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**COMMISSION STAFF WORKING DOCUMENT**

**The planning methodology for the trans-European transport network (TEN-T)**

*Accompanying the document*

**Communication from the Commission**

**Building the Transport Core Network: Core Network Corridors and Connecting Europe Facility**

{COM(2013) 940 final}

## COMMISSION STAFF WORKING DOCUMENT

### The planning methodology for the trans-European transport network (TEN-T)

#### *Accompanying the document*

#### Communication from the Commission

#### **Building the Transport Core Network: Core Network Corridors and Connecting Europe Facility**

This Staff Working Document sets out the methodology for planning the trans-European transport network (TEN-T), as it has been used by the European Commission, the European Parliament and the Council in the legislative procedure adopting Regulation (EU) No 1315/2013 on Union guidelines for the development of the trans-European transport network and repealing Decision No 661/2010/EU.

The Commission had based its proposal for the revision of the TEN-T guidelines in 2011<sup>1</sup> on an objective methodology<sup>2</sup>. This methodology has been explained to the Council and the European Parliament, in particular during a hearing organised in May 2012 in the Committee for Transport and Tourism. Both Council and European Parliament have slightly amended the methodology which has been consistently applied. Therefore, the present Staff Working Document sets out the final methodology which has been the basis for the maps contained in the Regulation (EU) No 1315/2013, in order to support the review of the implementation of the core network as foreseen by Article 54 or support third countries wishing to identify a core network on their territory.

The methodology features a dual layer network structure, comprising a comprehensive and a core network. Full respect of relevant EU legislation has to be ensured when the methodology is applied.

The methodology consists of a number of criteria which are consistently applied. In a first step, the comprehensive network is identified (Chapter 1). In a second step, parts of the comprehensive network are identified as the core network (Chapter 2).

#### **1. THE COMPREHENSIVE NETWORK**

As the multimodal basic layer of the TEN-T, the comprehensive network 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 updating and adjusting the current TEN-T, as defined in Decision N° 661/2010/EU of the European Parliament and the Council of 7 July on Union guidelines for the development of the trans-European transport network<sup>3</sup>.

Updating and adjustment abided by a number of principles as a result of the methodology used:

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<sup>1</sup> COM(2011)650

<sup>2</sup> The Commission Staff Working Document SEC(2011)101 outlined a first draft of this methodology which has been further developed for the Commission proposal.

<sup>3</sup> OJ L 228, 9.9.1996, p.1

- (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 planning at EU level;
- (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 is given in this context to network density, which in principle correspond to NUTS 2 zones<sup>4</sup>, connecting their main urban nodes as directly as possible, and reflecting spatial distribution of population and of economic and industrial activities.

Inland waterways have to comply with Class IV according to UN-ECE, as a minimum.

- (3) Eliminate dead ends and isolated links in the current TEN-T if not justified by geographical particularities, either by removing such links or by extending them to close network meshes.
- (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 categorisation).
- (5) Revise the selection of seaports which are open for commercial traffic, according to at least one of the following specific criteria:

Passengers: 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 represents the average of the latest three-years totals for which data covering all Member States are available from EUROSTAT<sup>5</sup>.

Freight: 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 represents the average of the latest three-years totals for which data are available from EUROSTAT<sup>6</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 on road.

- (6) Revise the selection of airports which are open to commercial traffic, according to at least one of the following specific criteria:

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<sup>4</sup> Regulation (EC) N° 1059/2003 of the European Parliament and of the Council of 26 May 2003 on the establishment of a common classification of territorial units for statistics (NUTS), [http://epp.eurostat.ec.europa.eu/portal/page/portal/nuts\\_nomenclature/introduction](http://epp.eurostat.ec.europa.eu/portal/page/portal/nuts_nomenclature/introduction)

<sup>5</sup> The data for the years 2009, 2010 and 2011 have been used. In absolute terms, this initial threshold amounts to 396210 passengers per year.

<sup>6</sup> The data for the years 2009, 2010 and 2011 have been used. In absolute terms, this initial threshold amounts to 2,22 million tons per year for bulk cargo and 1,27 million tons per year for non-bulk cargo.

Passengers: Airports with an annual traffic volume exceeding 1 ‰ of the total annual EU air passenger traffic. This annual traffic volume represents the average of the latest three-years totals for which data are available from EUROSTAT<sup>7</sup>.

Freight: Airports with an annual traffic volume exceeding 2 ‰ of the corresponding total annual cargo handled in EU airports. This annual traffic volume represents the average of the latest three-years totals for which EUROSTAT<sup>8</sup> 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 remains 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 any multimodal platform which provides free access to any logistics operator and fulfils one of the following specific criteria:

its transshipment volume exceeds 800.000 tons per year.

it is connected to three TEN-T modal network components or it is the main platform of a NUTS 2 region, connected to two TEN-T modal network components.

## 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. Therefore, only elements of the comprehensive network are selected for the core network.

It is multi-modal – i.e. it includes all transport modes and their connections as well as relevant traffic management systems, in order to enable modal integration and multimodal operation. At the level of links, exceptions from the multimodality principle are acceptable only where a particular mode of transport does not exist (e.g. inland waterways in many relations, Member States or islands without rail). Further, a strong focus is given to interoperability within and across the modes.

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 main nodes (P), fulfilling the corresponding criteria and therefore selected before shaping the network,

<sup>7</sup> The data for the years 2009, 2010 and 2011 have been used. In absolute terms, this initial threshold amounts to 783060 passengers per year.

<sup>8</sup> The data for the years 2009, 2010 and 2011 have been used. In absolute terms, this initial threshold amounts to 25890 tons per year.

- secondary main nodes (S), resulting from shaping the network and not shaping it, except for the "last mile" link at local level.

## 2. Identifying the links between the primary main nodes:

Multimodal links are selected from the comprehensive network to connect the primary 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 be part of the core network. For this reason, the entire inland waterway network is considered part of the core network.

The "Motorways of the Sea" are the maritime dimension of the TEN-T. As far as they fulfil 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.

The following two sections set out the criteria to identify the nodes (Section 2.1.) and the links (i.e. the connections between the nodes) of the core network (Section 2.2.).

### 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:

- A.1 (P) The capital city of each EU Member State and cities with EU capital function;
- A.2 (P) Every "Metropolitan European Growth Area" (MEGA in the ESPON<sup>9</sup> Atlas 2006);
- A.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;
- A.4 (P) The main city of an island or a of group of islands forming a NUTS 1 region with at least 1 million inhabitants;
- A.5 (P) One main border crossing point per mode between each EU Member State with external border and each of its neighbouring non EU Member States which is the one with the highest long-distance traffic flow. This does not apply to Norway and Switzerland, for which special agreements exist. Border crossing points only serve as auxiliary points for network planning, but do not provide any other core node function.

(In many cases, this coincides with the points where the Major Axes specified in the Communication from the Commission - Extension of the major trans-European transport axes to the neighbouring countries - Guidelines for transport in Europe and neighbouring regions {SEC(2007)98} {SEC(2007)99} /\* COM/2007/0032, cross the external border of the EU.)

In the framework of this dual layered approach, urban nodes, which are represented by the main nodes according to A.1 – A.4 and C.3, play an important role within the multimodal Core Network, with regard to their infrastructure both for passengers and for freight. They are particularly relevant in the following respect:

- they connect network links – both of the core and the comprehensive networks;

<sup>9</sup> ESPON = European Spatial Planning Observatory Network; MEGA = Metropolitan European Growth Areas (Cf. ESPON Atlas 2006)

- they interconnect transport modes, thus enhancing multimodality;
- they connect long distance and/or international with regional and local transport (passengers and freight).

The quality of these connections contributes decisively to a well-functioning transport system, in particular to enhance public transport mobility chains and to achieve EU climate goals.

(b) Main nodes for freight traffic:

B.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.4;

B.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, if interpolating linearly between bulk and non-bulk complies with the formula:  $v_b/t_b + v_n/t_n \geq 1$  (where  $v_b$  is the volume of bulk,  $t_b$  the threshold for bulk,  $v_n$  the volume of non-bulk and  $t_n$  the threshold for non-bulk).

(Seaports which are immediate neighbours and together fulfil the volume threshold, even if individually they would not, may be considered as a cluster, if they have common hinterland connections, except for the "last mile", or if they cooperate closely, e.g. under common management, or supplement each other in function.)

B.3 (P) The largest seaport (in terms of transshipment volume) along each continuous coastline ("façade") of insular Member States and non-insular NUTS 1 regions with access to the sea where no ports are classified according to the criteria B.1 or B.2. This only applies to such façades or coastlines relevant at European scale (e.g. peninsulas longer and wider than 200 km), not taking into account detail coast shapes.

B.4 (S) Inland ports which have interface function to core network rail links for freight and/or to maritime transport, to be connected to the corresponding modes.

B.5 (S) Seaports which are core inland ports according to B.4 and inland ports which are seaports according to B.3.

B.6 (S) Road-rail terminals which are located in the area of branching or crossing points of core network rail links for freight or which are located in the neighbourhood (e.g. in the same town) of a core sea or inland port.

B.7 (S) Airports with an annual airfreight volume of min. 1 % of the corresponding EU total.

(c) Main nodes for passenger traffic:

C.1 (S) The main airport of each urban main node according to A.1 – A.4;

C.2 (P) Airports with an annual passenger volume of min. 1% of the corresponding EU total;

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

C.4 (P) Core network seaports according to the criteria B.2 or B.3, if they have a relevant bridgehead function for passenger ferry connections within 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 on road and rail, only. The land-based core network links (road, rail) are 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 are of highest importance for long-distance traffic. They thereby contribute to a more homogenous and balanced accessibility structure throughout the Union.

(d) Links for passengers and freight:

D.1 Neighbouring urban main nodes according to A.1 – A.3 are connected with each other on road and rail. (Two main nodes are considered as "neighbouring", 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 are thus indirectly connected with each other, by which the network is formed.

D.2 In any case, each land border line between two neighbouring EU Member states is crossed by at least one multimodal core network link.

D.3 Border crossing points according to A.5 are connected with their corresponding hinterland main nodes acc. to A.1 – A.3, following the relevant traffic flows.

D.4 Land connections may be supplemented by links of the "Motorways of the Sea", to connect insular Member States or urban main nodes on islands acc. to A.4 with core seaports of the mainland, or to shortcut detours around bays.

(e) Links for freight:

E.1 Sea ports acc. to B.2 or B.3 are connected to only one hinterland main node each, following the most relevant traffic flows. Connections between ports are not foreseen, but may result from the overall itinerary of a core network link. In countries with railways, hinterland connections of core network ports include both road and rail.

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

E.3 The entire inland waterway part of the comprehensive network.

(f) Links for passengers:

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

F.2 For passengers, seaport cities according to C.3 and seaports according to C.4 are connected to the same hinterland urban node to which the seaport is linked for freight (according to criterion E.1).

(g) Omission of links:

Links according to D, E or F are not included into the Core Network, if:

G.1 the link does not exist ("missing link") and its implementation would not be justified by its functionality (e.g. as a link within a potential long distance transport corridor), or not be feasible by 2030;

G.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 would not be feasible by 2030;

G.3 the link exists, but the corresponding traffic flows between the relative nodes are negligible (e.g. because of long distance and/or small size of nodes) or can be

bundled on other (parallel) links which are in the core network due to other functionalities;

Applying these criteria for the modes individually allows deviating from the principle of multimodality at the level of links. Some links may comprise only road or rail.

(h) Routing of the links:

- H.1 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 of air pollution as well as to sustainable land use. Exceptions are permitted to follow criterion D.2.
- H.2 Detours would be justified to bypass unavoidable obstacles and ecologically sensitive areas (e.g. Natura 2000 sites), to string additional smaller cities, airports, freight terminals, etc.), and when so required to ensure the respect of the relevant EU environmental legislation. With view to an overall optimisation of the routing of a link, possible disadvantages due to additional detours must not exceed the benefits of improved regional or local accessibility.
- H.3 Preferably, the links should follow infrastructure already existing, under construction or planned. Traffic flows is bundled wherever possible, considering topographical conditions, environmental impacts, users' needs and potential bottlenecks.
- H.4 Rail links may have different itineraries for passenger and freight transport, even at a larger scale. This may result from specific technical parameters (gradients, speed, ...) in line with the needs of passengers and freight traffic, from particular operational situations to provide bypasses of nodal areas with high passenger traffic and from taking into account real cargo flows (even deviating from criterion D.1, if justified).