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

Accompanying

Commission proposal for a Regulation of the European Parliament and of the Council on Union guidelines for the development of the trans-European transport network, amending Regulation (EU) 2021/1153 and Regulation (EU) No 913/2010 and repealing Regulation (EU) 1315/2013

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This Staff Working Document sets out the methodology for planning the trans-European transport network (TEN-T) as used in the Commission proposal for a Regulation of the European Parliament and of the Council on Union guidelines for the development of the trans-European transport network and repealing Regulation (EU) 1315/2013 [add reference to Commission proposal of the same package].

This methodology is based on the methodology[1] used by the European Commission, the European Parliament and the Council in the legislative procedure adopting Regulation (EU) No 1315/2013[2].

The methodology is used to identify a comprehensive and a core trans-European transport 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) or as the extended core network (Chapter 3).

1. THE COMPREHENSIVE NETWORK

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 Regulation (EU) No 1315/2013.

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

(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) 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.

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

(4) Revise the selection of maritime ports which are open for commercial traffic, according to at least one of the following specific criteria:

Passengers: Maritime ports connected to the land component of the comprehensive network with an annual traffic volume exceeding 1‰ of the total annual EU

[1] SWD(2013)542 final

[2] Regulation (EU) No 1315/2013 of the European Parliament and of the Council of 11 December 2013 on Union guidelines for the development of the trans-European transport network and repealing Decision No 661/2010/EU, OJ L 348, 20.12.2013, p. 1–128

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 based on the statistics published by EUROSTAT[3].

Freight: Maritime ports 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, 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). This annual traffic volume represents the average of the latest three-years totals for which data are available based on the statistics published by EUROSTAT[4].

Maritime ports included in the comprehensive network as defined in Regulation (EU) No 1315/2013 shall remain in the comprehensive network if the linear interpolation between bulk and non-bulk complies with the formula: $v_b/t_b + v_n/t_n \geq 0.95$ or if the annual traffic volume reaches exceed 85% of the relevant threshold.

Maritime ports located on islands, on condition that they provide accessibility at NUTS 3[5] or archipelagos level.

Maritime ports located in peripheral areas, provided their road-distance from another TEN-T port is at least 200 km on road (following the shortest road path).

(5) Revise the selection of airports which are open to commercial traffic, according to at least one of 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 represents the average of the latest three-years totals for which data are available based on the statistics published by EUROSTAT[6].

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 data are available based on the statistics published by EUROSTAT[7].

Airports included in the comprehensive network as defined in Regulation (EU) No 1315/2013 shall remain in the comprehensive network if the annual traffic volume exceeds 85% of the relevant threshold.

Airports located on islands.

Airports located in peripheral or landlocked areas, provided their distance from another TEN-T airport is at least 100 km (following the shortest road path) or, in

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3 The data for the years 2017-2019 have been used. In absolute terms, this initial threshold amounts to 392.993 passengers per year.

4 The data for the years 2017-2019 have been used. In absolute terms, this initial threshold amounts to 2,11 million tonnes per year for bulk cargo and 1,45 million tonnes per year for non-bulk cargo.

5 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)

6 The data for the years 2017-2019 have been used. In absolute terms, this initial threshold amounts to 1,45 million passengers per year.

7 The data for the years 2017-2019 have been used. In absolute terms, this initial threshold amounts to 30.429 tonnes per year.

case there is a high-speed railway line in the region, at least 200 km (following the shortest road path).

(6) For inland ports, the volume threshold is set at 500.000 tonnes. Add ports that exceed the threshold and keep the inland ports as defined in Regulation (EU) No 1315/2013, unless there has been a significant decrease in volumes since 2013. Inland ports must be open to commercial traffic, and located on a TEN-T inland waterway.

(7) Add any multimodal freight terminals which provides free access to any logistics operator and fulfils one of the following specific criteria:

- its transhipment volume exceeds 800.000 tonnes per year, or it is planned to reach these volumes by 2030.
- 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.

In line with the action plan to be elaborated by Member States after the adoption of the new TEN-T regulation, further multimodal freight terminals could be added at a later stage.

(8) Identify the urban nodes that have a population of 100.000 or more inhabitants or, if in a NUTS 2 region there is not such an urban node with a population over a 100.000 inhabitants, the main node of that NUTS 2 region.

If such an urban node is not yet connected to the TEN-T network, add the respectively rail and road connections to connect the urban node to the TEN-T network.

(9) Following the establishment of military requirements approved by the Council[8], assess the civilian use of the military network elements and add those elements to the comprehensive network provided that ports, airports, terminals and inland waterways meet the criteria set above and that the rail and road sections are of civilian use too, without creating duplications in the network.

(10) Add those sections of the Rail Freight Corridors[9] that are qualified by the Rail Freight Corridors as "principle", "diversonary" or "ICM-lines" and are not yet part of the TEN-T network.

(11) Ensure that every outermost region, including their main islands, are connected via at least one port and one airport; add the road(s) on the main territory connecting the ports and airports.

2. THE CORE NETWORK

The core network is a subset of the comprehensive network, representing 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.

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8 Military Requirements for Military Mobility within and beyond the EU, update (ST 10921/19), 4 July 2019, approved by the Council on 15 July 2019 and consolidated with the remaining part on 19 July 2019 (ST 11373/19).

9 Rail Freight Corridors are identified based on Regulation (EU) No 913/2010 of the European Parliament and of the Council of 22 September 2010 concerning a European rail network for competitive freight, OJ L 276, 20.10.2010, p. 22–32

It is multi-modal – i.e. it includes all transport modes and their connections as well as relevant ICT 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,

   – secondary main nodes (S); these secondary nodes are not used to shape the core network, but are identified on the basis of the core network shaped based on the primary nodes, 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 "European Maritime Space" is the maritime dimension of the TEN-T. As far as the links of the European Maritime Space 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:

The main nodes for passenger and freight traffic remain the ones identified in EU Member States in Regulation (EU) No 1315/2013; the lists are contained in Annex I and II to the present document. These nodes were identified on the basis of the following criteria:

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[10] 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.

(b) Main nodes for freight traffic:

B.1 (S) A maritime 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 maritime or inland port with an annual transhipment volume of at least 1 % of the total transhipment volume of all EU Maritime ports, 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). Maritime ports included in the core network as defined in Regulation (EU) No 1315/2013 shall remain in the core network if the linear interpolation between bulk and non-bulk complies with the formula: $v_b/t_b + v_n/t_n \geq 0.95$.

(Maritime ports 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 maritime port (in terms of transhipment 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) Maritime ports which are core inland ports according to B.4 and inland ports which are Maritime ports 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 maritime or inland port.

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

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[10] ESPON = European Spatial Planning Observatory Network; MEGA = Metropolitan European Growth Areas (Cf. ESPON Atlas 2006)

(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 Maritime ports 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 Maritime ports 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 "European Maritime Space", 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 according to A.1 – A.3, following the relevant traffic flows.

D.4 Land connections may be supplemented by links of the "European Maritime Space", to connect insular Member States or urban main nodes on islands according to A.4 with core Maritime ports of the mainland, or to shortcut detours around bays.

(e) Links for freight:

E.1 Maritime ports according 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 maritime 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 the core network have to be connected to the rail network by end of 2030.

F.2 For passengers, maritime port cities according to C.3 and maritime ports according to C.4 are connected to the same hinterland urban node to which the maritime port 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, 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, multimodal 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).

3. THE EXTENDED CORE NETWORK

In addition to the core network, an extended core network is identified in order to enhance the step-wise implementation of the TEN-T. For this purpose, sections of the comprehensive rail and road network have been selected to be realised by 2040.

The following sections compose the extended core network:

1. Sections which are included in European Transport Corridors, in particular the principal and diversionary lines of the Rail Freight Corridors[11];
2. Sections which are relevant for the establishment of a European high speed railway network and which cannot be realised by 2030;
3. Sections which are necessary to establish multimodality along the European Transport Corridors.

[11] Rail Freight Corridors as provided for under Regulation (EU) No 913/2010 of the European Parliament and of the Council of 22 September 2010 concerning a European rail network for competitive freight, OJ L 276, 20.10.2010, p. 22–32

Annex I: List of urban nodes of the core network

BELGIUM

Antwerpen

Bruxelles/Brussel

BULGARIA

Sofia

CZECH REPUBLIC

Ostrava

Praha

DENMARK

Aarhus

København

GERMANY

Berlin

Bielefeld

Bremen

Düsseldorf

Frankfurt am Main

Hamburg

Hannover

Köln

Leipzig

Mannheim

München

Nürnberg

Stuttgart

ESTONIA

Tallinn

IRELAND

Baile Átha Cliath/Dublin

Corcaigh/Cork

GREECE

Athína

Heraklion

Thessaloniki

SPAIN

Barcelona

Bilbao

Las Palmas de Gran Canaria/Santa Cruz de Tenerife

Madrid

Palma de Mallorca

Sevilla

Valencia

FRANCE

Bordeaux

Lille

Lyon

Marseille

Nice

Paris

Strasbourg

Toulouse

CROATIA

Zagreb

ITALY

Bologna

Cagliari

Genova

Milano

Napoli

Palermo

Roma

Torino

Venezia

CYPRUS

Lefkosía

LATVIA

Rīga

LITHUANIA

Vilnius

LUXEMBOURG

Luxembourg

HUNGARY

Budapest

MALTA

Valletta

NETHERLANDS

Amsterdam

Rotterdam

AUSTRIA

Wien

POLAND

Gdańsk

Katowice

Kraków

Łódź

Poznań

Szczecin

Warszawa

Wrocław

PORTUGAL

Lisboa

Porto

ROMANIA

București

Timișoara

SLOVENIA

Ljubljana

SLOVAKIA

Bratislava

FINLAND

Helsinki

Turku

SWEDEN

Göteborg

Malmö

Stockholm

Annex II: Core network border crossing points to neighbouring countries

EU Member State	Neighbouring Country	Border Crossing (Road)	Border Crossing (Rail)
FINLAND	RUSSIA	Vaalimaa	Vainikkala
ESTONIA	RUSSIA	Luhamaa	Koidula
LATVIA	RUSSIA	Terehova	Zilupe
	BELARUS	Pāternieki	Indra
LITHUANIA	RUSSIA	Kybartai	Kybartai
	BELARUS	Medininkai	Kena
POLAND	RUSSIA	Grzechotki	Braniewo
	BELARUS	Kukuryki	Terespol
	UKRAINE	Korczowa	Przemyśl
SLOVAKIA	UKRAINE	Vyšné Nemecké	Čierna nad Tisou
HUNGARY	UKRAINE	Beregsurány	Záhony
	SERBIA	Röszke	Kelebia
CROATIA	SERBIA	Lipovac	Tovarnik
	BOSNIA AND HERZEGOVINA	Svilaj	Slavonski Šamac
	MONTENEGRO	Karasovići	/
ROMANIA	UKRAINE	Siret	Vicșani
	MOLDOVA	Ungheni	Cristești Jijia
	SERBIA	Stamora Moravița	Stamora Moravița
BULGARIA	SERBIA	Kalotina	Kalotina
	FYROM	Gueshevo	Gueshevo
	TURKEY	Svilengrad	Svilengrad
GREECE	ALBANIA	Kakavia	Krystallopigi
	FYROM	Evzoni	Idomeni
	TURKEY	Kipi	Pythion