

# Road Planning Process





The image shows a multi-lane highway with several cars. A white SUV is in the foreground on the left, and a dark sedan is in the lane next to it. The road has white lane markings and arrows. A blue gradient is applied to the top half of the image, where the text is located.

# Road Planning Process

# ROAD PLANNING

## Process

The following is a summary of the highway (i.e. state road) planning process – what are its phases and what can be done to achieve the best result?

### Why Highways Are Improved and Constructed

Improving an existing highway is preferred to the constructing a new one. Highways are improved to meet general traffic needs, to eliminate or reduce negative impacts caused by traffic or when changes in land use so require. A new highway shall be constructed when the existing highway network no longer meets the requirements of traffic or land use, and these requirements cannot be satisfactorily met or eliminated through road improvements or other transport system develop-

ments, or the negative impacts caused by traffic cannot be reduced enough.

Reasons to improve existing highways and construct new ones include the following:

- Increased mobility/travel due to residential, work place and service developments.
- Requirements better serve the transport needs of industrial and commercial activities.
- Increasing mobility during working hours and free time and growth of the car fleet.
- Need to make highways safer and reduce negative impacts on the environment caused by traffic.
- Aim to improve pedestrian and bicycle traffic conditions, and the use of public transport.
- Aim to improve traffic mobility.



**Highways are improved and built to increase traffic safety, among other things.**



## Co-operation is necessary between the different parties involved in planning.

### Who Plans and Constructs Highways?

Highway planning is based on the Highway Act and Decree, and other legislation concerning land use planning.

The state is responsible for maintaining and planning **highways**. The Finnish Transport Agency acts as the responsible organisation at state level. The Centres for Economic Development, Transport and the Environment (EDTE Centres) are regional-level authorities. The EDTE Centre commissions the planning, construction and maintenance of highways from companies offering such services.

In addition to highways maintained by the state, there are **streets** in urban areas, constructed and maintained by the municipalities. In addition, many **private roads** exist, especially in rural areas, which are the responsibility of shareholders or the owner of the real estate in question.

### Road Planning as Part of Road Network Management

#### **Road planning is part of community planning.**

It is part of a planning system in which plans

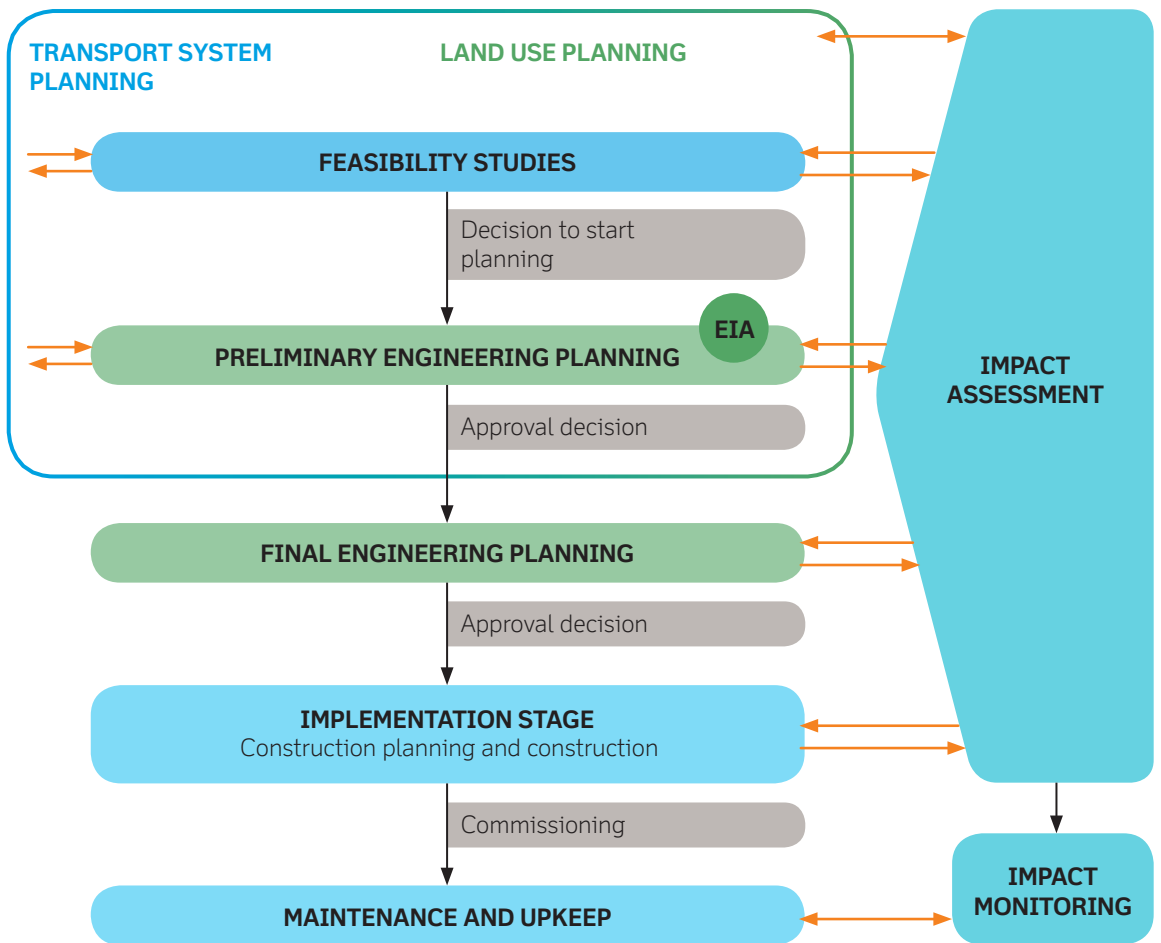
for traffic, land use and areas are all integrated. Co-operation is therefore necessary between the different parties involved in planning.

**Road maintaining and planning** involves planning of maintenance, upkeep and development of the highway network. It is based on goals set by the Ministry of Transport and Communications, resulting in plans and programmes to achieve these goals. These in turn direct actions within different segments, such as the **planning of road projects**.

**Road management programmes** are drawn up in co-operation with the other parties involved in community planning. There are programmes with three time scales: long-term plan (LTP, 10 to 30 years), operational and financial plan (OFP, 4 years) and an annual implementation plan based on the state budget.

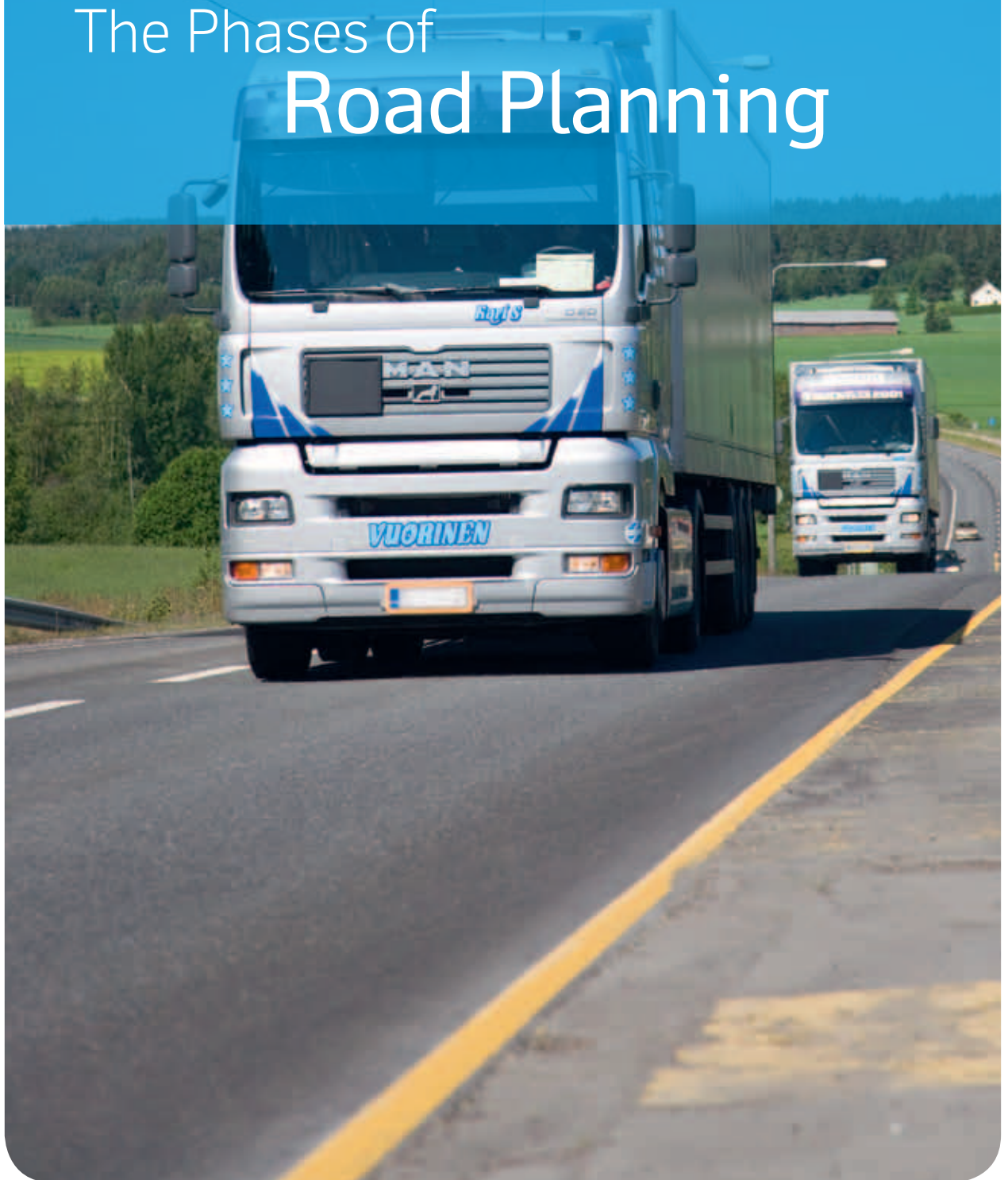
Major road network development projects are drawn up in a centralised manner, with Parliament making implementation decisions during budget debates. Other road projects are drawn up in the regional Centres for Economic Development, Transport and the Environment.





Road planning is part of community planning.

# The Phases of Road Planning



# THE PHASES OF Road Planning

The planning of road projects is a process becoming more detailed stage by stage. At each stage, the level of planning accuracy and decision-making is adapted in accordance with land use planning.

**The planning process has four stages:**

feasibility study, preliminary engineering planning, final engineering planning and construction planning. In minor road projects with limited impacts, planning and decision-making stages can be combined.

When a new highway or the improvement of an existing highway is planned, the planning must be based on a land use plan meeting the requirements of the Land Use and Building Act. Road planning phases are connected to land use planning as follows:

- **At the feasibility study phase**, the necessity and timing of road projects are studied at the same approximate planning level as the regional land use plan and the local master plan.

- **Preliminary engineering planning** corresponds to land use planning on the level of a local master plan or a local detailed plan. A preliminary engineering plan determines the approximate location and space requirement of the road and its relation to the surrounding environment.
- **Final engineering planning** is planning at the same level of detail as local land use plans.
- **Construction planning** is related to the implementation of a road project and is performed before and during construction.

In different phases of the planning process, alternatives are reduced as road planning becomes more accurate. As the process progresses, planning can be more and more focused.

For the public and other parties to the planning process, it is important to participate in the planning at the right time. Planning can also be interrupted, if sufficient reasons no longer exist to continue the planning process.

A road project is given its form and details during a planning process which becomes more and more detailed in phases, adjusted to correspond to land use planning.

Dividing project-specific planning into phases makes specifying the order and time of road project implementation easier.

## TRANSPORT SYSTEM PLANNING

Transport system planning, road network planning, development planning, location study

Road planning

Dialog with interest groups

**PRELIMINARY ENGINEERING**  
Extensive dialog

**FINAL ENGINEERING**  
Dialog with involved parties

**CONSTRUCTION PLANNING**

Goals for further planning

Approval of the plan

Approval of the plan

Construction

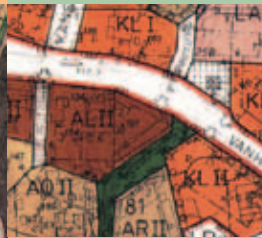
Land use planning



**REGIONAL PLANNING**  
Compiled and approved by the regional council. Ratified by the Ministry of Environment.



**GENERAL PLANNING**  
Compiled and approved by the municipality. Road location is approved in the plan.



**TOWN PLANNING**  
Compiled and approved by the municipality.



Construction



**For the public and other parties to the planning process, it is important to participate in the planning at the right time.**



# Feasibility Study

Planning a transport system involves interactive planning of land use and traffic. Thus, a framework is created for the arrangement of different traffic modes and land use. Planning generates traffic policy objectives and goals, network plans for different traffic modes, implementation strategies for the system and assessments of the impacts. More detailed plans for pedestrian and bicycle traffic, public transport, parking etc. are made when needed.

**Transport system plans** have been drawn up for many urban areas and some provinces. In smaller urban areas, the planning emphasis is usually on traffic network planning.

For various purposes, **feasibility studies** can have different names and content. The most common project-specific feasibility studies are **the development study, needs assessment and development/action plan**.

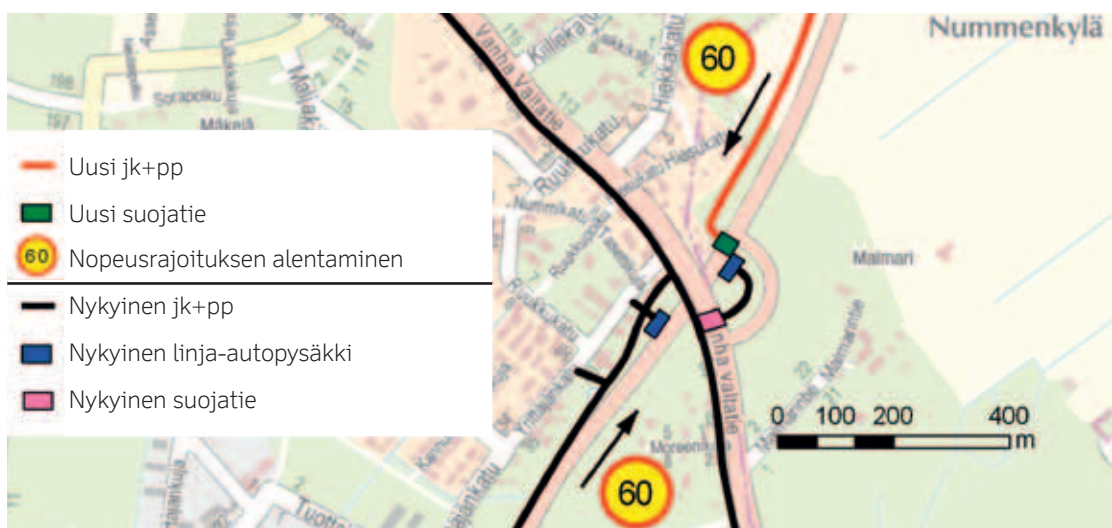
The starting points of a feasibility study are existing land use and current road and traffic conditions. Societal development causes changes in travel needs and traffic conditions. These changes are examined during the feasibility study phase and the actions required to meet the goals set for the development of traffic conditions are planned.

The outcome of the feasibility study is a project or several projects for which preliminary examinations have been conducted of possible alternative actions, including the related impacts and costs. During the feasibility study, the **need for interaction varies** according to the nature of the project. Participation by municipalities and regional councils are usually emphasised during co-operation.

The decision to begin planning can be made based on the feasibility study. Such a decision consists of the road authority's statements concerning the necessity, timing and further planning of development actions. Actions deemed necessary proceed for further development and implementation. The related timetables are determined according to the funding available.

## Outcomes of feasibility studies:

- goals
- alternatives
- approximate actions
- preliminary impact assessments
- cost forecasts



# Preliminary Engineering Plan

Preliminary engineering planning determines the approximate location of the road, the road's connections to the existing and future road network and land use, basic technical and traffic solutions and the principles underlying the prevention of negative impacts to the environment. Planning is performed at a level of detail which ensures that the plan is technically, financially and environmentally feasible. When legislation requires an environmental impact assessment (EIA), the road project's environmental impact is assessed according to the Act on Environmental Impact Assessment Procedure during the preliminary engineering planning phase.

The **approval decision** is made on the preliminary engineering plan. The project can then be included in near-future implementation programmes (the Finnish Transport Agency's operating and financial plan, the programmes of the Centres for Economic Development, Transport and the Environment).

Because the location and quality of the highway and the highway's impacts on people's living conditions and the environment are determined in the preliminary engineering plan, this phase has the most important effect on the road project. An approved preliminary engineering plan may limit

other construction activities and impose an obligation on the road authority to expropriate areas. In general, principles approved in the preliminary engineering plan are usually no longer discussed in the final engineering planning phase. Customarily, when the final engineering plan is eventually submitted for processing, solutions already approved in principle are no longer subject to change through objections or appeals.

## Outcomes of preliminary engineering planning:

- approximate location of the road
- basic traffic and road engineering solutions
- principles underlying the landscaping of the road side and the handling of green areas
- principles underlying the prevention of negative impacts on the environment
- impact assessment
- cost estimate
- target timetable and stages of construction



## Impacts of the Road Project

The impacts of the road project are assessed in all planning phases when alternatives are being decided upon, compared and chosen. Such assessments are considered in the final preliminary engineering plan and when making decisions on further planning.

**Impact assessment requires many-sided co-operation** between road planners, municipalities and environmental authorities, and experts in various fields.

The Act on Environmental Impact Assessment Procedure is always applied in motorway and semi-motorway construction projects, and when a project entails the construction of a continuous road over 10 km in length and with four or more traffic lanes (also applies to realignment and widening projects). The Act is also applied in individual cases when the EIA coordinating authority so separately decides in the case of road projects which are likely to cause a negative environmental impact of a significant level and extent.

## Final Engineering Plan

Final engineering planning determines the precise location of the highway, areas required for the highway, intersections of highways and private roads and solutions for other road connections, solutions for pedestrian and bicycle traffic and public transport, and other detailed solutions such as measures necessary to the prevention of negative traffic impacts. Because the **final engineering plan** settles all issues directly affecting land owners and other parties concerned, interaction is focused on issues to be agreed with them.

The **approval decision** is made on the final engineering plan, allowing the road authority the right to take possession of the area required for the highway. It is sometimes necessary to make a **revision plan** to an approved final engineering plan. This process is similar to the original plan, unless the impact of the change is so minor that agreement with real-estate owners is sufficient. Once financing has been ensured, highway construction can be started.

## Construction Plan

**Construction planning** belongs to the road construction phase and covers the drafting of the documents required for construction. In many cases, the contractor is often responsible for drawing up the construction plan. Within limits of the final engineering plan, interaction between road constructors and landowners and other concerned parties continues throughout the entire planning and construction phase. In minor projects, the final engineering and construction planning phases can be combined.

Compensation is paid for any damage caused to external property during final engineering or construction planning and construction.

### Outcomes of final engineering planning:

- precise road area
- detailed solutions
- cost estimate and possible division of costs

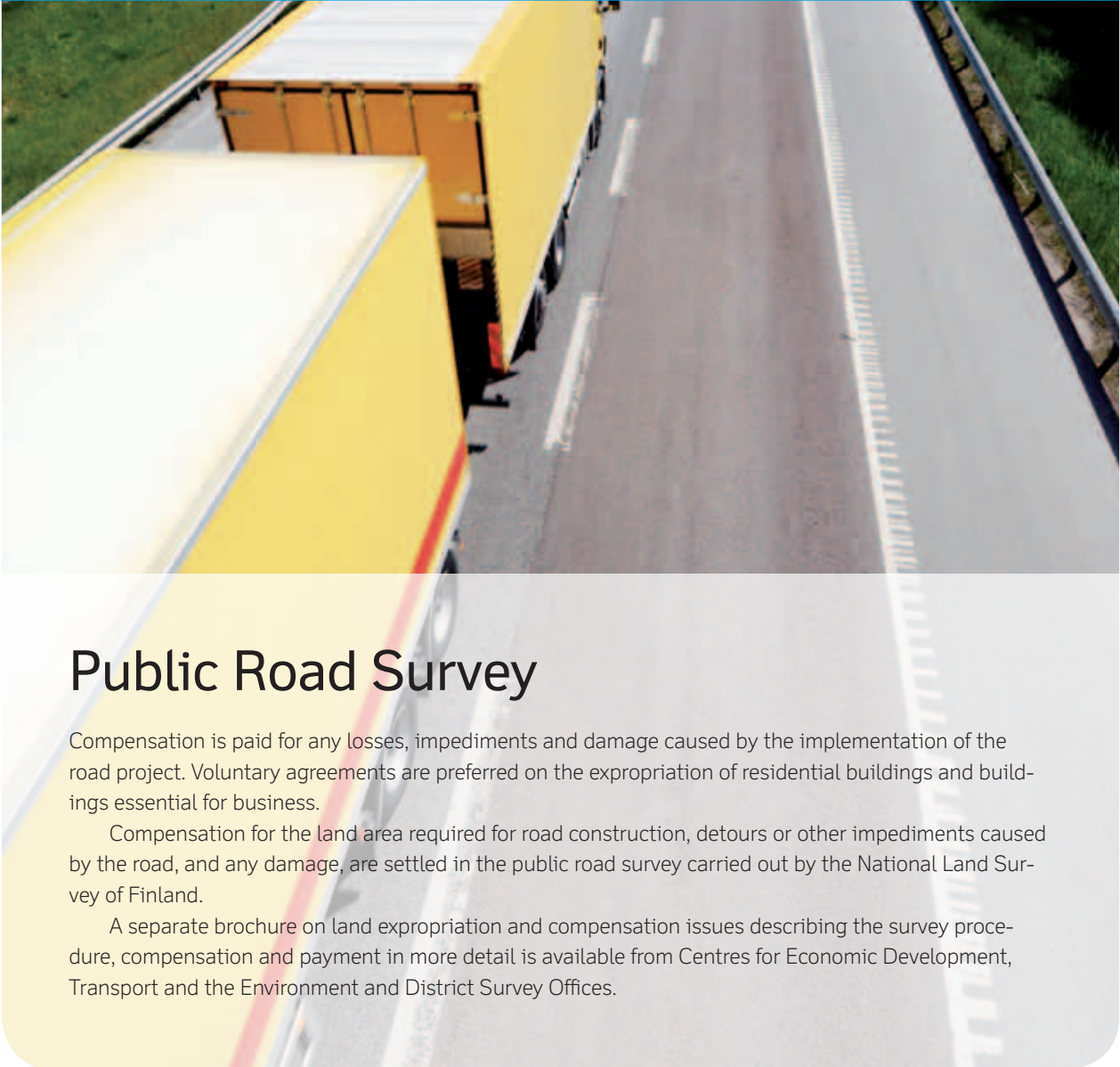
### Outcome of construction planning:

- documents required in construction





# Road Planning Terminology



## Public Road Survey

Compensation is paid for any losses, impediments and damage caused by the implementation of the road project. Voluntary agreements are preferred on the expropriation of residential buildings and buildings essential for business.

Compensation for the land area required for road construction, detours or other impediments caused by the road, and any damage, are settled in the public road survey carried out by the National Land Survey of Finland.

A separate brochure on land expropriation and compensation issues describing the survey procedure, compensation and payment in more detail is available from Centres for Economic Development, Transport and the Environment and District Survey Offices.

## Road Planning Terminology

### Highways

Roads maintained and planned by the State

### Motorways

Highways with dual carriageways for motorised traffic

### Semi-motorways

Highways with a single carriageway for motorised traffic

### Main roads I class

Roads belonging to the main national road network

### Main roads II class

Roads complementing the main road network

### Regional roads

Roads connecting municipal centres

### Connecting roads

Roads collecting traffic from rural areas

### Pedestrian and bicycle ways

Roads or road areas for pedestrian and bicycle traffic

### AADT

Annual average daily traffic

### SADT

Average daily traffic during the summer (June-August)

### Level of service

A description of the road's traffic conditions

### Horizontal alignment

The location of the road (route) on a map or in the terrain

### Vertical alignment

The road's height relative to the ground surface (longitudinal section in the plans)

### Alignment

Horizontal and vertical alignment together

### Curve radius

Half of the diameter (radius) of the circle forming a curve in the road

### Channelised intersection

The driving directions in the intersection are separated by road markings and/or raised traffic islands

### Roundabout (traffic circle)

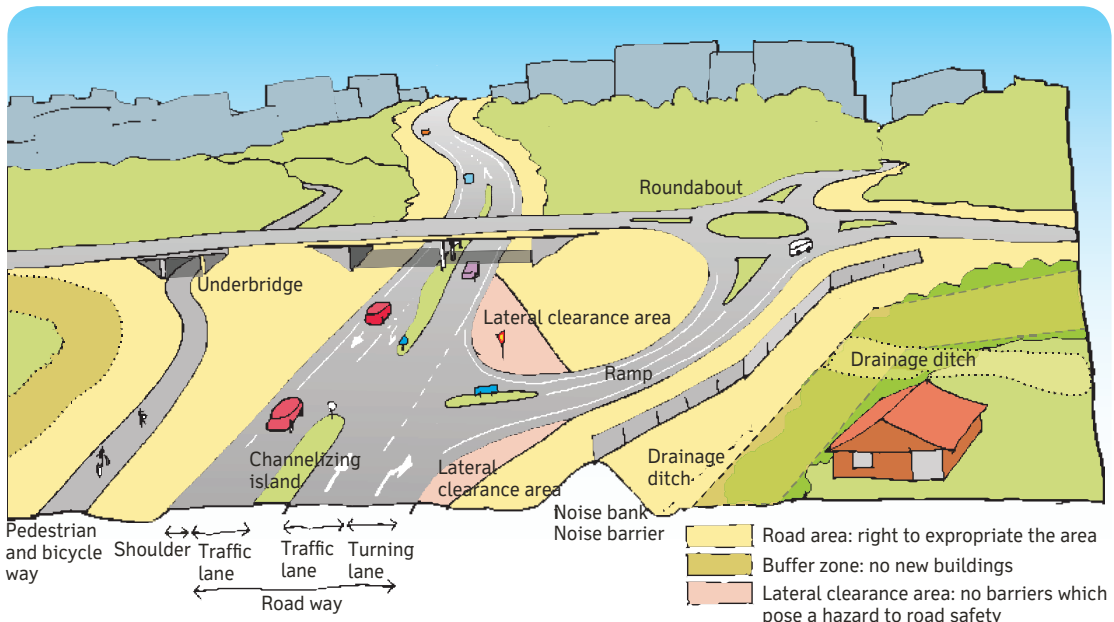
Turning only to the right

### Interchange

A traffic connection between roads intersecting at different levels via a ramp

### Noise impact area

The average traffic noise exceeds a certain limit value (e.g. 55 dB) in this area



# Interaction





# INTERACTION

Road planning is **interactive co-operation in all phases of planning**. The parties, scope and content of interaction depend on the planning phase and the nature of the project:

- At the **feasibility study phase**, the main focus is on co-operation between organisations
- During the **preliminary engineering planning phase**, the co-operating parties include municipalities, regional councils, environmental authorities and other planning organisations, land owners, local residents, entrepreneurs and various civic organisations. Extensive interaction is especially important during preliminary engineering planning in particular, since the most important basic project solutions are decided in this phase.
- During the **final engineering planning phase**, the interaction mostly deals with details and, in addition to the municipalities, the parties include the land owners, residents and entrepreneurs in the vicinity of the road.

This interaction allows stakeholders, parties concerned and citizens to participate in and affect planning, while interaction also serves as a means to obtain information required for planning. The goal of interaction is to find solutions which are acceptable to all parties involved in planning. The earlier the interaction begins during the planning phase, the better the results achieved. In this way, it is easier to consider various proposals and viewpoints.

Information on the planning of road projects is also available on the websites of the Finnish Transport Agency and Centres for Economic Development, Transport and the Environment [www.fta.fi](http://www.fta.fi) and [www.ely-keskus.fi](http://www.ely-keskus.fi).



**Extensive interaction is especially important during preliminary engineering planning.**

# The Administrative Processing of Road Plans

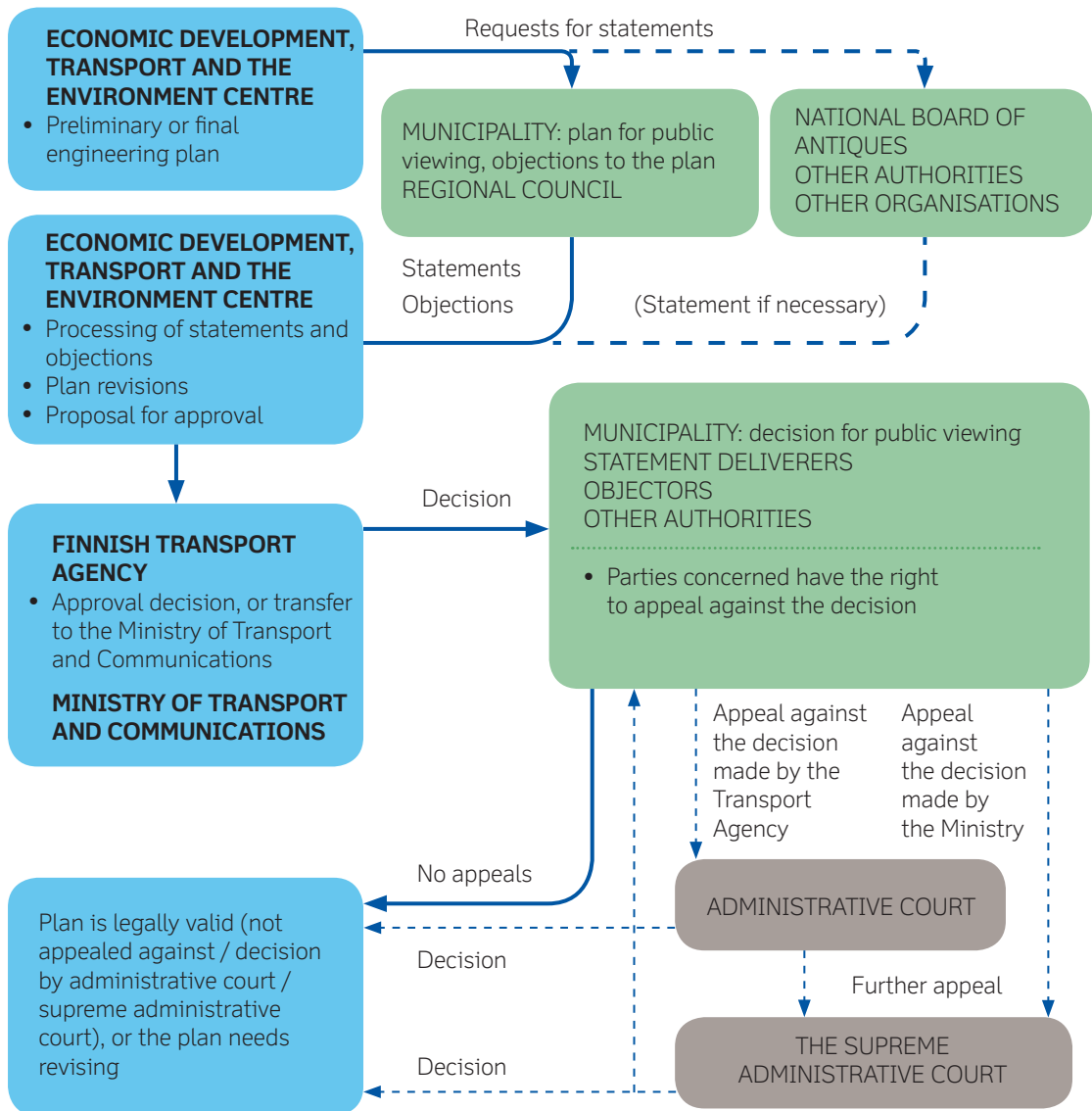
**Statements and opinions** are requested from various parties on the solutions identified during planning and on the proposed plan, to form the basis for decision-making during the administrative processing of the plans. The procedures in different planning phases are as follows:

- **Feasibility studies:** statements are acquired, if the estimated impacts are significant and/or wide-scale. For many road projects, information is distributed on only the basic solutions and the decisions made.
- **Preliminary and final engineering plans:** the administrative processing follows the procedure stipulated in the Road Act and Decree. This includes public notifications in the specified format, keeping the plan available for public viewing, providing an opportunity to lodge objections and requesting statements.

The Finnish Transport Agency approves preliminary and final engineering plans. For particular reasons, the Finnish Transport Agency may transfer the plans for approval by the Ministry of Transport and Communications, which also approves plans concerning the discontinuation of a road.

The plan formed during the planning and the administrative process does not always satisfy everyone. For this reason, it is possible to appeal against a decision to approve a preliminary or final engineering plan, to an administrative court and/or the supreme administrative court.







# Co-operation Is Important



# CO-OPERATION

## Is Important

The starting point of road improvement and construction is to promote the possibilities for travel and transportation, while increasing traffic safety and making the travel environment more pleasant. The pros and cons of the road project are weighed up during the various planning phases, in order to identify solutions which allow the goals to be achieved as economically as possible.

You can participate in achieving a good result by bringing up important issues during planning. The announcement of the planning phase is usually publicly notified in newspapers, including information on the subject of the planning, as well as the parties and persons responsible for plan-

ning. In many cases, information on larger road planning projects can also be found in newspaper articles and the websites of the Finnish Transport Agency and the Centre for Economic Development, Transport and the Environment.

### **You can affect planning through the following:**

- Personal discussion with the planners.
- Contacting municipality officials and decision-makers (usually members of the co-operation groups).
- Active participation in associations, organisations etc. representing your interests.



**The pros and cons of the road project are weighed up during the various planning phases.**

[www.fta.fi](http://www.fta.fi)  
[www.ely-keskus.fi](http://www.ely-keskus.fi)

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