel.

There are a number of future maintenance issues that civil engineers will have to address including retro-fitting to adapt to climate change, provision of facilities to achieve carbon reduction and measures to provide environmental sustainability. These will require additional funding.

**4 How have recent spending decisions on roads maintenance affected the quality of Scotland's Roads, road users, businesses, public services and the economy?**

- A reduction in spending can only result in less maintenance and a poorer user experience
- Businesses will suffer due to an inefficient road network
- Roads may have to be closed on safety grounds and bridges will be subjected to increased weight restrictions (if you can't maintain it you can't retain it).
- Poor roads will result in increased insurance claims which exacerbate the funding problem
- Poor roads will detract from a sense of place
- Road deterioration gives a poor image to inward investors and suggests society doesn't care about its environment

**5 If spending on roads maintenance continues at current levels, what would the likely effect on the above groups?**

- The effects on all groups are negative
- The road network will continue to deteriorate
- The maintenance backlog will increase
- New materials and joint working practices may give efficiencies but will nowhere near solve the lack of funding issue
- The value of the public asset will reduce over time

- The value of the maintenance backlog if funded will have a significant impact on other public services but this will get worse if not properly managed.

## **6 How could any negative effects of reduced road funding best be addressed?**

- Understand that roads design assumes future maintenance
- Understand that roads need to be maintained
- Certainly, make efficiencies (but this alone will not solve the problem)
- Consider alternative funding models e.g. road user charging (this does not necessarily mean tolls)
- Consider hypothecation of VED and fuel duty for road maintenance
- Require plans to solve the backlog over time and institute a believable maintenance regime
- Be sure that reduced funding will not provide a solution
- Consider a change to a regulated asset base management as for Scottish Water.

## **7 Is the current model of funding and delivering roads maintenance, which is split between Transport Scotland and local authorities the most economic and efficient option?**

- Roads need to be properly integrated into other transport services
- There is little evidence that a major change will solve the problems; more funding is needed
- The lack of ring-fencing of funds for maintenance is a major issue
- Northern Ireland has a unitary road authority but the geography and scale is quite different to Scotland
- It has been argued that the former regions provided a more efficient solution (hence the argument for joint working). However, we doubt they were universally popular. (Highland Council is not too far removed in scale from the former Region.)
- The scale of some Local Authorities may be too small for efficient operation.
- Current lack of funding will have a long-term impact on skills levels whatever the option chosen
- The skills deficit can only have a negative impact on efficiency

## **8 Conclusion**

ICE is grateful for the opportunity to contribute our thoughts on this issue which have developed over some time. The key issue has to be the lack of funding and the need to find some way of ring-fencing funding for maintenance to ensure that the backlog is addressed and that there is a believable forward plan. This may require a completely new approach to funding.

One thing is clear: if we continue to do what we are doing then the situation can only get worse.

We would be happy to expand on any issue if requested.

