



An Roinn Iompair
Department of Transport

Project Ireland 2040

National Investment Framework for Transport in Ireland

Background Paper 7: Maintenance Investment Priorities

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Disclaimer

This Background Paper has been prepared as part of the supporting analysis for the National Investment Framework for Transport in Ireland. It reflects the latest data and information available to the author at the time of writing. The views presented in this paper do not represent the official views of the Department of Transport or the Minister for Transport.

Contents

1. Introduction	2
2. Prioritisation of Land Transport Investment	3
3. Prioritisation of Protection and Renewal Investment	5
4. Implementing a Prioritisation Framework	7
5. Conclusions	8
6. References.....	9

Summary

- Investing in protection and renewal is a high priority. However, there is currently no framework or criteria for how to prioritise within maintenance investment.
- International literature suggests that investment in land transport infrastructure should be prioritised for proposals that demonstrate a good strategic fit with national policy objectives as well as evidence of economic, social, and environmental impacts.
- Successful implementation of a prioritisation framework for protection and renewal investment is dependent on the use of a robust evidence base for decisions and the appropriate involvement of regional and local authorities in the decision-making process.

1. Introduction

As part of National Investment Framework for Investment in Ireland (NIFTI), four areas relating to the management of the current transport network are being analysed. These are:

1. Protection and Renewal;
2. Maintenance Investment Priorities;
3. International Benchmarking; and,
4. Climate Adaptation.

This paper addresses the second of these themes, prioritisation of expenditure to protect and renew the land transport network.

This paper considers how to prioritise protection and renewal expenditure on land transport infrastructure. It builds on the analysis in Background Paper 6, which estimated the investment necessary to maintain the physical assets related to the land transport network in an adequate condition. Under the National Development Plan, expenditure on necessary maintenance and renewal is expected to remain below the required amount until 2021, leaving a significant backlog of maintenance work to be completed even when the required funding level is met. With the prospect of an economic downturn such as that experienced between 2008 and 2012 occurring again, there could be a further significant and long-lasting impact on Ireland's ability to invest at a level appropriate to protecting and renewing the existing transport network. This paper seeks to provide guidance on how protection and renewal investment should be optimised in the presence of fiscal constraints over the short-to-medium term, the possibility of adverse fiscal circumstances in the longer-term, and the fact that no such guidance currently exists, meaning maintenance investment is prioritised without an established framework of criteria.

The structure of the paper is as follows. Section 2 discusses broad criteria for prioritisation of investment in land transport infrastructure. Section 3 applies these criteria to consider objectives for protection and renewal investment across Ireland's land transport network. Section 4 discusses some concrete steps towards the implementation of this prioritisation framework. Finally, Section 5 sets out the conclusions of the paper.

2. Prioritisation of Land Transport Investment

The Assessment Framework and Infrastructure Priority List from Infrastructure Australia (2018) provides an example of a prioritisation framework for infrastructure investment which was noted by the OECD as improving the infrastructure planning process in Australia (OECD/ITF, 2017), and thus can reasonably be applied to land transport infrastructure investment in the Irish context. The Australian framework is based on three main criteria:

- Strategic fit;
- Economic, social, and environmental impact; and,
- Deliverability.

These criteria are employed by Infrastructure Australia in order to create a priority list for investment in new infrastructure projects of national significance. This paper seeks to employ these criteria to inform the prioritisation of protection renewal investment in Ireland's land transport network, on the basis that they are relevant to the prioritisation of land transport infrastructure investment in a general sense. The concepts of strategic fit and impacts will be discussed in this section, with practical steps relating to deliverability to be discussed under the heading of implementation in Section 4.

2.1 Strategic Fit

A fundamental requirement for an investment proposal to be prioritised is a good alignment with overall government policy initiatives and objectives. Proposals for infrastructure investment should provide strong evidence that they address a problem or opportunity of national significance. Investments must align well with policies in relevant sectors such as land use and regional development, with the Project Ireland 2040 National Strategic Outcomes (Government of Ireland, 2018) foremost for consideration. There may be trade-offs between multiple objectives. For example, a project might meet policy needs but at a net fiscal cost. Some examples of this include Japanese investment in high-speed rail infrastructure designed to boost employment in rural regions (OECD/ITF, 2017) and Norwegian investment in roads to support rural communities (Hemmings et al, 2018). For this reason, clarity on both the objectives themselves and on how investment addresses them is paramount. Achieving balance between competing objectives for investment will be discussed further in Section 3.

2.2 Economic, Social and Environmental Impact

Infrastructure investment must have clear and positive impacts that address existing and future needs related to the country's land transport network. The OECD/International Transport Forum (2017) recommends that infrastructure planning focuses on unlocking bottlenecks that constrain growth and create rents, increasing productivity through wider economic benefits, and promoting the viability of local communities in peripheral regions. These recommendations are similar to those of the Department's Strategic Investment Framework for Land Transport (SIFLT) (DTTaS, 2015b). That framework established protection and renewal, or steady state, as the top priority for future investment. Beyond prioritising maintenance and renewal, SIFLT recommended prioritising investments with the aim of addressing urban congestion and maximising the contribution of the land transport network to national development. Safety is also a primary concern and is of relevance from both economic and social perspectives.

Protection and renewal investment helps to ensure the continuous operation of critical pieces of infrastructure which in turn facilitate interdependencies across sectors of the economy or elements of the transport network.

Such investments have the potential to realise large value-for-money benefits. If suitably coordinated with public investment in related spheres such as education, housing or employment creation, this expenditure can generate significant multiplier effects (OECD/ITF, 2017).

Investments that target inconsistent levels of service and that aim to alleviate congestion can have manifold benefits. Economic growth and productivity can be boosted by reducing the costs of travel, facilitating agglomeration, expanding labour markets and ensuring access along key routes to urban centres, ports and airports. Ensuring safe and reliable mobility across the transport network and access to employment and key services such as education and healthcare can tackle the potential isolation of remote areas. Investments with environmental objectives such as the reduction of greenhouse gas emissions, noise or waste pollution, and landscape or biodiversity impacts of infrastructure should also be targeted.

3. Prioritisation of Protection and Renewal Investment

This section focuses on the essential elements needed to create a viable framework for prioritisation of protection and renewal expenditure across Ireland's land transport network.

Prioritisation of protection and renewal investment should be guided by consideration of the achievement of outcomes, rather than being based on existing structures for funding or service delivery. This is to ensure any existing arrangements that lead to sub-optimal outcomes do not act as a binding constraint on the future direction of investment. The strategic fit of a piece of infrastructure with wider government policy, and in particular the facilitation of Project Ireland 2040, is an essential feature for prioritisation. Scoring poorly on this front could justifiably form a basis for exclusion of a proposal from further consideration (DTTaS, 2015b). Basic levels of safety and reliability in the operation of the network also clearly warrant prioritisation. Reductions in the cost of travel will increase economic growth and productivity, as outlined in Section 2.2. These benefits can manifest at the local, regional or national levels. Ensuring access to ports and airports, to centres of economic activity, and to high-value services such as acute healthcare and tertiary education addresses the objectives of international economic competitiveness and social issues of mobility and equity. Investment in infrastructure that facilitates more efficient and effective mobility, for example through encouraging modal shift away from the private car to public transport or active modes, can have strong environmental impacts. The wider impacts of the infrastructure on the land transport network, on the systems of the economy and society, and on the public finances represent other criteria for prioritisation.

The latter criteria refer to the 'financial' rationale for keeping infrastructure in good repair. This refers to the cost of protection and renewal purely in monetary terms and stands in contrast to the 'value' (overall contribution of the infrastructure to the economy and society) and 'economic' (relating to the 'public good' nature of infrastructure provision) rationales protection and renewal investment (DTTaS, 2015a). It has been well established that the costs of maintenance and repair are dynamic in nature, increasing in a non-linear fashion if neglected for long periods of time. Failure to address maintenance needs over several years, especially in combination with increased incidence of severe weather events, will incur significant costs on the State not only in financial terms but also as an opportunity cost in terms of the size and scope of alternative uses for public expenditure. Such financial issues are likely to be exacerbated as the land transport network expands.

The main strategic elements of Ireland's road networks provide an example of how protection and renewal investment could be prioritised, given the role of this sector of the network in achieving major land transport outcomes. National and regional roads provide strategic links between the country's cities, which are centres of services and industry, and facilitate travel to and from international destinations by linking to major ports and airports. National and regional roads combined constitute 19% of Ireland's overall road network but carry approximately 75% of all road traffic (DTTaS, 2015b) including the majority of freight traffic (DTTaS, 2015a). These roads, along with local roads in urban centres, provide critical pieces of infrastructure which are crucial to the functioning of the overall transport network, facilitate travel by both private and public transport on the country's major routes, and thus support economic activity, social opportunities, and environmental efficiency.

Well-targeted investments such as maintaining levels of service on roads in order to alleviate congestion can achieve several objectives at once. However, decisions on the allocation of protection and renewal investment will

in most instances require some balancing of objectives, as each infrastructure element may satisfy some of these more than others. For example, prioritising maintenance on rural roads may support economic, social and safety benefits for peripheral areas but provide a lower return on public expenditure than similar investment on roads with higher traffic levels; prioritising maintenance investment for heavy rail in urban areas may achieve congestion and emissions reduction objectives, but to the detriment of accessibility for non-car owners in more rural areas. This paper provisionally recommends that prioritisation of protection and renewal investment should be carried out on the basis of the objectives stated above, in sequential order of significance, i.e.: strategic fit; safety/reliability; economic growth/international competitiveness; social equity; environmental impacts; wider impacts.

4. Implementing a Prioritisation Framework

The investment prioritisation criteria discussed above will require well thought-out, practical steps to be taken if their implementation is to be successful. The governance of transport and land-use policy involves multiple actors, sectors, and policy objectives, and is exposed to economic and political volatility. Coordination between national and sub-national levels of government is highlighted repeatedly as a crucial aspect of successful infrastructure investment policy (OECD, 2017; OECD/ITF, 2017; Hemmings et. al., 2018). Appropriate design and implementation, which avoids misalignment or delays and provides the certainty necessary for social and economic activity to develop around the infrastructure, is dependent on buy-in from regional governments and stakeholders more broadly. A balance needs to be struck in realising the benefits of coordination from the national level down in ensuring coherence of investment decisions across multiple sectors and policy domains (OECD/ITF, 2017), and providing Ireland's sub-national actors, such as the Regional Assemblies and Local Authorities, with appropriate roles and responsibilities within the decision-making process (DTTaS, 2015b). This is particularly relevant given the multiplicity of criteria on which investment prioritisation decisions can be based, and the likelihood that these will be competing in certain instances, as discussed in Section 3.

The impact of investments should ideally be clearly identifiable and demonstrable through appropriate supporting analysis and evidence. The Infrastructure Australia (2018) model sets out five stages of approval for new proposals, closely mirroring the project appraisal requirements of the Public Spending Code. The Australian guidelines also provide a firm hierarchy of acceptable evidence with monetised costs and benefits of projects taking precedence over less precise quantitative evidence, although qualitative evidence may need to be relied upon in the absence of more firm information. The 'national significance' of proposals must also be defined in terms of the magnitude, timing and underlying causes of the existing issue or opportunity. This analysis not only assists in determining whether each proposed infrastructure investment represents value for money on its own merit, but also in facilitating the comparison of competing options for investment with alternatives in the land transport sector and in other domains of government. Although protection and renewal expenditure does not need to meet the same requirements for business case submissions, it is imperative that investment decisions be similarly based on sound evidence, preferably in the form of quantitative analysis.

5. Conclusions

This paper discusses the prioritisation protection and renewal investment on Ireland's land transport network. Prioritisation should be based on targeted outcomes or objectives, rather than on existing administrative structures. Investment proposals should, in the first instance, align with broader strategic policy goals at the national or regional level and provide safe and reliable mobility. Investment may subsequently support objectives related to economic growth, productivity, international competitiveness, social equity through access and mobility, environmental concerns and wider impacts of infrastructure. Although some investment proposals may achieve most or all of these objectives, in many cases balance will need to be struck in prioritising the achievement of certain objectives over others.

To ensure successful implementation, investment proposals must be based on robust evidence and analysis, and be secured through a decision-making process that provides an appropriate level of involvement and buy-in from regional and local authorities, as well as achieving the benefits of policy coordination at the national level.

6. References

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