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English summary

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English summary

Drawing on two sources of data, we explore different factors that affect the project portfolio of road projects in Norwegian national transport planning. The sources include statistical data in the National Public Roads Administration's database of road project candidates for the National Transport Plan 2014-2023 and ten road-project case studies. The evidence suggests that the most decisive factors as to why the Norwegian Public Roads Administration prioritises a project in the Norwegian National Transport Plan is that the project contributes to the two key transport targets safety and accessibility in terms of reduced distance costs. In addition, project history is of great importance.

In its guidelines to the Norwegian Public Roads Administration, the Ministry of Transport and Communication advises the agency to make use of cost-benefit analyses when prioritising projects. The expectation is that such analyses will contribute to improve economic efficiency of the government's resources. However, previous studies suggest that cost-benefit analyses are not particularly important for politicians in their decisions, selecting which projects to be included in the National Transport Plan. In order to find out whether the Norwegian Public Roads Administration incorporate cost-benefit analyses in their selection procedures of road projects, we focus on the process prior to direct involvement of politicians.

The aim is to improve the understanding as to why certain projects gain precedence rather than other projects. One key question is whether there are any general patterns within and across the geographical 'road' areas, i.e. the five regions of the National Public Roads Administration: the North, Middle, East, South and West. Another question is whether the views differ between different administrative levels within the Norwegian Public Roads Administration.

For this purpose we have analysed statistical data from the 'Project data bank' of the National Public Roads Administration (as already mentioned) and qualitative data gathered via a number of planning documents and information from the 15 interviews. In the following, we summarise the main findings, addressing the importance of economic efficiency, transport goals and other characteristics of the projects. We also summarise the findings about differences across geography and administrative levels.

Economic efficiency

The statistical analyses provide support to the findings in previous studies, suggesting that the estimated net economic benefits do not play an important role in the prioritisation of road projects. At aggregated level, the Norwegian Public Roads Administration recommends projects, which on average, are only marginally more profitable than projects that are not recommended within the planned budget. As the agency's proposal includes alternative budgets to the reference budget, we also included these alternatives in our analyses. Evidence suggests that the mentioned finding gains support also when the planned budget is changed by -20 per cent, +20 per cent and +45 per cent. This finding also receives support when the distribution between the regions and the different planning phases of the projects are taken into consideration.

The analyses of the ten individual road projects indicate that net economic benefits do not play an important role in the prioritisation of road projects in the regions. More important is the aim of achieving a certain level of road standard, i.e. to reach a certain level of road quality nationwide – even in areas where there is not much traffic, major timesaving nor gains in the form of the reduction of the number of accidents. However, according to the informants, net economic benefits have considerable impact within individual projects, when the stakeholders make decisions of which road trace to go for, comparing trace alternatives.

Key goals

The National Transport Plan contains four key objectives: (1) to improve accessibility in terms of reduced distance costs, (2) a 'zero vision' addressing road safety, (3) to limit greenhouse gas emissions and reduce environmental damage and (4) a 'universally designed' transport system (i.e. accessibility for all travellers, whether having a disability or not). The analyses of the ten road projects show that the two former goals are considered the most important.

To *improve accessibility* in terms of reduced distance costs is the most important justification for a road project. This goal includes a number of different conditions and differs between urban road projects and projects in the rural areas. In urban areas such accessibility is about reducing congestion and encouraging bicycling and walking, incorporating pedestrian and bicycle lanes into the projects. In rural areas such accessibility is primarily about improving the quality of roads, which for example lack the 'yellow line' or have unfortunate slope ratios and curvatures.

The second-most important argument for the need of a road project is *safety*. The informants highlight this issue in particular in geographical areas vulnerable to landslides and in districts with bad road quality, even though these roads do not necessarily have many fatal accidents.

Limiting *greenhouse gas emissions* is not considered vital. Informants point out the goal conflicts inherent in road building: while facilitating for increased traffic growth, on the one hand, the aim is to reduce such growth, on the other hand. Some informants argue that climate concerns should ideally have played a larger role in urban areas. Others believe that traffic would increase anyway. The informants describe the climate goal as an ‘additional’ dimension, i.e. climate concerns are incorporated only insofar as the urban road projects also improve the situation for bicyclists and pedestrians. They argue that even when for example bus lanes are not incorporated in new road projects, public transport also gains from such projects, as buses are normally in the same congested lanes as private cars. In rural areas reduction of greenhouse gas emissions is not considered important. The informants are more concerned with climate adaptation in rural areas.

Civil servants in the Norwegian Public Roads Administration consider the goal of *universal design* as a requirement that they seek to incorporate into the design of road projects, rather than as a target. Universal design is therefore not considered important in the selection of which projects that they propose to include in the National Transport Plan.

The informants perceive *non-monetised impacts* such as a landscape, local environment, outdoor recreation, culture and natural resources in the same way as universal design. Such aspects are important for project design, but are not considered important when selecting between different road projects in the proposal for the National Transport Plan.

Other project characteristics

Local politicians, action groups, industrial interests and lobbyists at local or central level take initiatives to road projects. However, it is rare that a project without a long history will be prioritised in the proposal for the National Transport Plan. The ‘*age*’ of a project plays a role as to whether it is prioritised, but seniority is no guarantee for success (i.e. that it will be prioritised) nor for quick implementation. We found that the majority of the ten road projects that we have studied, originates in the 1990s. It makes it difficult to find out who took the original initiatives, launching the different projects.

Evidence suggests that local consensus is positively related to the Norwegian Public Road Administration's prioritisation of a road project. The exploration of the ten road projects suggests that local conflicts about the options within a project (e.g. traces) are common and contribute to delay implementation. Related to this, *funding* plays a key role; for example, toll roads or toll cordons are dependent on local consensus and finally, approved by the national parliament. If there is sufficient traffic to set up toll cordons, and policymakers agree to fund a project through such extraordinary funding, it gives the opportunity to fund more road than only via the national state funds. At the same time, such tolls are controversial and may lead to considerable delays due to the outbreaks of local conflicts.

While the informants are of the opinion that how far a project has proceeded in the *planning process* impacts whether the Norwegian Public Road Administration prioritises a project, the statistical analyses suggest that there is no one-to-one-relation between the a project's planning phase and project recommendation. The Norwegian Public Road Administration recommends some projects even if those projects have not been through regulatory or municipal plans and they choose not to prioritise several projects, which already have been through such processes.

Furthermore, it is striking that informants in the regions perceive that they do not have much 'room' to choose between projects, as a majority has already been decided on in earlier National Transport Plans or already been initiated (i.e. they are already being built).

Geographical patterns

Norway consists of 19 counties. Each of the five 'road regions' (i.e. the regional administrative borders of the Norwegian Public Roads Administration) covers three or more counties. Evidence suggests that the distribution of investment funds across the counties is relatively stable. The central level in the Norwegian Public Roads Administration provides each of the road regions with a financial frame. Given this frame, the regions proposes projects. They also include projects, which in their view should be prioritised if the budget increases and which projects should be removed if the budget decreases. The informants argue that assessments of the trunk network of roads, quality improvements of roads in line with current road norms (i.e. handbooks), new technical requirements as well as traffic projections are important aspects that affect the amount of funding to each region.

A majority of the informants are of the opinion that 'fair' allocation between the counties in their regions is not a relevant criterion, when deciding which

projects to prioritise, as every county is in need of new road projects. Therefore, there is no strong contest between the counties. Evidence suggests that there are well-established practices to prioritise road projects in all the counties.

Priorities at different administrative levels

The central level in the Norwegian Public Roads Administration sets the financial frame for each of the regions; and the regions propose which projects the Norwegian Public Roads Administration should prioritise within the given frames. The financial frame includes one amount for large projects and another amount for measures within various program fields such as road safety or public transport measures. When the regions have submitted their proposals, extensive communication about the projects follows between the regions and the central level. Eventually the central level discusses the projects together with the other transport agencies (i.e. the Norwegian National Rail Administration, the Norwegian Coastal Administration and Avinor, which operates airport infrastructure). Together they make a selection of transport projects.

The interview data shows that central guidance (e.g. the frames that are provided for different program areas) influences the work that takes place in the regions. However, at regional level such frames are perceived as being too rigid as they sometimes do not address experienced local needs in an appropriate way. Despite such disagreements, the regions adhere to the central guidelines. Moreover, the central level only makes minor changes in the proposals suggested by the regions – and the central level does not develop or recommend new projects. Changes made at the central level primarily address the priority order of projects. However, examples of projects exist, which the central level has incorporated, but were not included in any of the region's proposals. Such projects may be introduced due to pressures from politicians or the other transport agencies, for example related to a port or an airport.

Strategic transport planning

The findings indicate that the Norwegian system for strategic road planning, which has evolved through four National Transport Plans, has certain weaknesses. Prior to the prioritisation of projects, the dialogue between the central and the regional level about the financial frames for various measures is lacking. An improved dialogue at this stage could contribute to a more advised use of available resources in rural areas, while at the same time ensuring the targeted use of resources in urban areas. This does not necessarily mean that projects should be prioritised differently than today, but ensure increased

transparency and awareness of different concerns. It could contribute to an improved understanding as to why national political leaders and their agency, the Norwegian Public Roads Administration, prioritise the road projects they do, thereby also contribute to increased goal achievement.

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Forskningsprogrammet Concept skal utvikle kunnskap som sikrer bedre ressursutnyttning og effekt av store, statlige investeringer. Programmet driver følgeforskning knyttet til de største statlige investeringsprosjektene over en rekke år. En skal trekke erfaringer fra disse som kan bedre utformingen og kvalitetssikringen av nye investeringsprosjekter før de settes i gang.

Concept er lokalisert ved Norges teknisk- naturvitenskapelige universitet i Trondheim (NTNU), ved Fakultet for ingeniørvitenskap og teknologi. Programmet samarbeider med ledende norske og internasjonale fagmiljøer og universiteter, og er finansiert av Finansdepartementet.

The Concept research program aims to develop know-how to help make more efficient use of resources and improve the effect of major public investments. The Program is designed to follow up on the largest public projects over a period of several years, and help improve design and quality assurance of future public projects before they are formally approved.

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