

Improvement of Highway 7 (E18) into a motorway between Hamina and Vaalimaa.

Environmental Impact Assessment Report, SUMMARY

THE PROJECT AND THE EIA PROCEDURE

South-East Finland Road District (Kaakkois-Suomen tiepiiri) is planning the improvement of Highway 7 into a motorway between Hamina and Vaalimaa. The object of design is located at Kymenlaakso, in the areas of the city of Hamina and the municipality of Virolahti. Highway 7, which is a part of the international E-road network and the Trans-European Network (TEN), is intended to be developed into a motorway at the first stage due to the significant increase in traffic, the large share of heavy vehicle traffic, and the unsafety that results thereof.

The road designing process has many phases, including the preliminary report, the general plan, the road plan, and the construction plan. The environmental impact assessment procedure (EIA procedure) is carried out in connection with the general plan in this project.

The Act on the Environmental Impact Assessment Procedure aims to advance the assessment of environmental impact by increasing information on the project, the current status of the project area, the views of different parties, and on the impacts of the project. The EIA procedure aims at furthering the consistent consideration of the environment and the assessment of the impacts in planning and decision-making.

There are two phases in the assessment procedure: the assessment programme and the assessment report phase. The assessment programme is a plan on which environmental impacts are to be assessed and how the assessment is to be carried out. The environmental impact assessment programme concerning the section Hamina - Vaalimaa of Highway 7 was finished in May 2007 and it was on display for public inspection from 24 May 2007 to 20 July 2007. As the coordination authority, the South-East Finland Regional Environment Centre (Kaakkois-Suomen ympäristökeskus) issued its statement on the programme on 17 August 2007.

Based on the assessment programme and the feedback received therefrom, the actual impact assessment was conducted and its results have been presented in the environmental impact assessment report. The preliminary plans for the different implementation alternatives for Highway 7 were drafted simultaneously with the environmental impact assessment work.

Participation and interaction

The residents of the area as well as other interest groups have had the opportunity to participate in the planning and in the assessment of environmental impacts. The progress of the project has been communicated via press, the internet, e-mail, and letters.

At the early stage of the EIA procedure in March 2007, a seminar for the establishment of the goals and starting points for the project was held, in which representatives of the authorities related to the project and of other stakeholder groups participated. The first public event was organised in June 2007 during the assessment programme's period of display for public inspection. The second public event was organised in March 2008 during the assessment report's period of display for public inspection. The public events have been presentation and discussion events open to everyone.

In April and October 2007 two workshop events were organised for the stakeholder groups and the residents of the area. Representatives of the municipalities and of the organisations and businesses operating in the planning area were invited to the workshops. In addition, a walk in the terrain was organised for the residents and the stakeholder groups in September 2007, during which the different alternative roadlines were examined on the site.



The alternatives and their possible impacts were examined together during the workshops and the walks in the terrain.

The alternatives in the assessment

In the environmental impact assessment procedure, the impacts of the following improvement alternatives were assessed:

- alternative 0+, the road is improved with measures that increase traffic safety and functionality without changing the alignment of the road
- alternative 1, the alternative of a motorway located near the existing road
- alternative 2, the southern motorway alternative
- alternative 3, the northern motorway alternative
- alternative 4, a combination of motorway alternatives 1 and 3

Alternatives 1, 2, 3, and 4 require a completely new highway roadline. Alternative 4 was taken into consideration during the report phase as a result of the feedback received from stakeholder groups. The alternatives have been compared to alternative 0, i.e. the project not being carried out (the existing road). The period of comparison has been the prognosis year of 2030.

The following impacts were examined in the assessment:

- the impacts on people's living conditions and amenity
- the impacts on community structure and land use
- the impacts on flora and fauna and on objects of protection
- the impacts on soil and bedrock and the use of natural resources
- the impacts on ground waters
- the impacts on surface waters
- the impacts on landscape and cultural heritage
- noise and emissions impacts
- traffic-related impacts
- the impacts of the construction period
- real estate impacts
- economic impacts

Key impacts and comparison of alternatives

The impacts caused by the project can be either direct or indirect. The direct impacts are caused directly by the implementation of a certain alternative. These may affect, for example, the ground or surface waters, the nature, the landscape, or the cultural values of the new terrain corridor. Indirect impacts include, for example, changes in land use, community structure, and people's operation environment and movement caused by the construction of the road.

The impacts of **alternative 0** + are minor. Regardless of the improvement measures included in the alternative, traffic safety will weaken from the current situation as the amount of traffic increases. During peak rush hours the lorry traffic will queue further and cause detriment to the roadside inhabitation. Noise is abated in inhabited areas, which will change the landscape to a certain extent.

In all the motorway alternatives traffic flow is improved and accidents will be reduced. In addition, accessing the highway changes because merging onto the motorway takes place through interchanges. The existing road will remain in the use of local traffic.

Of the motorway alternatives **alternative 1** is located in the vicinity of the existing road and in many places in the same terrain corridor. The alternative causes detriment to the roadside inhabitation and weakens the amenity of the area due to the increase in emissions, for example. The motorway runs through the urban centre of Virojoki. The detriments to the villages along the road are also significant and their reduction is demanding. Establishing new operations on the roadside becomes difficult as there is little room and the road arrangements may become complex. For this reason, alternative 1 does not have a positive effect on the development of land use. Alternative 1 will cut through the Vaalimaa cultural landscape and will demolish the cultural-historically significant depositions that are also relevant to the landscape. The nearby-landscape of the existing road will change essentially. The alternative does not have significant impacts on the nature of the area.

Alternative 2 is located, for the most part, in the new terrain corridor, to the south side of the existing road in the west, and to the north side in the east. The detriments caused by the road and the traffic will move to new areas and the living conditions along the existing road will improve. The detriments to habitation in the Vaalimaa area will persist. Alternative 2 will go around the urban centre of Virojoki, and new operations and services may be established in the section between the population centre and the highway. The roadline runs

near the military exercise and camp area in Valkjärvi used by the Reserve Officer School. For its western parts, the alternative causes detriment to the village inhabitation and farming, and changes the landscape. Alternative 2 runs through the Sikovuori cliffs, which is valuable as regards biological diversity, and may weaken the natural values of Saarasjärvi. The alternative may obstruct the flying squirrel's movement paths.

Alternative 3 goes around the urban centre of Virojoki and the area's villages in the north and thereby causes the least detriment to the inhabitation. The alternative improves the living conditions on the roadside of the existing road. On the other hand, it cuts through untouched forest the most, but it does not cause changes in the valuable landscape areas. For some parts, the alternative is located near an area that is valuable for biological diversity. Alternative 3 may also weaken the natural values of the Saarasjärvi area and the breeding sites, resting places, and movement paths of the flying squirrel. The road will cross the nationally valuable Vaalimaa river valley landscape area from the narrowest point in the forest.

Alternative 4 follows the lining of alternative 1 from Lelu to the east side of Haavisto, after which the alternative will merge with the lining of alternative 3. Alternative 4 will go around the villages of Virojoki and Vaalimaa but its western parts are situated, similarly to alternative 1, in the vicinity of the existing road and inhabitation. The alternative crosses the Salpa Line in the area that is considered significant. Alternative 4 may weaken the natural values of the Saarasjärvi area and may obstruct the flying squirrel's movement paths. The impacts on the Vaalimaa river valley are minor as in alternative 3.

Conclusions

Of all of the motorway alternatives, alternative 1 is difficult to implement from the viewpoint of inhabitation and people's living conditions as the noise abatement measures need to be carried out for a long section of the roadline. Alternative 3 goes around the inhabited areas and does not require as much noise abatement as the other alternatives.

As regards the development of Virojoki urban centre and Vaalimaa, alternatives 3 and 4 are good because they offer the best preconditions for establishing new operations. In alternative 1 establishing new operations are instead required many road arrangements.

The alternatives do not destroy areas that are significant for biological diversity. However, all of the motorway alternatives cause a barrier effect for animals. Attempts have been made to reduce the detriments by carrying out overpass or underpass possibilities for animals. The class II groundwater area in Haavisto is protected in all alternatives and thereby the contamination risk of the groundwaters is reduced. The protection of groundwaters may be carried out in alternative 0+ as well.

Chart xx. Conclusions

The significance of the impacts:

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Very significant negative impacts	Significant negative impacts	Somewhat negative impacts	Minor impacts only	Somewhat positive impacts	Significant positive impacts	Very significant positive impacts

	ALTERNATIVE 0+	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4
SOCIAL IMPACTS	--	---	-	++	+
THE AREA STRUCTURE AND LAND USE	--	-	+	++	+
NATURE	0	-	---	---	--
GROUND AND SURFACE WATERS	+	0	-	-	-
LANDSCAPE AND CULTURAL ENVIRONMENT	0	---	-	++	+
NOISE	+	+	++	+++	++
EMISSIONS DETRIMENTS For the inhabitation between Virojoki and Vaalimaa	--	--	-	++	++
TRAFFIC	--	++	++	+++	+++
THE IMPACTS OF THE CONSTRUCTION PERIOD	-	---	--	-	--
REAL ESTATE IMPACTS	0	---	--	-	--

Further planning

During the environmental impact assessment, a preliminary general plan concerning the highway has been drawn up along with the preliminary reports. The solutions related to traffic engineering have been presented on a rough principle level of detail. The road alignment alternative will be decided on in connection with the, drafted simultaneously and in close connection, Kymenlaakso regional plan and the general planning of the Vironlahti municipality local master plan during autumn 2008. In 2009, the Finnish Road Administration or the Finnish Ministry of Transport and Communications will decide on the project's decision in principle based on the general planning.