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The strategic foundation of transport infrastructure projects

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Abstract

When developing infrastructure, public debate is often dominated by the opposition. Frequently, the conflict escalates when a project is already planned or the construction has already started. One potential way for tackling these problems is to improve the strategic foundation of transport infrastructure projects. Strategic environmental assessment (SEA) is one instrument for showing that a transport infrastructure projects is never an end in itself, but is essential to accomplish objectives from different policy fields. Taking the example of the SEA for the Airport link, this paper shows the importance of a broad evaluation framework for assessing infrastructure projects on a strategic level. This way, opinion leaders can be convinced of the plan or programme respectively of a possible follow-up project and can act as advocators. Strengthening the role of SEA as a strategic planning instrument can increase the quality of plans and programmes and subsequently of planning projects and disburden environmental impact assessment.

Keywords: Political and legal framework, SEA, strategic environmental assessment, strategic planning, democratic legitimation

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1. Introduction

Developing transport infrastructure is always a sensitive issue: Especially when high-level railway or road infrastructure is built soil is sealed in the process, landscapes are fragmented and noise pollution for inhabitants potentially increases. A common consensus on why a certain road or railway is needed and built is very rare. Public debate is often dominated by the opponents of certain projects. Frequently, the conflict escalates when a project is already planned or the construction has already started.

One potential way for tackling these problems is to improve the strategic foundation of transport infrastructure projects. On a strategic level it should become evident that a transport infrastructure project is never an end in itself, but is essential to accomplish objectives from different policy fields. This can be best achieved through strategic environmental assessment (SEA), which is implemented in all EU member states in the context of strategic planning.

One example of an infrastructure project where a holistic approach in the argumentation was chosen is the high-level railway line Vienna - Vienna Airport - Bruck an der Leitha (short: "Flughafenspange", english: "Airport Link") which was subject to an SEA. This high-level railway line will serve as a connection between Vienna, Vienna Airport and western Hungary and Slovakia. Furthermore, it serves as a traffic hub for commuters south of the Vienna Region.

This paper demonstrates the importance of a strategic foundation for transport infrastructure projects. It debates the relevance of a broad assessment for transport infrastructure projects and the importance of SEA in the context of these projects. Furthermore it argues that a broad approach can strengthen the democratic legitimation of transport infrastructure projects and – last but not least – increase the public acceptance of projects and prevent oppositions.

2. The role of the public in infrastructure projects

Several recent examples show, that the public debate can influence the outcome of a certain project significantly. Stuttgart 21 may be one of the best-known examples of highly controversial debated infrastructure projects in the German-speaking area. Stuttgart 21 is a railway and urban development project, where the existing terminus station is rebuilt as a through station. The areas which become vacant are used for urban development. Even though the plans led to large demonstrations the project is supposed to be completed by 2021.

Usually, the opponents – often residents in the project area – take over the public debate and influence the public opinion about the projects to the worse. This happens mostly when the project is already authorized and shortly before or after the start of construction. Many questions about the intent and purpose of a certain project only arise when the public is confronted with it. At this time, it is often not possible for the public to change any aspects of the project. Therefore, a project has to be well thought out in order to avoid opposition respectively withstand public contention.

Stuttgart 21 is being built despite of the strong opposition; the public debate only delayed the project. But the negative connotation of these projects often remains. Better strategic planning, implementation and communication of transport infrastructure projects could help with opposition on project level. SEA could be an appropriate instrument for that.

3. SEA as an instrument for strategic planning

3.1. Legal basis and requirements

The European Union SEA directive (2001/42/EC) is a directive in the area of environmental protection. It aims at evaluating plans and programmes and ensuring a high level of environmental quality when implementing these plans and programmes. Furthermore, it provides a more consistent framework for undertakings in decision making by including a wider set of factors in decision making. Duplication of assessment should be avoided.

Core aspects of the strategic environmental assessment are indicating, describing and evaluating likely significant effects on the environment and reasonable alternatives of the plan or programme. The directive is implemented in the EU Member States' legislation on different territorial and governmental levels.

Due to its diverse anchoring in the different Member States and on different governmental levels the variation of legislation and implementation of SEA is broad. The extent and the thematic emphases depend on the topic, the institutional context, the planning culture etc. Nonetheless, SEAs have main key points in common.

The core piece of an SEA is the environmental report. This report has to provide information on the contents, main objectives of the plan or programme and the relationship with other plans and programmes (Annex I (a)). In addition, the environmental report has to include information on the environmental protection objectives which are relevant to the plan or programme. It should take into account the contents and level of detail of the plan or programme, its stage in the decision-making process as well as the extent to which certain matters are more appropriately assessed at different levels in that process in order to avoid duplication of the assessment (Article 5 (2)).

Furthermore it states, that the draft plan or programme and the environmental report have to be made available to the authorities and the public (Article 6 (1)). If a plan or programme is likely to have significant effects on the environment in another Member State or if a Member State likely to be significantly affected so requests, a draft plan or programme and the environmental report have to be made available to the other Member State.

The directive doesn't specify anything about the extent of the environmental report or the relationship between the SEA and the plan or programme itself or rather the process of writing the environmental report and the plan or programme.

3.2. SEA in practice

SEA in general can contribute to incorporating an integrated perspective in planning processes, facilitating identification and discussion of development options, informing on the sustainability of strategic decisions, ensuring a democratic decision making progress or creating a culture of strategic decision-making (Partidário 2012).

However, SEAs are often carried out too late in the decision making process, the SEA process and the planning process are disintegrated or the requirements for an SEA process are simply fulfilled very poorly. Reasons for this could be the lack of sensitivity about the importance of SEA or insufficient implementation of the SEA directive on different governmental levels.

Another reason for the minor role of SEA might be the limited thematic focus. Usually, only environmental topics in a narrow sense are addressed. The SEA directive states: The environmental report has to provide information on: "the likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors". Very often, the environmental report limits the assessment of likely significant effects on exactly those aspects – regardless of the plan or programme's subject. Sometimes this leads to rather random, less meaningful statements.

Partidário argues that SEAs should focus on important, for the SEA relevant key factors and get adapted to the natural, but also cultural, political and economic context of the object of assessment. Knowing and agreeing on the object of assessment is essential; focusing on what is relevant for assessing an integral part of a good SEA. Defining "critical decision factors", the key integrated themes, is important for establishing the focus of the SEA as well as the structure of the assessment (Partidário 2012).

The above mentioned "aspects" stated in the SEA directive are similar to those factors stated in the EU EIA Directive (85/337/EEC) (environmental impact assessment, short EIA). In the Austrian EIA Act it is referred to "objects of protection", which cover mainly biophysical aspects. EIA is an instrument for assessing direct and indirect significant effects of projects. EIA is the much older instrument for assessing environmental effects as it was introduced in Austria in 1993; SEA was introduced in several relevant laws as of 2001. One main difference

between SEA and EIA is that SEA is carried out on the level of (strategic, long-term) plans or programmes and EIA is carried out on the level of (specific, short-term) projects. In practise, EIA focuses on assessing mainly negative effects on the environment, while SEA often focuses on negative as well as positive aspects.

The debate about assessing the effects on the environment is often swamped by requirements of EIA – especially the stated factors and the focus of only negative effects. If an SEA limits its understanding of environment to the biophysical aspects stated in the Directives, the SEA risks getting too similar to an EIA. SEA rather has to aim for a broad and holistic understanding of environment; only this way, it can fulfil the requirements for the strategic nature of plans and programmes.

3.3. SEA for transport in Austria

Due to the federalist structure of Austria, the SEA directive is – depending on the particular topic - implemented on national level as well as on federal states level. The SEA for the realm of transport networks is called strategic assessment in the transport sector ("Strategische Prüfung im Verkehrsbereich" or "SP-V"). The legal basis for this is the federal law on strategic assessment in transport sector ("SP-V-Gesetz"). The high-level transport network in Austria includes the federal highways, waterways and high performance railway routes. In case of modifications of this transport network, a strategic assessment in the transport sector has to be carried out. So far, there are nine examples of strategic assessments in the transport sector in Austria; only two of them for the railway sector.

In the railway sector, certain railway connections are declared as high level railway links ("Hochleistungsstrecken"). These routes are highly relevant for the transport and railway network of Austria; either for international connections or for short-distance transport. The regulation happens within the framework of the high performance line act ("Hochleistungsstreckengesetz"). So far, five high performance regulations have been issued (see Fig. 1).

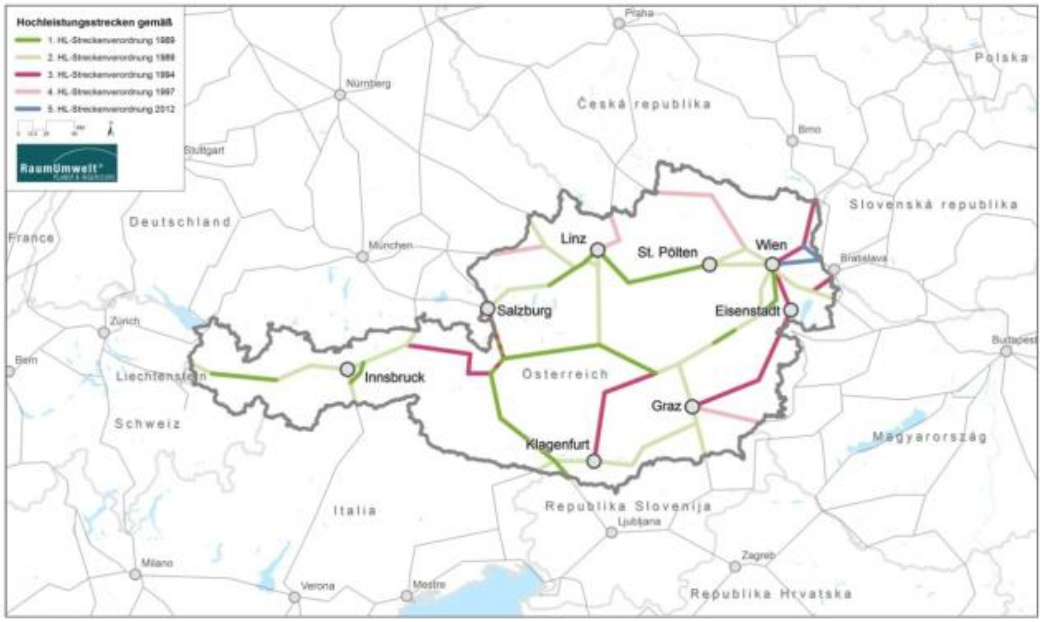

Fig. 1 Austrian high performance lines (Source: RaumUmwelt® Planungs-GmbH)

The declaration of the last high performance line 2012 included the lines between Vienna-state border at Marchegg, Gänserndorf-Marchegg and Vienna-Vienna Airport-Götzendorf. This was the only declaration, where a strategic assessment in the transport sector for a railway line was carried out; at the time of the former declarations, the SEA directive didn't yet exist.

4. Example: SEA Airport Link

4.1. Choosing a broad approach of assessing

The Airport Link is the connection between Vienna and Bruck / Leitha via Vienna Airport. Currently, there is no high level railway line connecting Vienna Airport with the rest of the high level railway network. The Austrian Federal Railways (ÖBB-Infrastruktur AG) intend developing a railway link. It is the first time that a high performance route is declared for a new railway line in the course of an SEA.
The SEA's initiator were the Austrian Federal Railways; the authority was the Austrian Ministry for Transport, Innovation and Technology.

According to the SEA directive, the environmental report has to include "an outline of the contents, main objectives of the plan or programme and the relationship with other relevant plans and programmes" (Annex I, (a)).

During the strategic planning process of the Airport Link several plans and programmes concerning different political and administrative levels, including a wide array of topics were analysed and related to the project. For example, several strategies on UN or EU level were taken into account. Only documents which were relevant to the declaration of the high performance route were chosen; they related either to the topic, the political framework or the potentially affected area.

The objectives of the analysed plans and programmes were summarized and clustered. These clustered objectives provided the framework for evaluating the likely significant effects on the environment. The five main thematic pillars of this evaluation framework were the following:

- Strengthening the agglomerations as business and education centres / increasing competitiveness
- Balancing regional disparities and strengthening economic, social and territorial cohesion
- Efficient use of financial resources
- Economic use and protection of natural resources
- Ensuring a liveable environment and social participation

For each of these main objective several sub-objectives were identified. These topics cover the aspects required in the federal law on the strategic assessment in the transport sector and provide in addition aspects extracted from relevant plans and programs. Likely significant effects of the declaration as a high performance line were assessed within this framework.

For assessing the likely significant effects on the environment a qualitative approach was chosen. Due to the strategic and abstract character of the SEA, the effects and the contribution to the achievement of the objectives were described mainly based on plausibility assumptions. As there was no specific project underlying the Airport link quantitative facts like costs were not covered.

With this approach it was possible to argue for the Airport Link on a broader level. This methodology made it possible to emphasize the advantages of the project more easily.

4.2. The role of the public and the outcome of the SEA Airport link

Even though the SEA for the declaration of the Airport Link as a high performance line is abstract and sometimes difficult to communicate, the public was consulted beyond the SEA formal requirements. The Austrian Federal Railways PR department organized a number of meetings with the mayors and vice mayors of the potentially affected municipalities in order to avoid political opposition and forming alliances for later project stages. Also, the participants can serve as advocators for the project.

In these meetings, important cornerstones of the SEA Airport Link were presented and potentially critical aspects discussed. In addition to that, the public was informed about the Airport Link with a press release.

Besides, the requirements for strategic assessment in the transport sector according to the SEA directive were met: The draft for the declaration and the draft environmental report were published on the homepage of the

ministry, which was pointed out in several (local) newspapers. The authorities were directly informed and transboundary consultations were conducted. The statements made by these players were commented on by the ministry. No individuals made statements.

As mentioned in chapter 3.3, high level railway routes are declared within the framework of the high performance line act. The sixth high performance regulation for the Airport Link has not been issued so far due to the reelection of the Austrian Government in October 2017.

5. Summary and discussion

The SEA for the Airport Link is one example of choosing a broad approach in assessing the environmental effects of a plan or programme.

Even though the SEA process is finished, final evaluation of the overall process is difficult. This is because a plan or programme is often very abstract and challenging to communicate. Arguing for or against a plan or programme on a strategic level is difficult.

In the case of Airport Link, the SEA concerned the declaration of a non-existing route as a high performance railway line. This is per se a very abstract matter, which demands a high level of expert knowledge: One has to know that there is a high-level transport network and high-performance routes; that there is such thing as SEA and that a strategic assessment in the transport sector has to be carried out. This hasn't got anything to do with a specific project yet. Experience has shown that criticism or opposition arises only at project level.

Also, even though information about the Airport Link was provided beyond the requirements stated in the federal law on the strategic assessment in the transport sector, there was no real public discussion about the Airport Link. This was also due to the lack of interest in this process by the public. The SEA for the Airport Link didn't change the public opinion, because there was no objection to the Airport Link.

Nonetheless, the strategic assessment in the transport sector was a success in terms of cooperation among the different involved parties. One main influence factor was that the ministry as authority as well as the Austrian Federal Railways as initiator took the process very seriously.

Carrying out the strategic assessment in the transport sector for a non-existing railway route was done for the first time, which was challenging for all parties. It turned out, that the broad approach of evaluating helped arguing for the Airport Link amongst the involved parties as well as within the different organizations of the parties. The broad evaluation framework, which exceeded the required aspects of the federal law on the strategic assessment in the transport sector, was not only helpful in arguing in favor of the project, it is also politically legitimized as it is the essence of political strategies and frameworks.

The example of Airport Link shows that focusing on relevant, but not only biophysical aspects in assessing effects, helps in convincing not only the authorities but also important opinion leaders of the plan or programme and increasing understanding of possible follow-up projects. Even though the project itself is still in an early project stage, the strategic foundation of it is established. In case of opposition, opinion leaders may help advocating the project. The approach of concentrating on what is important, like Partidário (2012) advocates, was chosen – in this case the approach was rather holistic and integrative. Due to the complexity and level of abstraction of the SEA, the concentration on only the aspects stated in the SEA directive, wouldn't have made much sense.

The question, if SEA can change public attitude, for example against the mentioned project Stuttgart 21, remains unanswered. But SEA can definitely strengthen the argumentative foundation of projects. Also, it engages with public concerns and can help to improve the quality of plans and programmes and subsequently of projects.

6. Conclusions

Carrying out an SEA is a requirement during the preparation of a plan or programme and before its adoption or submission to the legislative procedure (SEA directive (2001/42/EC) Article 4 (1)). The SEA is a potentially

powerful instrument; for facilitating public debate as well as withstanding potential opposition. In case of public criticism, it could help arguing against it.

SEA can add value to the success of a plan or programme respectively of the development of an infrastructure project under the following conditions:

- One has to define relevant, but not only biophysical factors for evaluating likely significant effects on environment in order to find a variety of sound arguments for the plan and programme. In the case of Airport Link, a rather broad approach was chosen due to the complexity and the high degree of abstraction.
- Key-players and potential opinion leaders in the process have to be identified and brought on board early in the process. These relevant persons can act as advocators for the plan or programme respectively for a following project.
- Especially for potentially critical plans or programmes, the initiator has to do more than just policy cover; particularly concerning consulting the public and the evaluation framework.
- If the environmental report is not integrated in the plan or programme, the authors of the plan or programme have to adhere to the specifications made in the environmental report.
- Every project partner has to take the SEA seriously, understand and advocate the added value of SEA.

If all or a large part of these aspects are taken into account during the SEA process, SEA could evolve into a profound instrument for better strategic planning. Last but not least it could disburden EIA on project level, as many fundamental questions are already answered in the environmental report.

7. References

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