The need for a new look at the way transport investment is appraised will form an important element at the forthcoming Local Transport Summit in Cardiff – particularly given the Welsh Government's recent significant revision of the WelTAG framework, departing from the DfT's established TAG approach. In Scotland too, things are done differently. Derek Halden will be one of those speaking on this topic at the Summit and here he reviews recent application of the STAG framework and steps to get the economic and social assessment of transport schemes more in line with current priorities and values I

More Work is Needed on the Interactions between Appraisal and Investment- and explaining where the costs and benefits go

Recent articles in LTT are very helpfully setting the scene for a much needed discussion about transport appraisal. The Welsh review of WelTag in the context of travel time appraisal of lower speed limits, current challenges in appraisal of highway schemes by Professors David Metz and Phil Goodwin, the International Transport Forum report on Broadening Transport Appraisal, and recent changes to the DfT TAG approach to align with Levelling Up policy goals, all require an increasingly flexible appraisal toolkit. Esther Kurland's discussion of travel time and placemaking in LTT 857 is also very timely, setting the scene for travel time appraisal to manage local access in placemaking.

Nearly 20 years ago when the English Local Transport Plans (LTPs) were being refreshed with a new requirement for accessibility plans, one of the most controversial issues was the balance between national comparability, and local relevance of travel time changes. Although in England, the Central Local Working Group on Accessibility Planning (CLWGAP) sought to balance the local and national policy aims, and in Scotland we consulted widely on the appraisal rules in STAG, we missed the opportunity to build a wider professional consensus on these issues. I therefore look forward to the forthcoming Summit in Cardiff as part of the process to build a new consensus on future transport investment for Net Zero and Economic Growth, particularly with the impending programme to develop a new generation of LTPs.

Economic orthodoxy in transport appraisal is often blamed for the poor alignment of transport investment with transport policy goals. As the Truss/Kwarteng – led UK government recently found there can be a price to pay for scrapping Treasury orthodoxy, but there are many ways to comply with the spirit and detail of the UK Treasury "Green Book" requirements whilst improving transport appraisal practice. Over the last 20 years we have benefitted from the diversity of transport appraisal approaches developed in Scotland, England and Wales, showing that the Treasury rules can be applied in different ways. However, optimal deployment of the increasingly complex transport appraisal toolbox is frustratingly rare. It is far more common to see the tools being used as a key to open the gate to public money, than to plan an economically viable net zero integrated transport system.

When the International Transport Forum published their September 2022 report "Broadening Transport Appraisal" calling for a clear strategic narrative in investment appraisal, at first sight I thought they had put a picture of the Skye bridge on the front cover – to signal how controversial appraisal can be! On closer inspection the picture is of the Storseisundet Bridge in Norway completed in 1989, a few years before Skye Bridge, and in a similarly remote area. It is often at the periphery that weaknesses are revealed, and the Skye bridge revealed many serious issues for transport appraisal, that have become even more important over the past 30 years as transport and sustainable development approaches have evolved.

These issues include: failing to recognise and manage popular perceptions of investment, particularly when seeking to implement controversial projects involving road pricing; weak understanding of the social and geographical distribution of impacts and poor design for equity; weak analysis of the impacts on walking; poor social design in raising funding for projects and designing tariffs for travellers; and poor alignment between transport investment decisions and wider policy and placemaking aims.

A strategic case for investment

The design of Scottish Transport Appraisal Guidance (STAG) sought to learn from the Skye Bridge, assisted by reviews of what went wrong, not least the review of Transport and the Economy in 1999 by the Standing Advisory Committee on Trunk Road Assessment (SACTRA) The first full draft of STAG was published in 2002 and regular refreshes have been undertaken since then including most recently the January 2022 managers guide. The SACTRA review emphasised the need for a clear narrative about the strategic case for investment, and this has become increasingly central for every STAG appraisal as the guidance has evolved.

The greater focus on people and places, introduced in STAG, now appears to cover all of GB, given the recent changes made to DfT's TASM appraisal guidance as part of the Government's levelling up agenda, including the September 2022 TAG unit A4.3 – Place Based Analysis. The strategic case for transport investment must always be able to explain how people and places are affected, not least to demonstrate inclusive approaches consistent with wider economic and social goals.

Perhaps the most important change to the economic appraisal in STAG was to split the economic appraisal into two main areas, Transport Economic Efficiency (TEE) and Economic Activity and Location Impacts (EALI). For example, the 'efficiency' of the transport system might be reduced by lowering a vehicle speed limit in the TEE evaluation, but the economic benefits of the efficiency change might be small compared to the improved transport 'effectiveness' demonstrated in the EALI analysis supporting placemaking benefits, such as taming traffic in locations where people might be walking. In 2003, the new Community Planning Act also heralded new approaches to local governance where services needed to be designed around 'people' and 'places'. Just at the EALI appraisal covered these new placemaking goals, the new appraisal of access to opportunity under the accessibility criteria ensured that the needs of people were also being considered.

Not all economic issues should be monetised

In principle, EALI and access to opportunity benefits could be monetised, but most practice only monetises the TEE. Given Treasury's clear preference for monetisation where possible, the lack of monetisation of other factors leads to the perception that the Treasury Green Book is responsible for value of time being given undue weight in the cost benefit analysis (CBA) for allocation of public funds. Perhaps we should monetise more factors to offer a more balanced representation of transport programme benefits, for comparison with wider public spending programmes, but the far greater accuracy, sensitivity and usefulness of non-monetised approaches is more useful in project design. A 1996 report on the socio-economic impacts of the Skye bridge revealed that, if the CBA for the project had included in the analysis the journey times door to door, including walking (as it easily could have done), it would have yielded a large negative net present value, perhaps prompting further reflection about what improvements could be made to the scheme design.

Including only travel time in motorised vehicles in the CBA is still very common even today, despite impacts on walkers being important for the economy. It is common practice to assume that a proportionate approach to appraisal can consider walking impacts using metrics other than CBA, but this can lead to wildly inaccurate CBA assessments as observed for the Skye Bridge. Segmentation of walking markets is very complex, but this does not mean walking can be ignored in the economic appraisal.

Walking is the most common mode of travel, and without doubt one of the most important modes for the economy, so as a bare minimum we need appraisal to be far clearer about the status and transport significance of walking. The retail sector regards footfall (i.e. walking) as a key performance indicator, but it is rarely helpful to associate each walker with a rate of retail spend, since the reasons for walking down a high street vary by type of retail location. For similar reasons, we do not seek to include a value of time spent walking in CBA. For many walkers, time savings are neither a benefit nor a dis-benefit. There is a lovely dialogue between David Metz and Peter Mackie in the academic literature about the value of time (where I agree with both perspectives) entitled “Who Knows Where the Time Goes”. We should not depend on appraisals of time in walking assessments any more than we count the minutes when listening to the song of the same name where Sandy Denny sings “I do not count the time”.

Even if we could obtain good data on movement by walking by trip purpose from mobile phone tracking data, we would still need to recognise uncertainty about the value of time for each walker and type of trip for robust appraisal conclusions, a point of great importance to the Welsh Government in their appraisal of speed limits. Transport economic efficiency analysis as outlined in national government guidance should always be qualified as a partial treatment of the economics of transport investment. Economic impacts on walkers can be quantified in other ways such as using accessibility analysis.

Check appraisal findings using different metrics

The primary significance of the CBA in transport appraisal is that there is a presumption against public funding being invested in projects that do not have a positive benefit to cost relationship. In some countries such as the Netherlands this principle has even been written into law to restrict the scope for political and popular perceptions of transport benefits to trump value for money considerations. This can lead to a perception that all that really matters is the CBA, but research has consistently observed the weak relationships between the CBA analysis results and actual investment decisions.

Developing a narrative to inform the popular perceptions and political goals has become an increasingly important part of appraisal, and the move away from reliance solely on the CBA towards multi-criteria analysis has been extremely positive. In STAG we sought to include as much of the flexibility offered by the 2002 Treasury Green Book revisions as we could: shifting emphasis from mobility to accessibility; requiring a clearer narrative about the purpose of the investment for people and places, demonstrating fairness; and specifying a clearer more transparent approach to reporting to facilitate better engagement with communities.

Is transport investment fair?

Perhaps even more controversial than the omission of walking from the Skye bridge appraisal, was the inequitable distribution of the benefits. Local people who needed daily access between the island of Skye and the mainland paid far more under the bridge tolling regime, but tourists paying perhaps only once in their lifetimes for a crossing, yet who created the need for the bridge due to peak summertime congestion, actually paid less after the bridge was built. As the 1996 socio-economic study observed, a smart tariff design could have easily paid off the costs of building the bridge whilst ensuring benefits were fairly distributed. Everyone would have been a winner if the tariff had been a £10 annual season ticket for every person who crossed the bridge.

Transport appraisal must consider issues such as tariff design, but even today public transport fares and parking charges are very poorly represented in many analyses. Many transport problems can be solved with some simple changes to tariff design, such as car parking charges or road pricing on key local road links, but representing the effects of these changes on all local people and businesses demands a far more segmented approach to analysis than is usual practice.

Land use development is the biggest road builder

In the 20 years since Scotland adopted STAG, the guidance has not been anything like as influential over transport decisions as those of us involved in preparing it had hoped. On the positive side, the decision to apply proportionate STAG appraisals to all transport investment, including as part of development planning, and embedding the STAG requirements in national planning policy guidance, has seen good transport appraisal practice applied to a much wider range of transport investment, such as the roads and footpaths to new housing. The recent change to new Scottish national planning frameworks further consolidates this integration, with NPF4 placemaking principles being part of the January 2022 updates to STAG.

However, most Scottish Government transport investment over the last 20 years has been attributed to 'political decisions' rather than evidence based in STAG principles. The absence of a clear narrative on road building has been a particular problem, and I still regret failing to persuade my Scottish Executive colleagues in 2002 to include the road network coverage criterion alongside walking and cycling network coverage and public transport network coverage (though I am sure that the civil servants were right about the risks and optics of doing so). The bulk of Scottish transport investment has followed political narratives to 'convert routes such as the A9 and A96 to dual carriageway' or to 'complete the central Scotland motorway networks', with the STAG appraisals retrofitted to the political decision, rather than leading the public dialogue.

Clear metrics for road network coverage assist comparative analysis with public transport network coverage, such as including comparisons of the network coverage in development planning assessments. Similar clarity could be added to national programmes, such as the relative benefits of investment in motorway and dual carriageway network coverage when compared to rail, bus, walking and cycling network coverage. If concepts such as motorway network coverage matter to business, as evidenced by the multitude of statements in business marketing literature about access to the motorway network, then it should matter to transport planners to lead a better informed debate about the realities of competitive locations and transport supply. Rail, bus, and safe walking and cycling network coverage are often much more important than road network coverage to people and businesses, but transport planners will only gain support from people and politicians if we explain our analysis and show it working successfully in real situations.

Climate Change

The proposed Welsh changes to WelTAG rightly seek greater clarity in appraisal of the contribution that proposed transport projects make towards net-zero commitments. In the January 2022 manager's guide to STAG, Transport Scotland promise more detail soon on the appraisal of these issues. However, this new manager's guide appears to breach a core principle of the original 2003 STAG approach, that we would not seek to define a 'transport economy' and separate it from the wider economy. Recent changes to STAG now include appraisals of 'wider economic benefits' imported from the DfT TAG guidance, giving the unhelpful impression that planning of the transport economy can be separated from planning the wider economy in transport appraisal.

My perspective is that transport will never be sustainable if we seek to separate the transport economy and the wider economy. The investment a resident makes in purchasing a car, or the discount which an online retailer offers purchasers for a slower delivery of a parcel to reduce transport emissions, are critical to the economics of climate change and transport. Appraisal should be looking at how to resolve the different valuations between national policy decarbonisation targets, and user willingness to pay and willingness to accept valuations. The partnerships between government and wider society on decarbonisation will not be assisted by technocratic loyalty to value of time appraisals. The 2003 version of STAG required economics to be reported for both citizens and consumers, consistent with Green Book Guidance, and better assessments of access to opportunity and placemaking, as discussed above, continue to be needed.

If we want to change the speed limit on more roads to 20mph, or widen coverage of low traffic neighbourhoods, we should ask if we have presented the evidence in a way that clearly demonstrates who are winners and who are losers, so that people can see how their needs have been considered. People, businesses and organisations will buy transport in a way that suits them, yet transport professionals behave most of the time as if they are only planning for citizens and not also implementing transport policy within marketplaces for consumers. Planning for both citizens and consumers is important if we want our policies to succeed - particularly for more controversial demand management approaches. The reflections on the failure to implement road pricing in Edinburgh and Manchester nearly 20 years ago, suggest how we might offer more consumer choice in future road pricing design (summary herehttps://www.icevirtuallibrary.com/doi/abs/10.1680/tran.2008.161.3.149)

Perhaps transport planning's greatest current challenge now is the design of the popular approaches to managing investment in net-zero transport. Climate change plans only make sense if backed up with viable – and understandable - implementation approaches. To achieve this, the appraisal of publicly acceptable business models, particularly for non-traded carbon, is particularly pressing. Transport appraisal must help all who spend money on transport, from a car purchase to a major rail project, to make better choices.

Possibly the most controversial aspect of the Skye Bridge was the cost of money borrowed from the Bank of America to build it. Until the mid 20th century, we used to manage stakes in transport investment much better. Much of our existing transport infrastructure was crowdfunded through public subscription, because people and businesses believed that investing in better transport was important for the success of the places where they lived and worked. Transport appraisal must be designed to help communicate the benefits of sustainable transport solutions with all of the people who might pay for and use the new infrastructure and services. A good start would be if our public authorities invested more of our pension funds in our shared sustainable future. One of the most important questions for future transport appraisal could be to identify what each investor need to know to make better investment decisions. What better way could there be to build a sustainable future than for everyone with a stake in transport to invest in it, informed by simple, understandable, relevant, timely appraisal.

Derek Halden founded the transport system design business DHC (https://dhc1.co.uk/) in 1996 and the data and technology subsidiary Loop Connections (https://www.loopconnections.org.uk/) in 2011 to make connections between people, places and policies, following 10 years in a range of policy, research and project management roles in the civil service with the Scottish Office and TRL. He is also secretary of Scotland's transport think tank (https://stsg.org/) and a former Scottish Branch Chair of the Chartered Institute of Logistics and Transport.