

Lessons to learn from Welsh roads policy

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Abstract

This briefing note reviews the development of roads policy in Wales. It demonstrates that the foundations for roads policy are built on the Well-being of Future Generations Act (2015). The Act has influenced strategy in relation to net zero carbon, land-use planning and the Wales Transport Strategy. The briefing demonstrates how these three strategies have integrated goals to deliver Welsh Government's ambitions. It summarises the four purposes and four conditions, now adopted as policy, for testing future road investment allocations within Wales, and how these arose from a roads review process. The briefing discusses the consequences for professionals in relation to planning and designing solutions and carbon assessments.

Keywords

Roads and highways, transport planning, sustainable development

1 Introduction

Welsh Government's (2023a) response to a review of road investment and policy states that road investment may take place for the following reasons:

1. To support modal shift and reduce carbon emissions.
2. To improve safety through small-scale changes.
3. To adapt to the impacts of climate change.
4. To provide access and connectivity to jobs and centres of economic activity in a way that supports modal shift.

These reasons form the current policy for road building. The first three circumstances recognise the climate crisis and the need to enhance road safety, and the fourth recognises the role of access and connectivity. These four principles are based on the first of fifty-one recommendations of the Welsh Roads Review Panel (Welsh Government 2023b).

By contrast, the Department for Transport (2024) has recently run a call for ideas for an Integrated National Transport Strategy, and the outcome is awaited. However, the extant Transport Investment Strategy (Department for Transport, 2017, para 3.1) states the following objectives:

- create a more reliable, less congested, and better-connected transport network that works for the users who rely on it;
- build a stronger, more balanced economy by enhancing productivity and responding to local growth priorities;
- enhance our global competitiveness by making Britain a more attractive place to trade and invest;
- support the creation of new housing.

These are very different objectives to the Welsh roads policy. The first three English objectives focus on performance in relation to the economy and competitiveness, and the fourth focusses on housing.

So, while the Department for Transport strategy has a one-dimensional utilitarian focus, how is it that the Welsh Government policy has developed its all-encompassing characteristics? The antecedents are in law, coupled with cognate planning and climate policy that are mutually supportive.

The Future Generations Act

A nationwide education and consultation programme, genuinely and humbly described by Davidson (2020), led to The Well-being of Future Generations (Wales) Act (Welsh Government, 2015). The Act requires public bodies to 'do things in pursuit of the economic, social, environmental and cultural well-being of Wales in a way that accords with the sustainable development principle'. The seven well-being goals and four ambitions are shown in Box 1.

Box 1 The goals and ambitions of the Well-being of Future Generations Act 2015

The seven goals

- A prosperous Wales
- A resilient Wales
- A healthier Wales
- A more equal Wales
- A Wales of cohesive communities
- A Wales of vibrant culture and thriving Welsh Language
- A globally responsible Wales

The four ambitions

- 1 Good for people and communities.
- 2 Good for the environment
- 3 Good for the economy and places
- 4 Good for culture and the Welsh language

Strategy, policy and guidance consequential on the Act

Subsequently, in 2021, Welsh Government published *Llwybr Newydd: the Wales Transport Strategy 2021*, *Net Zero Wales Carbon Budget 2 (2021-2025)*, and *Future Wales: the national plan 2040* (Welsh Government, 2021a, 2021b, 2021c).

The Wales Transport Strategy has three priorities that support the four ambitions of the Future Generations Act, and indicate how the ambitions of the Act are to be operationalised, as shown in Box 2. It sets out plans and targets to reduce the number of journeys by private cars and increase the number of people walking, cycling and using public transport. The Strategy also adopts a Sustainable Transport Hierarchy to guide decisions on investment in infrastructure. The hierarchy prioritises walking and cycling, then public transport, then ultra-low emission vehicles, and finally other private motor vehicles.

Box 2 The Wales Transport Strategy priorities and ambitions

Priorities

- 1** Bring services to people in order to reduce the need to travel
- 2** Allow people and goods to move easily from door to door by accessibly, sustainable transport
- 3** Encourage people to make the change to more sustainable transport

Ambitions

- 1 Good for people and communities.** Improving air quality; reducing noise; encouraging healthy active travel; increasing safety.
- 2 Good for the environment.** Reducing greenhouse gas emissions by reducing demand, supporting low-carbon infrastructure and through modal shift; and maintaining and enhancing biodiversity and increasing ecosystem resilience.
- 3 Good for the economy and places.** Using the Sustainable Transport Hierarchy; considering the built environment and public realm; creating a more sustainable system for distributing goods.
- 4 Good for culture and the Welsh language.** Helping the Welsh language to thrive; enabling people to enjoy arts, sports, and natural and cultural heritage using sustainable transport; protecting and enhancing the historic environment in transport interventions.

The Environment (Wales) Act 2016 requires Welsh Government to reduce emissions of greenhouse gases to net zero by the year 2050. Net Zero Wales states ambitions as follows:

- Reduce emissions from passenger transport by 22% by 2025 and 98% by 2050, through demand reduction, modal shift and uptake of low carbon technologies
- Reduce the number of car miles travelled per person by 10% by 2030, and increase the proportion of trips by public transport and active travel to 35% by 2025 and 39% by 2030

Box 3 indicates planned reductions in carbon emissions compared with the 1990 base year level of just over 55 million tonnes of carbon dioxide equivalent (MtCO₂e).

Box 3 Planned carbon reductions

- Carbon Budget 2 (2021 – 2025): 37% average reduction
- Carbon Budget 3 (2026 – 2030): 58% average reduction.
- 2030: 63% reduction.
- 2040: 89% reduction.
- 2050: at least 100% reduction (net zero).

Net Zero Wales plans to out-perform the second carbon budget because of the challenge of meeting the 63% reduction for the year 2030. The relevant Net Zero Wales Transport Policy objectives are shown in Box 4.

Box 4 Net Zero Wales transport related policy

- Policy 30: Enable people to work at or near to home, with the long-term ambition being to enable around 30% of Welsh workers to work remotely, at or near to home
- Policy 31: Increase trip mode share of active travel from a current estimated proportion of 27% to 33% by 2030 and at least 35% by 2040;
- Policy 32: Increase trip mode share of public transport from a current estimated proportion of 5% to 7% by 2030 and 13% by 2040;
- Policy 33: Reduce emissions from freight and logistics, supported by a multi-modal logistics and freight plan
- Policy 34: Land use planning

The Welsh Government published edition 11 of Planning Policy Wales (Welsh Government, 2021d) and Future Wales – the National Plan 2040 (Welsh Government, 2021c) in February 2021. Future Wales sets an aim for people to live in places where travel has low environmental impact and low emissions, with reduced reliance on private vehicles. The Future Wales outcomes are shown in Box 5.

Box 5 Future Wales outcomes for ‘A Wales where people live ...

- ...and work in connected, inclusive and healthy places
- ...in vibrant rural places with access to homes, jobs and services
- ...in distinctive regions that tackle health and socio-economic inequality through sustainable growth
- ...in places with a thriving Welsh Language
- ...and work in towns and cities which are a focus and springboard for sustainable growth
- ...in places where prosperity, innovation and culture are promoted
- ...in places where travel is sustainable
- ...in places with world class digital infrastructure
- ...in places that sustainably manage their natural resources and reduce pollution
- ...in places with biodiverse, resilient and connected ecosystems
- ...in places which are decarbonised and climate resilient

So, transport, carbon and land use strategies align, and each one is rooted in the goals and ambitions of the Well-being of Future Generations Act. The foundations are there, but how then should these strategies influence road policy?

Road policy

After the Wales Transport Strategy was published, Lee Waters, the then Deputy Minister for Climate Change, announced a review of planned expenditure on roads in Wales funded by Welsh Government. He said:

“Transport generates around 17% of all our emissions, so must play its part if we are to reach our target of net zero emissions by 2050. We need to move away from spending money on projects that encourage more people to drive, and redirect this money on maintaining our existing roads and investing in real alternatives.”

The objectives of the Roads Review were to ensure road investment is fully aligned with the delivery of the Wales Transport Strategy, to identify criteria for investment in roads and to use those criteria to make recommendations on road schemes which were, at that time, in the planning stage.

Box 6 shows the nine criteria used by the Roads Review Panel to judge individual schemes. The Roads Review Panel’s final report was published in February 2023 (Welsh Government, 2023b). As well as making recommendations on whether fifty-one road schemes at the planning stage should continue to progress, fifty-one recommendations were made about the future of investment in roads in Wales.

Box 6 Criteria being used by the roads review panel

1. Has the case for change been made?
2. Are the objectives of the scheme aligned with current policy?
3. Did the scheme development process examine all appropriate options?
4. What is the effect on carbon dioxide emissions?
5. Will the scheme be good for people and communities?
6. Will the scheme be good for the environment?
7. Will the scheme be good for places and the economy?
8. Will the scheme be good for culture and the Welsh language?
9. How robust is the case for the scheme to different possible futures?

Related developments include changes to Welsh Transport Appraisal Guidance (Welsh Government, 2024a) to ensure alignment to the delivery of the Wales Transport Strategy ambitions and priorities.

The UK Treasury Green Book (H M Treasury, 2022) defines value for money as being ‘a balanced judgment based on the Benefit Cost Ratio’ and that that judgement ‘is made in the context of the proposal’s role in supporting government policies and strategies of which it is a part, and its fit with wider public policies’ (p131). Hence, it now recognises that value-for money is possible only when expenditure is on policies and projects that support government aims and objectives. As a result of this revision the Welsh Government Chief Economist advised that ‘A project can only be shown to deliver value for money if it is consistent with the Welsh Government’s strategic objectives and values’ (Welsh Government, 2022b).

Reducing journey times is not a Welsh Government strategic objective. Hence, future estimates of benefit-to-cost ratios must be provided which both include and exclude travel-time savings.

The Roads Review Panel made fifty-one recommendations in total. In addition to the four principles noted in the introduction, in their second recommendation the Panel identified four conditions that new roads would need to meet as follows:

- The scheme should minimise carbon emissions in construction;
- The scheme should not increase road capacity for cars;

- The scheme should not lead to higher vehicle speeds that increase emissions;
- The scheme should not adversely affect ecologically valuable sites.

The remainder of the 49 recommendations are split into themes relating to strategic investment (Nos 3 to 14), carbon and well-being (15 to 25), policy (26 to 39) and technical appraisal and delivery (40-51).

Discussion

By accepting the four principles for road investment, Welsh Government recognises that future roads investment should not simply increase the demand for private car travel, but should instead invest in infrastructure that contributes meaningfully to modal shift. The reason for safety schemes being small-scale is to ensure they focus on specific issues and not, in the process, create improvements and increases in road capacity. Speed limits are noted as a primary tool for improving safety.

There are examples already of roads in Wales which perform an important function, but which have either already been affected by climate change (for example, a landslide affecting the A469 at Troedrihiwfuwch, Caerffili, with movements resulting from Storm Darwin, 2014, and Storm Dennis, 2020, and more recently the A487 at Corris, Gwynedd after Storm Darragh, 2024), or will soon be affected because of coastal erosion (for example, the A487 at Newgale, Sir Benfro). These examples demonstrate why road investment can be justified for climate adaptation.

Developments are one of the prime reasons why new roads may be required. The development needs to be consistent with Future Wales planning policy, and needs to maximise ‘the opportunity of access by sustainable means’ (Welsh Government, 2023a, supporting text to reason four for building roads). The emphasis in the associated four conditions is on minimising carbon emissions, not increasing road capacity, not increasing emissions through higher vehicle speeds, and not adversely affecting ecologically valuable sites. The principles and the conditions have guided the development of the other 49 recommendations.

Planning. To bring road scheme planning into line with the Wales Transport Strategy, the Panel’s recommendations suggested a change in orientation in the way that road schemes are conceived, planned, designed, appraised, and constructed. This reaches back into governance, which should be undertaken in a way that brings relevant bodies and experts together to facilitate a holistic understanding of the nature of the problem and the full scope of possible solutions that are in line with policy. Collaboration between local highway authorities, other agencies and the public is the key.

A good example of the changes in thinking may be seen in the Llanharan Link Road (Rhondda Cynon Taf Council, 2024). A pre-existing proposal was paused during the roads review and the revised proposal has since embedded enhancements for public transport and active travel into the solution. Consequently, there will be 30-35% less embedded carbon in the currently proposed infrastructure and the schemes footprint is smaller leading to no loss of ancient woodland.

Professionals need to recognise their role in conceiving and developing roads which align with the roads policy.

Design. In relation to highway design, the Panel made suggestions about changes in relation to the setting of design speeds and this will have consequences for the nature of a road in terms of horizontal and vertical alignment, as well as layouts to accommodate active travel. Embodied carbon needs to be estimated, and, more than that, methods developed to feedback carbon estimates into the design process so that the schemes with the least embodied carbon are selected. The state-of-

the art is developing, but feedback and re-design is not always undertaken in design processes in relation to carbon to the extent appropriate.

More recently, and expanding beyond roads to place-making more generally, the Hunt/Medi group (Welsh Government, 2024b) has identified further ways of enhancing the sustainability of developments by making more efficient use of resources. They found that designs often do not align with intended outcomes because of a lack of skills or funding.

Professionals therefore need to develop new skills to create suitable designs that meet policy objectives and minimise embodied carbon.

Carbon. Changes in carbon emissions result primarily from changes in volumes and speed of traffic, and induced traffic effects, which will vary widely from scheme to scheme. Some people may argue that the advent of electric vehicles (EV) will reduce emissions, but the issue is one of timing and the need to reduce emissions by 63% by 2030. EVs reduce carbon emissions in use (approximately on average 72 gCO₂equivalent per passenger kilometre compared with 126 g for internal combustion engines, and the EV figure depends on the carbon emissions of electricity generation), but have higher embodied carbon (42 g compared to 24 g, Parkin, forthcoming)..

There needs to be a wider recognition about the mechanisms required to meet the timescales for reducing carbon.

Conclusion

Welsh Government policy is strong and coherent across transport, carbon budgeting and planning. Welsh policy relating to road investment was developed in February 2023 resulting from the Roads Review Panel's recommendations and is a direct and natural consequence of the Well-being and Future Generations Act 2015 and the Wales Transport Strategy 2021. Recommendations for applying Welsh Government policy were developed by the Roads Review Panel, which at the same time made judgements on the fitness-for-purposes of 51 road schemes.

Declaration of interest

John Parkin was a member of the Roads Review Panel.

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