Reforming the Green Book to achieve better outcomes from infrastructure investment: ICE discussion paper

Executive summary

If infrastructure is to play a key role in 'levelling up' the UK and creating better outcomes for society and the environment, it stands to reason that the appraisal and evaluation processes used to assess projects and programmes should be positioned to enable this to happen.

The UK, through HM Treasury's Green Book, is widely viewed as having among the most mature frameworks for assessing, appraising and prioritising infrastructure investment.[1] However, concerns over unequal investment levels throughout the country have resulted in the government conducting a review of the Green Book, potentially leading to a re-evaluation of the methodology and guidance that determines what gets built where, who benefits and how they benefit.

With £600 billion earmarked for spend on infrastructure by the end of the decade,[2] the infrastructure sector is well placed to leverage investment to create additional social and environmental value and help rebuild local economies affected by Covid-19.

As outlined in ICE's report *Covid-19 and the New Normal for Infrastructure Systems*, society will expect to get more from infrastructure to support societal resilience and ensure the whole-life benefits of infrastructure investment are spread as widely as possible.[3] This shift will drive a requirement for infrastructure to be recognised as a system, rather than as a collection of projects.

The same report found strong support for the economic recovery from Covid-19 being a green one and for projects, programmes and investments across the infrastructure sector to be evaluated and prioritised on this basis.

The review of the Green Book therefore presents an opportunity for it to become more responsive to systems-wide thinking, as well as better able to address the long-term challenges that the UK faces.

This paper provides insights about the operation of the Green Book as it is applied in the infrastructure sector, and questions for consideration regarding how Green Book reform can achieve better outcomes from infrastructure investment. It analyses the Green Book's application and effectiveness in the sector, and examines existing proposals that have been put forward for reform. The paper has been informed and developed through discussions with ICE members and Fellows, academics, think tanks and industry stakeholders and available published evidence.

[1] KPMG International (2016) Assessing the True Value of Infrastructure Investment; Institute for Transport Studies, University of Leeds (2013) International Comparisons of Transport Appraisal Practice
[2] Infrastructure and Projects Authority (2018) Analysis of the National Infrastructure and Construction Pipeline
[3] ICE (2020) Covid-19 and the New Normal for Infrastructure Systems

Overview

The National Infrastructure and Construction Procurement Pipeline for 2020/21 contains 340 individual procurements across 173 projects and 95 programmes. Economic infrastructure's contribution is worth around £29 billion.[4] Each proposal initiated or jointly funded by the government will go through an appraisal and evaluation framework to assess the costs, benefits and risks. Companies in the regulated asset sectors are issued with guidance from regulators for resource management and procurement. All are directed by central Treasury guidance contained within the Green Book.

The Green Book exists because the normal methods of financial appraisal used by the private sector for deciding where to invest cannot usually be applied in the public sector – revenues rarely cover costs. The process assesses a proposal's overall impact and worth in comparison to its expected economic costs (which are wider than funds consumed). It also aids evaluation of competing options and of how to carry out a proposal, and allows comparison between competing priorities. Appraising and evaluating projects and programmes thus aims to make best use of limited public sector resources and improve decision-making. Properly applied, this process should result in infrastructure network choices which meet policy objectives and deliver best value.

Economic tools, such as cost-benefit analysis (CBA), are widely used to value infrastructure.[5] But increasingly, wider economic, environmental and social costs and benefits have been recognised as important to value in order to better inform decision-making.[6] The processes for analysis and evaluation continue to evolve and the government is currently conducting a review, reflecting concerns that the present system has led to investment being overly concentrated in the South East of the UK. The ongoing re-evaluation of processes and methodology therefore impacts on what gets built, who benefits and how.

The Green Book, its purpose and application in the infrastructure sector

Historical development of the Green Book

The Green Book is guidance issued by the Treasury on how to appraise policies, programmes and projects. It also sets direction on monitoring and evaluation before, during and after implementation. It has been in operation for nearly 50 years, with major revisions to the main document in 1997,[7] 2003,[8] and 2018.[9]

Changing the Green Book is often seen as a 'silver bullet' to deliver on pressing political imperatives. For example, New Labour sought to expedite the planning of major projects and to minimise delay,[10] whereas the Coalition focused on option appraisal, hoping to improve value for money.[11] More recently, environmental metrics have become more prevalent and have been incorporated into appraisal methods.[12] Current political focus is directed towards widening the geographical benefits of infrastructure investment so that all areas of the country can 'achieve their economic potential'. A review was announced at the Spring 2020 budget.[13] ICE would like to see the review go further and consider the 2050 net-zero greenhouse gas emissions target in updates of the Green Book.[14]

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[4] Infrastructure and Projects Authority (2020) Analysis of the National Infrastructure and Construction Procurement Pipeline 2020/21
[5] Institute for Government (2107) How to Value Infrastructure
[6] ICE (2019) Enabling Better Infrastructure: 12 Guiding Principles for Prioritising and Planning Infrastructure
[7] Parliamentary Office of Science and Technology (2002) Post Note: Appraising Major Infrastructure Projects
[8] HM Treasury (2003) The Green Book
[9] HM Treasury (2018) The Green Book
[10] Parliamentary Office of Science and Technology (2002) Post Note: Appraising Major Infrastructure Projects
[11] National Audit Office (2011) Option Appraisal: Making Informed Decisions in Government
[12] Natural Capital Committee (2020) The Green Book Guidance: Embedding Natural Capital into Public Policy Appraisal
[13] Gov.UK (2020) Budget 2020
[14] ICE (2020) State of the Nation 2020: Infrastructure and the 2050 Net-Zero Target

Design of the Green Book

The Green Book sets out a framework designed to ensure transparent, objective and evidence-based assessment and advice to support ministerial decision-making about projects, programmes and policy proposals on the principle of making best use of limited resources. The framework is intended to inform key stakeholders, achieve best value for money and enable consistent decision-making across government.[15] Economic infrastructure proposals are supported by supplementary guidance, like Valuing Infrastructure Spend.[16]

The guidance is applicable to all proposals which concern public spending, taxation and changes to regulation or the use of existing public assets and resources.[17] The Green Book sits alongside other guidance documents, including the Aqua Book,[18] the Magenta Book[19] and Managing Public Money.[20] While some guidance, such as the Discount Rate used to compare costs and benefits over time, is mandatory, departments and agencies often issue their own guidance, based on the Green Book, following their own processes and policy statements.

The Five Case Model – project and programme business cases

The Green Book is used to assess policy, business cases and impact assessments. Most economic infrastructure proposals are analysed using a business case under the Five Case Model. This model examines the scope, planning and cost justification for a project or programme from the outset. The process should aide key stakeholder understanding of the proposal and clearly outline its scope and viability.[21] The model has, as the name suggests, five steps to the process of evaluation and appraisal:

- the strategic case
- the economic case
- the commercial case
- the financial case
- the management case.

Each case has a specific purpose: for the strategic case, this is to make the case for change and demonstrate compatibility with other proposals. The other cases outline: whether best value to society is met; the viability of a procurement process and the possibility of public/private cooperation; affordability and funding mechanisms; and arrangements for the delivery, monitoring and evaluation of the scheme.[22]

A business case will be developed over time, from a strategic case, to an outline and then full final business case, with review points at each. Depending on the size of the project or programme, approval may be necessary at the departmental level or require sign-off from the Treasury after assurance by the Infrastructure and Projects Authority or the Major Projects Review Group for the largest proposals.[23]

[15] HM Treasury (2018) The Green Book
[16] HM Treasury (2015) Valuing Infrastructure Spend: Supplementary Guidance to the Green Book
[17] HM Treasury (2018) The Green Book
[18] HM Treasury (2015) The Aqua Book
[19] HM Treasury (2020) Magenta Book
[20] HM Treasury (2013) Managing Public Money
[21] HM Treasury (2018) Guide to Developing the Project Business Case
[22] Ibid
[23] Department for Transport (2013) The Transport Business Cases

How effective is the application of the Green Book in the infrastructure sector?

The UK is seen as a leading nation when it comes to mature frameworks for assessing, appraising and prioritising infrastructure investment. In fact, the five principles adopted by the G20 in 2018 for the preparation of infrastructure schemes nationally and regionally are the central pillars of the UK's Five Case Model.[24]

When used appropriately, the appraisal process should provide a good degree of economic and fiscal scrutiny and should result in better value-for-money decisions.[25] The CBA process is well established and, perhaps owing to its longevity, most consultees for this paper reported that the process is well understood by analysts. Nonetheless, it is a concern that the emphasis contained within the Green Book, the overriding political priorities of the day and the methodology used can produce suboptimal outcomes.

Prioritising economic over regional outcomes

Historically the appraisal process has prioritised economic factors and outcomes, embodied in its approach to evaluation through a CBA. In evidence to the Business, Energy and Industrial Strategy Committee, Lord Adonis, the former chair of the National Infrastructure Commission, stated that, in the context of transport, cost-benefit ratios (CBRs) give a 'very high premium to journey time savings' and that, when he was Secretary of State for Transport, 'the theory was you agreed the ones with high cost-benefit ratios, and those with lower ones, you did not agree.' He further suggested that the balance was not correct between economic considerations and wider social or strategic considerations, stating, 'Connectivity to new communities is not a factor we take account of at all in our cost-benefit ratios.'[26]

This approach has tended to channel infrastructure investment to already economically successful areas of the country, primarily London and the South East. This may be due to the process historically relying on average salaries or land values, giving an intrinsic predisposition towards regions with higher values. A comparable approach taken by the Housing Infrastructure Fund (HIF) has led to a similar result for areas of higher land value, leading to 66% of provisionally accepted HIF bids going to just four areas of the country: London, the South East, South West and East of England.[27]

The fact that the process is led by economic metrics has skewed regional outcomes; there is currently a gap of around £1,500 per person between London and regions in the Midlands and the North for transport funding.[28] Further, the lack of a rounded approach is not a new concern. In 2006, the Eddington Transport Study recommended that social and environmental prices should be properly reflected in appraisal methodology, and that appraisal be on a value-for-money approach, rather than a CBA approach.[29] Similarly, ICE's Enabling Better Infrastructure programme identifies this as one of its 12 principles for prioritising and planning infrastructure. Specifically, it recognises that while the CBA approach is vital for prioritising investments, it must embrace all of the environmental, social and governance impacts of a proposal.[30]

[24] G20 Infrastructure Working Group (2018) G20 Principles for the Infrastructure Project Preparation Phase; HM Treasury (2018) Guide to Developing the Project Business Case
[25] Project Management Institute and the Institute for Government (2017) Public Versus Private: How to Pick the Best Infrastructure Finance Option
[26] House of Commons, Business, Energy and Industrial Strategy Committee (2018) Oral Evidence: Industrial Strategy: Sector Deals and Productivity, HC 663
[27] ICE (2019) State of the Nation 2019: Connecting Infrastructure with Housing
[28] IPPR North (2017) New Transport Figures Reveal London Gets £1,500 Per Head More than the North – But North West Powerhouse 'Catching-Up'
[29] The Eddington Transport Study (2006) The Case for Action: Sir Rod Eddington's Advice to Government
[30] ICE (2019) Enabling Better Infrastructure: 12 Guiding Principles for Prioritising and Planning Infrastructure

Capturing social value

Infrastructure should be designed to meet societal needs. While an individual infrastructure asset has its own basic functionalities, the effects of construction and operation have a wider social value, from creating employment to improving the local environment, removing barriers to social inclusion or addressing broad inequalities.[31]

Over time, the Green Book has placed a stronger emphasis on the realisation of benefits, including wider social and environmental costs and benefits for which there is no market price.[32] The most recent guidance emphasises that 'all impacts – social, economic, environmental, financial, etc' should be assessed.[33] However, while the Green Book has a long and well-developed analytical tradition for measuring the economic impacts of projects, with metrics like travel time cost savings, which have clear and widely agreed economic formulas attached,[34] tools for measuring social value, including environmental value, have been adopted relatively recently and are not as well developed.

There is a question as to whether social value should be measured in economic terms or be appraised using more qualitative methods, such as policy-led weighting or best judgement. However, trying to define social metrics economically could fail to consider the full range of social issues and apply lesser economic values to social metrics in general, in part because of a lack of certainty about their true economic value.

Appraising the A303 tunnel under Stonehenge

One illustration of this emerging debate is the appraisal for the A303 tunnel under Stonehenge. The 'standard method' for appraising a transport project suggests that the proposal has a poor CBR of just 31p for every £1 spent.[35] However, the Department for Transport (DfT) and Highways England opted to include a monetary value for cultural heritage amounting to £955 million, which increased the CBR to £1.15 for every £1 spent, and represents 73% of the project's monetised benefits.[36] This figure was arrived at, using Green Book guidance, based on the willingness of surveyed individuals – visitors, road users, and the general adult population of the UK – to pay for the proposed changes.[37]

Advisories such as Arup have criticised the practice of trying to commodify factors that do not have an agreed market price, or are otherwise abstract, in a way which fails to properly capture or approximate their true value. Instead they advocate a 'Total Value' approach which would better capture financial, economic, social and natural value.[38] It may be the case that social metrics that do not have an easily measurable economic value should be considered outside of the economic case, perhaps with a separate case step centred around wellbeing and non-economic costs and benefits.

A contrary view is that without the Green Book's methodology, public investment choices would become a political football, with the loudest voices attracting the biggest funding.

Practitioner attitudes to social value

While guidance influences outcomes, ultimately those individuals interpreting, using and applying that guidance produce the advice on which decisions are made. Green Book guidance can be considered flexible and permissive of novel approaches being included in the appraisal process, so long as those approaches include contributing evidence which is robust, and which can convince Treasury officials. Nonetheless, there is not an embedded and centrally defined process or culture which encourages innovative approaches. While a proposal with a weak economic case using traditional CBA

[31] Useful Projects and ICE (2020) Maximising Social Value from Infrastructure Projects
[32] HM Treasury (2003) The Green Book
[33] HM Treasury (2018) The Green Book
[34] Department for Transport (2015) Provision of Market Research for Value of Travel Time Savings and Reliability
[35] National Audit Office (2019) Improving the A303 between Amesbury and Berwick Down
[36] Ibid
[37] Highways England (2017) Valuing Heritage Impacts
[38] Arup (2018) Making the Total Value Case for Investment in Infrastructure and the Built Environment

measurements could make up for this shortfall with strong evidence of local benefits, obtaining this evidence is often subject to individual initiative, project resourcing or departmental guidance or culture, and is not routinely considered.

Research from Social Enterprise UK found that Whitehall has had a mixed approach to appreciating social value, with some civil servants believing it was 'much easier for local authorities to embrace and apply as "there's a more direct link to what is commissioned and outcomes for residents".' The research also found that central government does not see social value 'as relevant to their role' in the same way as local government.[39] Part of this attitude may be down to the statutory duty placed on those commissioning public services to 'think about how they can also secure wider social, economic and environmental benefits'.[40] This requirement has no equivalent in the Green Book appraisal process and is exercised more often locally.

The challenges for local data collection

If local impacts are to be more broadly considered and measured in order to support place-making and business cases which might provide distributional benefits to lower socio-economic areas and regions, more comprehensive and quality local data is needed. There is a concern that local and regional government, particularly in England, lacks the resources and expertise to provide additional data.

The government introduced the Single Data List in 2012, aimed at reducing the burden on local authorities when it comes to the collection, analysis and publication of data. This replaced more comprehensive data reporting requirements and recognised the reduced capacity of local authorities to act within the constraints of austerity and restrictions on increases to council tax collection imposed at the time.[41]

Local authorities have no obligation to provide additional data and, indeed, no longer have flexibility to raise local resources through council tax. In the devolved nations, while the appraisal process is similar to England, it can be specifically tailored to the devolved governments' needs and decision-making.[42] This may ensure better outcomes in devolved areas as decisions are made closer to the point of delivery, and projects have local stakeholders with enthusiastic proponents and the resources to gather additional evidence.

Reflecting environmental value

The Natural Capital Committee (NCC) was established in 2012 to advise the government on the sustainable use of natural capital, and on delivering the government's 25-year environment plan.[43] The Committee fed into the creation of the 2018 Green Book, which does focus on advances made in determining and expressing environmental value. However, the NCC remains critical of the Green Book, stating recently that there is 'limited evidence of natural capital being considered in policy appraisal'.[44]

The NCC advises that urgent change is needed to address the government's wide-ranging environmental objectives, noting that supplementary guidance on producing impact assessments still relies on advice developed in 2007. The 2018 guidance also predates the 2019 change to the law which requires the UK to achieve net zero by 2050. ICE's *State of the Nation 2020* recommended the Green Book be reformed to specifically reflect the net-zero target and prioritise emissions reduction impacts in appraisal and investment decision-making. The report found that currently the Green Book is not adequately supporting the transition of infrastructure to a net-zero footing.[45]

[39] Social Enterprise UK (2019) Front and Centre: Putting Social Value at the Heart of Inclusive Growth
[40] Gov.UK (2016) Social Value Act: Information and Resources
[41] Ministry of Housing, Communities and Local Government (2019) The Single Data List (SDL): A Guide
[42] Northern Ireland Assembly (2016) The Use of Business Cases in the Public Sector
[43] Gov.UK (2020) Natural Capital Committee (NCC)
[44] Natural Capital Committee (2020) The Green Book Guidance: Embedding Natural Capital into Public Policy Appraisal
[45] ICE (2020) State of the Nation 2020: Infrastructure and the 2050 Net-Zero Target

Reforming the Green Book – proposals from around the sector

Prioritising environmental costs and benefits

The UK Government has legislated to cut greenhouse gas emissions to net zero by 2050, a response to the report by the Intergovernmental Panel on Climate Change (IPCC) on limiting global warming to 1.5°C to avoid catastrophic climate change.[46] The Green Book was most recently updated in early 2018, before the net-zero target was legislated.

As previously mentioned, ICE's *State of the Nation 2020: Infrastructure and the 2050 Net-Zero Target* report recommended the Green Book be reformed to reflect the net-zero target and prioritise emissions reduction impacts in appraisal and investment decision-making.[47] The report found that, without doing so, the procurement and delivery of infrastructure projects that align with net zero will be limited and the UK will be unable to achieve its 2050 target.[48]

As part of this reform, ICE's report also recommended that the Green Book should align net zero with 'levelling up', to consider how every region can contribute to, and benefit from, the transition to net zero. These changes will then flow through the infrastructure supply chain and help to shape private sector decision-making. In placing long-term policy objectives such as these into project appraisal, investment can be better targeted at meeting policy goals.

At the same time, better Green Book guidelines for considering a broader set of impacts should be developed.[49] For example, these might include valuations of contributions to meeting the UN Sustainable Development Goals, or the mandatory inclusion of environmental impacts with carbon prices.

Both the Institute for Public Policy Research (IPPR) and the Resolution Foundation have released reports calling for the Green Book to take a greener approach.[50] IPPR argues that all guidance should reflect the net-zero target and the UK's commitment to the Paris Agreement. It also argues that the discount rate of a 3.5% return, used as a baseline to determine if a project is economically viable, undermines environmental or social projects and drives short-term economic priorities. The Resolution Foundation argues that appraisal methodologies should better reflect the costs and benefits of climate change, properly capturing the net benefits of potentially transformational investments in climate change mitigation.

[46] Department for Business, Energy and Industrial Strategy (2019) UK Becomes First Major Economy to Pass Net Zero Emissions Law
[47] ICE (2020) State of the Nation 2020: Infrastructure and the 2050 Net-Zero Target
[48] Ibid
[49] Ibid
[50] IPPR (2020) Faster, Further, Fairer: Putting People at the Heart of Tackling the Climate and Nature Emergency; Resolution Foundation (2020) Euston, We have a Problem: Is Britain Ready for an Infrastructure Revolution?

The longevity and resilience of an asset and the employment it generates, particularly when it comes to climate change mitigation, might also be considered. Some infrastructure assets which rely on carbon-creating technologies have a sunset attached to their use in line with climate change demands ahead of the 2050 target. This may occur before the asset reaches the end of its productive lifetime. Business cases for a proposal might better account for social value if they gave more weight to economically resilient and sustainable sectors which would not require a worker to retrain down the line.

Questions for discussion

ICE believes the 2050 net-zero greenhouse gas emissions target should be included as a core consideration in Green Book project appraisal.

In this respect, ICE is interested in views on the following questions:

1. How should the Green Book and the appraisal process be reformed to better factor in strategic national objectives?
2. Does the urgency of the net-zero greenhouse gas emissions target warrant the expansion of the Five Case Model to include a sixth net-zero case, or can this effectively be appraised against through the current methodology (e.g. the strategic case or supplementary guidance)?

Updating guidance for the appraisal of social value

The most recent edition of the Green Book fully incorporated the concept of Social CBA, taking a more rounded approach to the CBA process than previous iterations and expanding its advice on distributional weighting. Distributional weighting allows for the application of a bonus social value to lower-income households on the basis that additional value is worth more in marginal terms.

Like all methods of analysis, the approach promoted by the Green Book has strengths and weaknesses. It is questionable how far CBA is useful when used in isolation to assess less tangible outcomes such as social value.[51] Research into maximising social value, conducted by Useful Projects, found that the Green Book guidance for appraising policies, programmes and projects through CBA is not fit for purpose for major long-term infrastructure projects, while it also insufficiently captures broader social benefits with dynamic effects.[52]

Wider use of distributional weighting has been suggested as a means of tackling the regional imbalance in infrastructure funding as it should allow for proponents of proposals to accompany assessments of value for money with assessments of regional, subnational and local impacts and distributional effects.[53]

The DfT's recently issued supplementary guidance, the rebalancing toolkit, is designed to provide a framework which can aid the policy ambition of spreading growth across the country. The guidance explicitly requires analysts to consider the impact of an individual project on local and regional areas experiencing deprivation, below-average productivity or which have transport barriers that limit local or regional growth. It also places a premium on local stakeholder engagement (including the attitudes of businesses, local authorities and subnational transport bodies), the need to support local growth plans and efforts to obtain a measure of impact on local GDP and employment, in addition to national economic impacts.[54]

[51] ICE (2020) Civil Engineering Insights into Alternative Ways of Appraising Infrastructure Procurement
[52] Useful Projects (2020) Maximising Social Value from Infrastructure Projects
[53] University of Manchester, Alliance Manchester Business School (2019) Building the Northern Powerhouse: Cost-Benefit Analysis and Regional Development
[54] Department for Transport (2017) Strategic Case Supplementary Guidance: Rebalancing Toolkit

The DfT also recently updated WebTAG, the DfT's appraisal model, with new social-impact appraisal methodology.[55] The approach takes a wider view of potential health benefits across older age groups, which has increased economic values. For example, one social value metric in this update measures the potential positive impact on mortality of active travel projects. Nonetheless, the academic assessment underpinning this notes that the methodology could more widely measure social value, noting that it does not incorporate the value of getting children active or reducing gender inequality.[56]

Other government agencies, such as the Environment Agency, have also broadened their use of social value in business case guidance, for example by including guidance on the impact on individual mental health from inadequate flood risk management and defences.[57]

The 2018 Green Book still faces criticism in some academic circles as a 'poor tool for taking a long-term view about the economy and in particular the spatial aspect of growth'.[58] There is a lingering concern that a failure to properly capture benefits, which include accurate portrayals of future economic change as a result of investment, undermines projects which are not placed in already heavily developed parts of the country. A separate criticism is that the socio-economic distributional consequences used are 'basic' and there is 'very limited coverage of social impact analysis'.[59]

Question for discussion

ICE is interested in views on the following question:

3. How can the Green Book best account for social value and help achieve wider societal outcomes?

Spatial reform

The government has announced a review that will consider how 'the design and use of project appraisal affects the ability of all areas to achieve their economic potential'.[60] This place-making aspect is supported by several northern stakeholders. These include the Northern Powerhouse Partnership (NPP), which has set out that the Green Book needs to be reformed in a way which removes an intrinsic bias towards London and the South East, criticising a 'static accounting-based approach' which 'only benefits schemes which deal with growth that will already happen'.[61] The NPP cites the City Growth Commission, which made similar overtures in 2010, criticising the Green Book for not properly understanding or taking into account spatial issues, the importance of place and the need to consider local growth and investment projects.[62]

[55] Department for Transport (2020) Tag Unit A4.1 Social Impact Appraisal
[56] M. Tainio, J. Woodcock et al. (2016) Final Report, November 2016 (March 2017 update) SO17859 Research into Valuing Health Impacts in Transport Appraisal
[57] Environment Agency (2020) Mental Health Costs of Flooding and Erosion
[58] University of Cambridge, Bennett Institute for Public Policy, Diane Coyle and Marianne Sensier (2018) The Imperial Treasury: Appraisal Methodology and Regional Economic Performance in the UK
[59] Dr M. Hurst; Journal of Mega Infrastructure and Sustainable Development (2019) The Green Book: Central Government Guidance on Appraisal and Evaluation
[60] Gov.UK (2020) Budget 2020
[61] The Northern Powerhouse Partnership (2020) Letter to Chancellor on Green Book Reform
[62] RSA City Growth Commission (2014) Unleashing Metro Growth: Final Recommendations

A report by Metro Dynamics recommends that the DfT's rebalancing toolkit be adopted throughout Whitehall,[63] something which has also received support from the House of Commons Transport Committee.[64] As the toolkit places a heavy emphasis on the appraisal of local factors and outcomes, including distributional effects, it is thought its adoption would boost the prospects for infrastructure proposals in less wealthy areas of the country. Adopting departmental supplementary guidance into central Green Book guidance has a long tradition, with initiatives to improve benefits capture, like Social CBA, first emerging from supplementary guidance developed at the Department for Work and Pensions in 2010/11.[65]

Question for discussion

ICE is interested in views on the following question:

4. What, if any, are the limitations of the Green Book in achieving the government's aim of 'levelling up' the country?

Avoiding the appraisal of projects in isolation

The City Growth Commission also criticised the analytical process for not giving due regard to how projects are sequenced and considered in a complementary way so that projects in different sectors could be carried out alongside each other – for example, undertaking telecoms upgrades at the same time as planning transport infrastructure investment.[66] This is a position also advocated by Yorkshire Universities, who argue that the Green Book has moved away from its 'original purpose' of appraising new policies and wider programmes of activity. They argue that data should inform, but not drive, outcomes, with more weight given to democratic electoral processes.[67]

Comprehension and transparency

The Project Management Institute and Institute for Government issued a 2017 report arguing that the Green Book should be streamlined, made more user-friendly and rolled out alongside an extensive training programme with appropriate support for senior civil servants and ministers, as well as analysts. They suggest understanding of the appraisal process may be more limited for senior civil servants and ministers, who may lack the confidence or knowledge to challenge the data.[68] The NCC also argues that greater awareness of the changes in the current Green Book is needed for analysts across government, and an evaluation of the impact of changes made in 2018 should be carried out.[69]

[63] Peel, North West Business Leadership Team and Metro-Dynamics (2020) Levelling Up: Making Investment Appraisal Fit for Purpose
[64] House of Commons Transport Committee (2018) Rail Infrastructure Investment
[65] HM Treasury and the Department for Work and Pensions (2011) Valuation Techniques for Social Cost-Benefit Analysis
[66] City Growth Commission (2010) Unleashing Metro Growth: Final Recommendations
[67] Yorkshire Universities (2020) HM Treasury Green Book Review
[68] Project Management Institute and Institute for Government (2017) How to Value Infrastructure: Improving Cost Benefit Analysis
[69] Natural Capital Committee (2020) The Green Book Guidance: Embedding Natural Capital into Public Policy Appraisal

The Resolution Foundation argues that transparency should be increased in the analytical process. It contends that publishing CBAs before approval and commencement would improve the quality of analysis and increase opportunities for scrutiny, noting that other countries do publish these assessments.[70] The Project Management Institute and Institute for Government highlight that the operation of the independent Regulatory Policy Committee appears to have led to more rigorous analysis for regulatory impact assessments written by government departments.[71] Similar scrutiny of other parts of the appraisal process could incentivise policymakers to take CBA more seriously.

Question for discussion

ICE is interested in views on the following question:

5. How can greater consistency of application of Green Book project appraisal be achieved across government, both local and central?

International examples

ICE's Enabling Better Infrastructure resource hub includes a range of global case studies examining infrastructure prioritisation through to project preparation, delivery and operation. Many of these case studies examine how infrastructure projects are appraised throughout the world.[72] Moreover, ICE recently published an insights paper into alternative ways of appraising infrastructure procurement. This report examined how different governments and infrastructure owners appraised the benefits of infrastructure investment.[73]

New Zealand has adopted a similar approach to that of the UK, by giving weighting to social and environmental factors. However, where the UK has been criticised for over commodifying these factors, New Zealand prioritises reducing the uncertainty of these factors, rather than trying to calculate the exact benefits and costs.[74]

German's federal government has adopted a Spatial Impact Assessment to evaluate the quality of accessibility and connectivity for different regions.[75] This gives additional weight to infrastructure proposals which serve low-income regions and rejects a journey time savings measurement in favour of a measurement addressing deficiencies in connections between regions and cities.[76]

The Asian Development Bank's climate risk management approach aims to reduce risks resulting from climate change to infrastructure investment projects in Asia and the Pacific.[77] The adopted framework incorporates climate change mitigation and adaptation measures into the design of proposals and assesses the proposal with and without those changes under a model approximating the effects of climate change.

[70] Resolution Foundation (2020) Euston, We have a Problem: Is Britain Ready for an Infrastructure Revolution?
[71] Project Management Institute and Institute for Government (2017) How to Value Infrastructure: Improving Cost Benefit Analysis
[72] ICE (2019) Enabling Better Infrastructure: 12 Guiding Principles for Prioritising and Planning Infrastructure
[73] ICE (2020) Civil Engineering Insights into Alternative Ways of Appraising Infrastructure Procurement
[74] New Zealand Treasury (2015) Guide to Social Cost Benefit Analysis
[75] A. Dahl et al. (2015) New Trends in Cost-Benefit Assessment of Public Investments in France and Germany
[76] Institute for Transport Studies, University of Leeds (2013) International Comparisons of Transport Appraisal Practice
[77] Asian Development Bank (2014) Climate Risk Management in ADB Projects

Full question list

1. How should the Green Book and the appraisal process be reformed to better factor in strategic national objectives?
2. Does the urgency of the net-zero greenhouse gas emissions target warrant the expansion of the Five Case Model to include a sixth net-zero case, or can this effectively be appraised against through the current methodology (e.g. the strategic case or supplementary guidance)?
3. How can the Green Book best account for social value and help achieve wider societal outcomes?
4. What, if any, are the limitations of the Green Book in achieving the government's aim of 'levelling up' the country?
5. How can greater consistency of application of Green Book project appraisal be achieved across government, both local and central?

About ICE

Established in 1818 and with over 95,000 members worldwide, the Institution of Civil Engineers exists to deliver insights on infrastructure for societal benefit, using the professional engineering knowledge of our global membership.

For more information please contact:

David Hawkes, Policy Manager

policy@ice.org.uk