

Effects analysis (including evaluation of alternatives) and mitigation measures

Thursday, 4 November, 9:15

Case example 4: SEA for Transport Sectorial Strategy 2, Czech Republic

Following text has been taken from the SEA report for the Transport Sectorial Strategy

The conclusions of the assessment:

Having assessed the effects of the 'Transport Sector Strategies, 2nd phase', the SEA consultant proposes a:

Positive opinion on the TSS2 proposal, provided that the following conditions are met:

A. The conditions for a positive opinion

1. Ensuring that any TSS2 revisions help establish a downward trend in transport's contribution to the local concentrations of suspended particles, nitrogen oxides and benzo(a)pyrene, so that the levels of such contributions allow for meeting the relevant limit values in the entire Czech Republic. Ensuring that any future strategies prefer the implementation of structures and measures that actively promote this objective, above all, in regions with high air pollution and in residential areas.

B. The conditions for a positive opinion in terms of effects on Natura 2000 sites

In order to prevent the implementation of the TSS from having any possible negative effect on Natura 2000 sites, the following recommendations must be followed:

2. Measures to improve the navigability of the Lower Elbe may only be implemented if a positive opinion is issued in the EIA process that also includes the assessment of transboundary effects on the Elbe River's ecosystem in Germany. At the same time, legal requirements under Section 45i of Act No 114/1992 Sb., as amended, must also be met.
3. Since there are a number of other measures that carry a high risk of significant effects on Natura 2000 sites and that could not be reliably evaluated due to the concept's general nature, it is necessary for all measures on the transport network to be thoroughly evaluated at a more detailed level (land-use planning documentation, project level) pursuant to Section 45i of the Act on the protection of nature and the landscape. Measures that are included in the schedule for implementing the Transport Sector Strategies may only be implemented if significant negative effects have been ruled out or as specified by law.

C. Recommendations

Recommendations for the detailed verification of the cumulative effects of the complex of measures to improve the navigability of the Elbe River

4. Since the modernised waterway can only be fully functional if all measures on the waterway are implemented, it is necessary to assess the implementation of all envisaged measures together with the effects of water transport as such.
5. In this connection, it is necessary to ensure that the ongoing EIA process and the ongoing transboundary consultations of the Děčín Weir plan will include a thorough assessment of the cumulative effects on the entire watercourse ecosystem that will be affected by the plan (both downstream and upstream the Elbe River).
6. It is recommended that – prior to the next revision of the Transport Sector Strategies – the aggregate benefits and negatives of the planned development of the Elbe waterway should undergo comprehensive assessment based on the results of the assessment of the Děčín Weir. This analysis should take into account in more detail the potential relocation of transport capacity to the modernised waterway.

Recommendations for the verification of additional possibilities for mitigating the effects of selected transport clusters on air quality

7. In terms of reducing the concept's effects on air quality, the following key recommendations are made:
 - a) To prioritise proactive measures to reduce emissions from transport in all areas with poor air quality. These measures mainly include: i) road network measures to reduce traffic volumes in areas with poor air quality; ii) measures to increase the availability and attractiveness of public urban transport; and iii) measures to improve the linkage between public urban transport and rail, bus and private car transport. In parallel with the above measures, to also incorporate restrictive measures into the strategy in the form of low-emission zones in city centres.
 - b) To prioritise transport measures that are associated with the implementation of multimodal logistics centres, aiming specifically to increase the proportion of rail transport at the expense of medium- and long-distance freight road transport.
 - c) To prioritise measures to develop cycling infrastructure in cities and suburban areas.
 - d) To provide more detailed information on the location, alternatives, capacity and other relevant parameters of measures that will serve to increase the use of railways and public transport (to refine the level of detail to the level of the road infrastructure that is addressed within TSS2), thereby ensuring the timely readiness of these measures, which is a prerequisite to using EU support in future programming periods.
8. In terms of reducing the impacts of specific transport clusters on air and human health, we recommend carrying out an additional verification of all available possibilities for mitigating the effects of the following transport clusters on air and human health, prior to future revisions of TSS2:

- a) The Prague bypass (clusters CS010, CS012, CS013), i.e. both in the form that has been submitted and its alternative suggestions. This is due to the fact that the proposed traffic volumes at the proposed clusters remain high and that air pollution in the area in which the structures will be potentially located will increase.
- b) Any activities that may result in increased traffic volumes at cluster CS003 (D1 Kývalka – Holubice extension), i.e. due to the already high contribution to local concentrations of air pollution that is caused by this road near residential areas).
- c) Any activities that may result in increased traffic volumes in the corridor of cluster CS083 (I/35 Hranice – Rožnov pod Radhoštěm), due to the effects on residential areas and the Beskydy PLA in the valley of the Rožnovská Bečva River.
- d) The zero alternative of the Mikulov bypass (cluster 244N: R52 Pohořelice – Mikulov, I/52 is left within its existing footprint), where it can be expected that future local concentrations of pollution will increasingly affect the Pálava PLA and residential areas.
- e) Measures that may lead to a further increase in traffic volumes in the densely populated Otrokovice – Babice – Staré město – Rohatec corridor. The corridor is characterised by increased local concentrations of air pollution that also increasingly affect ecosystems in the Staré Město – Rohatec section.
- f) The Lípa – Horní Lideč corridor, which assumes the crossing of the Vizovické vrchy hills. This is due to an increased impact of air pollution on affected ecosystems in conjunction with poor air quality in the valley area around Vizovice and the proposed high traffic volumes, including international transit traffic.

For the above-listed clusters, it would be useful to prepare a detailed analysis of all available possibilities for reducing traffic volumes on the roads (e.g. through modifying the road's proposed capacity and technical solution, optimizing the route, and possibly adopting additional measures on the transport network). The measures that are considered should undergo a detailed assessment of their impact on air quality – based on a regional dispersion study that will take account of changes in traffic volumes on both the new and the existing networks, proposed speeds in different parts of the network, the re-suspension of particles, abrasion and emissions of secondary particle precursors. The results of these dispersion studies should be supplemented by an analysis of changes in health risks based on statistical population selections along the existing and proposed roads. These recommendations only apply to cases where similar assessments have not been carried out e.g. within duly completed EIA processes.

Recommendations for the verification of additional possibilities for mitigating the effects of selected transport clusters on nature and the landscape

9. In implementing the strategy, it is necessary to ensure that the mitigation measures listed in Chapter 7 of the SEA documentation are implemented, with special emphasis on the following general mitigation measures:

- a) To eliminate interference in specially protected areas and Natura 2000 sites (especially in small-scale zones and large-scale zones I and II). To search for the optimum route within the defined corridors, while respecting Specially Protected Areas (including buffer zones), Natura 2000 sites, natural biotopes, the occurrence of specially protected species and other natural values.
 - b) To ensure that structures are permeable to migration. This applies not only to migration permeability for large mammals, but also to sites populated by amphibians and other specially protected species, as well as any crossings of Special Areas of Conservation and specially protected areas. To design the size of bridges and culverts in a way that allows for migration permeability, especially when crossing TSES elements and long-distance migration corridors, SAC, sites populated by specially protected species etc.
 - c) To minimise interference with watercourses. To ensure that the water regime is maintained in the vicinity of significant pond and wetland sites.
10. In terms of effects on nature and the landscape, we recommend that – within future revisions of TSS2 – an additional verification of the possibilities for optimising the route and technical solution be carried out for the following measures, aiming to prevent any significant effects on nature and the landscape, including the Natura 2000 network:
- a) The Prague bypass: This structure has a number of significant effects, including effects on specially protected areas and probably also Natura 2000 sites. The alternative regional version has significant effects as well, although to a lesser extent.
 - b) R49 Lípa – Horní Lideč: The plan is in conflict with the TSES and a natural park, and it fragments an otherwise unbroken forest complex.
 - c) R55 Moravský Písek – Rohatec (CS034P) – the official version: It affects Natura 2000 sites, specially protected areas, significant landscape features and forest ecosystems. The structure has a valid EIA, the recommendation needs to be viewed as non-binding.
 - d) I/36 Holice – Častolovice (CS186N): Significant negative effects on factors that are protected under general protection of nature.
 - e) The modernisation of the Lower and Middle Elbe, modernisation of the Baťa Canal
 - f) The modernisation of the Plzeň – České Budějovice railway line (CZ084N)
 - g) Laying of a second track in the Jihlava – Havlíčkův Brod section (CZ078N)

General recommendations for future revisions to Transport Strategies and environmental considerations

11. In preparing any future revisions of Transport Sector Strategies, we recommend initiating the preparation of a proposal of complex measures on the network aiming to reduce road traffic volumes, especially in areas with poor air quality. We recommend that these complex measures (which include e.g. diverting traffic from sensitive areas, implementing relocations, establishing low-emission zones, improving the attractiveness and accessibility of public transport, interlinking transport modes etc.) should already be prepared for the next TSS2 revision and that they should be considered in parallel with other contemplated measures on the transport network.

12. During any future revisions to the “Transport Sector Strategies”, environmental protection criteria need to be further refined and consistently applied. The set of criteria for the future prioritisation and selection of transport measures should more accurately reflect their expected effects on air, nature and the landscapes and human health, and they should be implemented in greater detail than in TSS2. The authors of the “Transport Sector Strategies” should further refine and make maximum use of the set of criteria that were formulated during the evaluation of the environmental effects of TSS2:

Air

- Potential effects on areas that are sensitive in terms of human health
 - Residential zones
- Potential effects on areas that are sensitive in terms of ecosystems
 - Large-scale protected areas
 - Forests
 - Areas above 800 meters above sea level
- The effectiveness of diverting traffic from existing roads in residential areas
 - A traffic volume reduction in a residential area on a road >15 000 vehicles/day
- The potential cumulative effect of the proposed clusters

Nature and the landscape

- Natura 2000
- Specially protected areas, sites populated by specially protected species of national importance, areas with an abundance of specially protected species
- Loss of natural habitats, biodiversity
- Territorial System of Ecological Stability (especially supra-regional and regional), significant landscape features
- Natural parks, landscape character, the aesthetic value of the landscape
- Landscape fragmentation, landscape permeability to migration
- Water regime in the landscape, large forest complexes

Public health

- Air
- Noise
- Socio-economic impact