

The planning methodology for the trans-European transport network (TEN-T) as used for the Commission proposal made on 19 October 2011

This paper sets out the methodology for planning the future trans-European transport network (TEN-T), which will feature a dual layer network structure, comprising a comprehensive and a core network.

### 1. The Comprehensive Network

The comprehensive network represents the basic layer of the TEN-T and includes components for all transport modes – rail, road, inland waterway, air and maritime as well as their connecting points and corresponding traffic information and management systems.

The comprehensive network, essentially, results from an updating and adjustment of the current TEN-T, as defined in Decision N° 661/2010/EU of the European Parliament and the Council of 7 July 2010 on Union guidelines for the development of the trans-European transport network.

Updating and adjustment need to abide by a number of rules:

1. Update the current TEN-T to reflect progress in its implementation and adjust it where necessary to changes in national planning, in coherence with EU planning;
2. Add selected and well-defined missing links and nodes, especially in Member States which have acceded to the EU since 2004, where necessary to ensure a homogeneous network planning, a sound modal balance and the interconnection of national networks, and to contribute significantly to TEN-T objectives. Special attention shall be given in this context to network density which in principle shall correspond to NUTS 2 zones<sup>1</sup> and reflect spatial distribution of population and of economic and industrial activities.
3. Eliminate dead ends and isolated links in the current TEN-T if not justified by geographical particularities.
4. Ensure that minimum standards for infrastructure and equipment are met in accordance with relevant legislation currently in place (e.g. rail interoperability, road tunnel safety, inland waterway categorization).
5. Revise the selection of seaports which are open for commercial traffic, according to at least one of the following specific criteria:

Passenger transport: seaports connected to the land component of the comprehensive network with an annual traffic volume exceeding 1‰ of the total annual EU maritime passenger traffic.

This annual traffic volume should represent the average of the latest three-years totals for which data are available from EUROSTAT<sup>2</sup>.

Freight transport: seaports connected to the land component of the comprehensive network with an annual traffic volume – either for bulk or non-bulk cargo handling - that exceeds 1‰ of the corresponding total annual cargo handled in EU ports. This annual traffic volume should represent the average of the latest three-years totals for which data are available from EUROSTAT<sup>3</sup>.

Seaports located on islands, on condition that they provide accessibility at NUTS 3 or archipelagos level.

Seaports located in outermost regions or peripheral areas, provided their road-distance from another TEN-T port is at least 200 km.

6. Revise the selection of airports which are open to commercial traffic, according to the following specific criteria:

Passengers: Airports with an annual traffic volume exceeding 1 ‰ of the total annual EU air passenger traffic. This annual traffic volume shall represent the average of the latest three-years totals for which data are available from EUROSTAT4.

Freight: Airports with an annual traffic volume exceeding 2 ‰ of the corresponding total annual cargo handled in EU airports. This annual traffic volume shall represent the average of the latest three-years totals for which EUROSTAT5 data are available.

Airports located on islands.

Airports located in peripheral or landlocked areas, provided their distance from another TEN-T airport is at least 100 km or, in case they are connected to a high-speed railway line, at least 200 km.

7. For inland ports, the volume threshold set out in Decision N° 661/2010/EU would remain unchanged. Inland ports must be open to commercial traffic, located on a TEN-T inland waterway and be interconnected with other TEN-T road or rail infrastructure.

8. Add a network component consisting of multimodal platforms which must provide free access to any logistics operator. These platforms fulfill one of the following specific criteria:

The multimodal platform constitutes the main platform of a NUTS 2 region and is connected to two TEN-T modal network components.

The multimodal platform exceeds the quantitative threshold for seaports.

## 2. The Core Network

The core network is a subset of the comprehensive network overlaying it, to represent the strategically most important nodes and links of the trans-European transport network. It is multi-modal – i.e. it includes all transport modes and their connections as well as relevant traffic management systems, and the infrastructure included in this network shall be a subset of the comprehensive network.

The core network is identified in the following steps:

1. Identification of the main nodes of the Core Network:

These are the nodes of the highest strategic importance in the EU, which are identified in the first step of the planning procedure:

- main nodes for passengers and freight,
- main nodes for freight only,
- main nodes for passengers only.

There are two classes of main nodes: primary nodes (P) which determine the overall network configuration, and secondary nodes (S) which are parts of primary nodes or result from shaping the network.

2. Identifying the links between the main nodes:

Multimodal links will be selected from the comprehensive network to connect the main nodes, following the corresponding (potential) main traffic flows, as specified in 2.2.

Applying this methodology on inland waterways showed that almost all of them would become part of the core network. For this reason, the entire inland waterway network which complies with UNECE category IV is considered part of the core network.

The “Motorways of the Sea” are the maritime dimension of the TEN-T. As far as they fulfill the function of core network links or of sections thereof (e.g. linking core network main nodes across the sea), they are considered part of the core network, as well.

3. Merging the modal network parts to the multimodal Core Network.

### 2.1 The main nodes of the Core Network

Primary nodes, which shape the network, are marked with (P), secondary nodes with (S).

#### A. Main nodes for passenger and freight traffic:

1.(P) The capital city of each EU Member State.

2.(P) Every “METropolitan Growth Area” (MEGA in the ESPON6 Atlas 2006).

3.(P) A conurbation or city cluster which, including the corresponding environs as defined by the corresponding LUZ (“Larger Urban Zones”, according to Urban Audit and EUROSTAT) exceeds 1 million inhabitants.

4.(P) The main border crossing point of each available mode of transport, between each EU Member State and its non-EU neighbors.

(In many cases, this will coincide with the points where the Major Axes specified in the Communication from the Commission “Extension of the major trans-European transport axes to the neighboring countries - Guidelines for transport in Europe and neighboring regions”<sup>7</sup>, cross the external border of the EU.)

In the framework of this dual layered approach, urban nodes play an important role within the multimodal Core Network, with regard to their infrastructure both for passengers and for freight. Apart from their wide range of economic, social and cultural functions, for the Union’s transport system, they are particularly relevant in the following respect:

- they connect network links – both of the core and the comprehensive networks;
- they interconnect transport modes, thus enhancing multimodality;
- they connect long distance and/or international with regional and local transport (passengers and freight).

**B. Main nodes for freight traffic:**

1.(S) A sea or inland port or a road-rail terminal of an urban main node according to one of the criteria A.1 – A.3.

2.(P) A sea or inland port with an annual transshipment volume of at least 1 % of the total transshipment volume of all EU seaports, based on a linear interpolation between bulk and non-bulk.

3.(P) In insular Member States or NUTS 1 regions with access to the sea, where no ports are classified according to the criteria B.1 or B.2, as a general rule, along each continuous coastline only one seaport is classified as a main node. It shall be the largest such port, however taking into account also hinterland connectivity.

Ports on islands which are not Member States on their own, in general do not qualify as main nodes since their hinterland connections, if in the TEN-T at all, typically belong to the Comprehensive Network.

4.(S) Inland ports which have relevant interface function to core network rail links for freight, are classified as main nodes for freight traffic.

**C. Nodes are classified as main nodes for passenger traffic, if they meet one of the following criteria:**

1.(S) The airports of urban main nodes according to A.1 – A.3. Amongst these airports, those which exceed 1 % of the total annual passenger volume within the EU have to be connected to the railway network, latest by end of 2050.

2.(P) The cities relative to seaports qualified for the core network according to the criteria B.2 or B.3, if their population exceeds 200.000 inhabitants of the corresponding LUZ.

3.(S) Seaports qualified for the core network according to the criteria B.2 or B.3, if they show to have a bridgehead function for passenger ferry connections within maritime links of the core network.

**2.2 The Links of the Core Network**

While for inland waterways the core network is identical to the comprehensive network, the following criteria apply to road and rail only. The land-based core network links (road, rail) will be complemented by the “Motorways of the Sea”, to give due access to insular Member States and to shortcut connections to or between peninsulas.

Core network links shall be of highest importance for long-distance traffic and play a strategic role for the development of the TEN-T. They thereby contribute to a homogenous and balanced accessibility throughout the Union.

**D. Links for passengers and freight are selected according to the following criteria:**

1. Neighboring urban main nodes according to A.1 – A.3 shall be connected with each other by road and rail. (Two main nodes are considered as “neighboring”, if the corresponding relevant (existing and/or potential) traffic flows between them follow a direct line, not passing through a third main node located somewhere in between.)

More distant main nodes will thus be indirectly connected with each other, by which the network is formed.

2. Border crossing points according to A.4 are connected with their corresponding hinterland main nodes, following the relevant traffic flows.

**E. Links for freight are selected according to the following criteria:**

1. Seaports according to B.2 or B.3 shall be connected to only one hinterland main node each, corresponding to the most relevant traffic flows. Basically, connections between ports are not foreseen, but may result from the overall itinerary of a core network link. In countries where railways exist, hinterland connections of ports of the core network must include both road and rail.

2. The local links of sea and inland ports as well as road-rail terminals according to B.1 and B.4 (“last miles”) are considered part of the core network.

**F. Links for passengers are selected according to the following criteria:**

1. In Member States which have railways, airports have to be connected to the rail network by end of 2050, if their annual passenger volume exceeds 1% of the corresponding EU total.

2. Seaport cities according to C.2 and seaports with special importance for passenger ferries within the core network according to C.3 shall be connected with their corresponding hinterland urban node.

**G. Omission of links:**

Core network links according to D.1, D.2, E.1, E.2, F.1 or F.2 shall not be foreseen, if:

1. The link is not existing (“missing link”), but its implementation would not be justified by its function, e.g. within a potential trans-European transport corridor, or feasible by 2030;

2. The link exists, but does not comply with the requirements of its intended function within the core network and its upgrading would not be justified by its function, e.g. within a potential trans-European transport corridor, or feasible by 2030;

3. In particular, if the required measure would not be economically viable or environmentally sustainable.

Applying these criteria for the modes individually, this will exceptionally allow deviating from the principle of multimodality at the level of links. There may be links which comprise only road or rail.

“Motorways of the Sea” will be a building block of the maritime dimension of the future TEN-T.

**H. Criteria for the routing of the links:**

1. Only links of the comprehensive network may be selected for the core network.

2. The links should be as straight and direct as possible, to follow the relevant long-distance traffic flows, to enhance effectiveness and efficiency of transport, to support territorial cohesion and to contribute to the reduction of greenhouse gas and polluting emissions as well as to sustainable land use.

3. Detours would be justified to bypass unavoidable obstacles and ecologically sensitive spaces (such as Natura 2000 sites) and to string additional smaller cities, airports, freight terminals, etc., if not too distant from the direct line and if the disadvantages due to additional detours do not exceed the benefits of improved regional or local accessibility.

1. The links should follow, as far as possible, already existing infrastructure, under construction or planned. Traffic flows shall be bundled wherever possible, taking into account topographical conditions, environmental impacts, users' needs and potential capacity constraints.
2. Rail links may be split into two different itineraries for passenger and freight transport, taking into account specific technical parameters (gradients, speed, ...) and particular operational situations such as bypasses of areas with high passenger traffic.