EUROPEAN
COMMISSION

Brussels, 2.6.2021
SWD(2021) 134 final

PART 4/5

COMMISSION STAFF WORKING DOCUMENT

EVALUATION

of

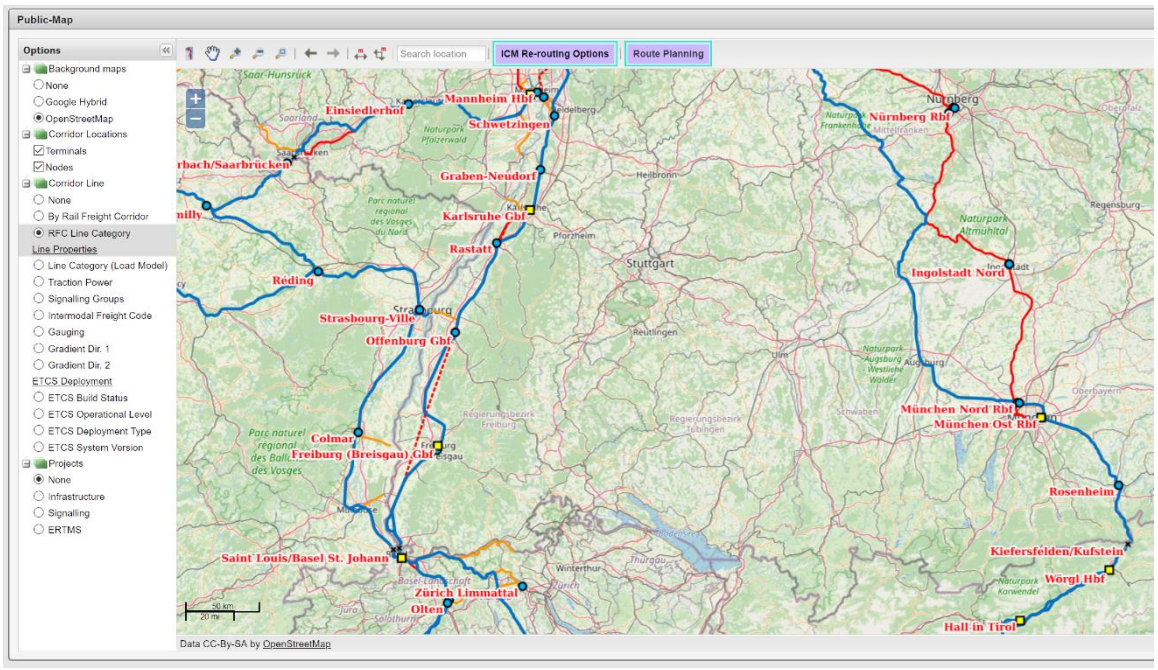
Regulation (EU) No 913/2010

concerning a European rail network for competitive freight

{SWD(2021) 135 final}

5.2 Diversionary lines designated to Rhine-Alpine corridor

The figure below shows the lines designated to the corridor.



The key cross-border lines used as alternative route, via Schaffhausen (CH) and Singen (DE) has not been designated to the corridor as a 'diversionary' line in accordance with Article 2(2) of the Regulation.

5.3 Diversionary lines in the 'Handbook for International Contingency Management'

Section 3.1 of the 'Handbook for International Contingency Management'[151] as specifies that 're-routing overviews' follows:

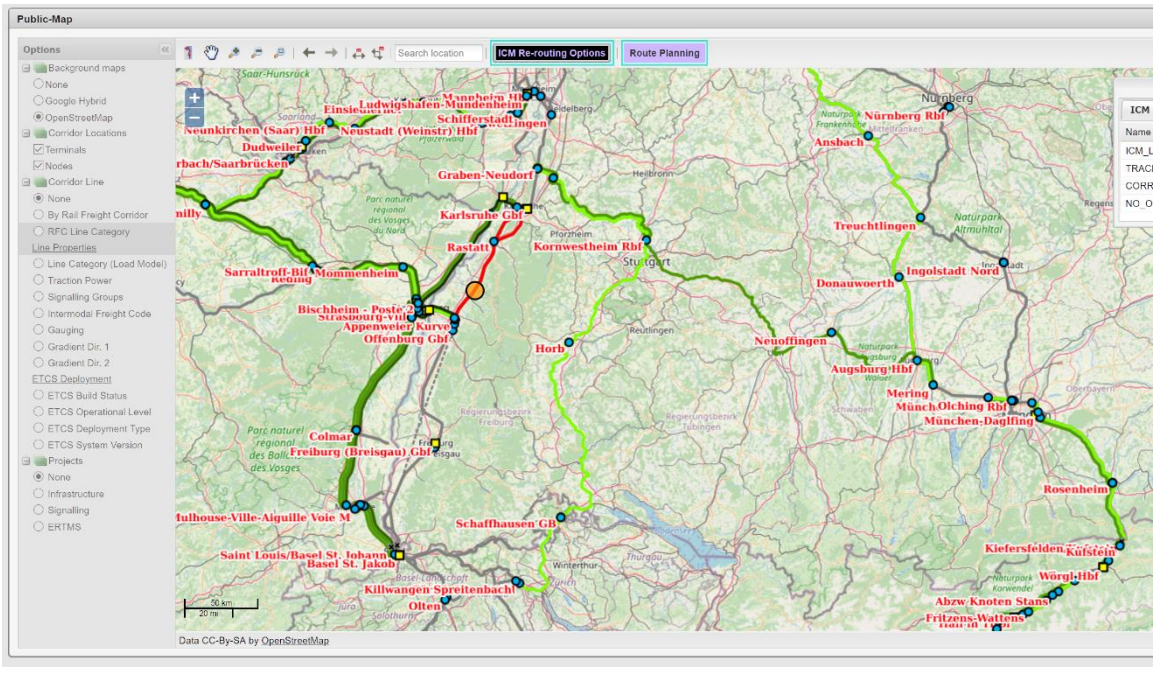
'RFCs coordinate with their member infrastructure managers and related RFCs the development of an international corridor re-routing overview combining national re-routing plans across borders along the RFC. The lines of the re-routing overview can go beyond the defined RFC lines.'

The map below shows the re-routing overview for the section Karlsruhe – Basel of Rhine-Alpine RFC.

[151] RailNetEurope and Platform of Rail Infrastructure Managers in Europe. 2018. Handbook for International Contingency Management. https://rne.eu/blog/news/international-contingency-management/

The overview contains all lines that were used during the Auggen incident, including notably:

- Lines not included in any corridor (at least partially)
  - The line Schaffhausen – Stuttgart (Gäubahn): this is the single most important diversionary line, used by X out of the total of Y trains that were re-routed during the incident.
  - The line Strasbourg – Wörth – Mannheim, optionally in conjunction with the line Basel – Strasbourg (designated to North Sea-Mediterranean corridor).
  - The line Augsburg – Graben-Neudorf in conjunction with the lines Milano – Verona – Augsburg (designated to Mediterranean and Scandinavian-Mediterranean corridor).
- Lines included in other corridors:
  - Basel – Strasbourg – Antwerp (designated to North Sea-Mediterranean corridor)



5.4 Designation of diversionary lines: general situation

The example given in the sections above illustrates an example in which the (lack of) designation of diversionary lines has hampered the effectiveness of the Regulation in addressing disruptions on the principal lines of a rail freight corridor.

It is beyond the scope of this evaluation to assess for the entire network of lines designated to the corridors . However, some general observations suggest that the situation described in the example above – restrictive

The maps below show the lines designated to the corridors by line category: principal and diversionary lines as well as connecting sections.

It is apparent that for a major share of the principal lines, no diversionary lines are available, apart from lines designated as principal lines to other corridors.

6 OVERVIEW OF ACTIVITIES CARRIED OUT AT NETWORK LEVEL

The table presents key examples of activities carried out at network level, despite the lack of a network layer in the Regulation.

Activity	Description	Related provision in Regulation
Corridor Information Platform	Common IT platform used by most RFC to provide information about the lines designated to the corridor, technical information on corridor infrastructure, conditions of use and performance monitoring Platform is developed and operated by RailNetEurope on behalf of the management boards of the corridors	Article 9 (‘Implementation plan’) Article 18 (‘Information on the conditions of use of the freight corridor’) Article 19 (‘Quality of service on the freight corridor’)
Various guidelines for implementation of chapters III and IV of the Regulation	Implementation of the Regulation requires more detailed rules for its implementation Guidelines are developed by RailNetEurope and adopted by its members, i.e. infrastructure managers	Articles 11 to 19 of the Regulation
Common structure of the ‘corridor information document’	In order to provide the information required under Article 18 in a more user-friendly way for applicants operating on several corridors, the structure of the ‘corridor information document’ has been harmonised.	Article 18 (‘Information on the conditions of use of the freight corridor’)
Common text of the ‘framework for the allocation of infrastructure	Member States involved in the corridors jointly draft, in consultation with infrastructure managers, a common text for the	Article 14(1)

Activity	Description	Related provision in Regulation
capacity	framework to be used by all corridors. The text is informally agreed by all Member States. However, in line with the Regulation, the Member States formally adopt the framework at the level of individual corridors.	
IT applications for capacity allocation and traffic management	Two tools have been chosen by the rail freight corridors as common and unique tools for the allocation of capacity and for the coordination of traffic management (Path Coordination System/PCS and Train Information System/TIS). The tools have been gradually made compliant with TAF TSI. The tools are developed and operated by RailNetEurope.	Article 8(9)

7 MEASURES TO IMPLEMENT THE PROVISIONS ON TRAFFIC MANAGEMENT (ARTICLES 16 AND 17 OF THE REGULATION)

Table 11 below provides an overview of the measures implemented by infrastructure managers in accordance with Articles 16 and 17 of the Regulation. The source of information is the document published in accordance with Article 18 of the Regulation (in practice referred to as 'corridor information document'). The documents consulted were the documents published for the 2020 timetable.

Table 11 Overview of the measures taken to implement Articles 16 and 17 of the Regulation concerning traffic management on the basis of information provided in the documents published in accordance with Article 18

Requirement [Article]	Implementation measure(s)	Remarks, conclusions
[Article 16(1)] The management board of the freight corridor shall put in place procedures for coordinating traffic management along the freight corridor.	• Chapter 5 states that traffic management is the prerogative of the national IMs and subject to national operational rules. • On coordination of traffic management, chapter 5 states that infrastructure managers coordinate traffic management on a bilateral level, i.e. between neighbouring infrastructure managers. • Section 5.1 provides a list of cross-border sections which are part of the corridor and references to documents containing information on technical features, operational procedures and bilateral agreements for these cross-border sections.	• The key implementation measure is the provision of (references to) information about procedures for traffic management in the corridor information document. • No information is provided about measures taken to improve the performance of the coordination of traffic management between infrastructure managers compared to the pre-existing situation. • The question whether coordination beyond the bilateral level would provide additional benefits is not addressed.

[Article 16(1)] The management boards of connected freight corridors shall put in place procedures for coordinating traffic along such freight corridors.	• Corridor information documents provide no information whatsoever on the implementation of this requirement.	• This is consistent with the implementation of the previous requirement in the sense that pure bilateral coordination means that there is no coordination at corridor level and, thus, no coordination between connected corridors. • The question whether coordination beyond the bilateral level would provide additional benefits is not addressed.
[Article 16(2)] The infrastructure managers of the freight corridor and the advisory group referred to in Articleicle 8(7) shall put in place procedures to ensure optimal coordination between the operation of the railway infrastructure and the terminals.	• Corridor information documents provide no information whatsoever on the implementation of this requirement.	
[Article 17(1)] The management board shall adopt common targets for punctuality and/or guidelines for traffic management in the event of disturbance to train movements on the freight corridor.	• Section 5.3 of the corridor information refers to various sections of the Handbook for International Contingency Management[152] for "international disruptions longer than 3 days with a high impact on international traffic".	• The Handbook for international contingency management
[Article 17(2)] Each infrastructure manager concerned shall draw up priority rules for the man-	• Section 5.2 provides a reference to an overview of national priority rules in traffic	

[152] RailNetEurope and Platform of Rail Infrastructure Managers in Europe. 2018. Handbook for International Contingency Management (https://rne.eu/blog/news/international-contingency-management/)

agement between the different types of traffic in the pArticle of the freight corridors within the responsibility of that infrastructure manager in accordance with the common targets and/or guidelines referred to in paragraph 1 of this Articleicle.	management. • No assessment is provided in how far the priority rules priority rules of individual infrastructure managers are in line with the common targets or guidelines adopted by the management boards of the corridors.	
[Article 17(2)] Those priority rules shall be published in the network statement referred to in Articleicle 3 of Directive 2001/14/EC.		
[Article 17(3)] The principles for establishing the priority rules shall at least provide that the train path referred to in Articleicle 14(3) and (4) allocated to freight trains which comply with their scheduled time in the working timetable shall not be modified, as far as possible.	• Section 5.2 replicates the requirement in a significantly weakened and qualified version: – The requirement that "train paths (…) shall not be modified" is changed into "treated (…) in such a way that a high quality and punctuality level (..) is ensured". – The addendum "as far as possible" is further specified as "always within the current possibilities and within the framework of national operational rules", i.e. considers national operation-	• It is at least doubtful if 'national operational rules' could serve as a justification for an exemption from a general principle defined in EU legislation (i.e. whether 'as far as possible' is meant to include free from conflict with national operational rules)

	al rules as a valid justification for non-respect of the principle.	
[Article 17(3)] The principles for establishing the priority rules shall aim at minimising the overall network recovery time with regard to the needs of all types of transport. For this purpose, infrastructure managers may coordinate the management between the different types of traffic along several freight corridors.	• Section 5.2 replicates the requirement. No information is provided in	

Note: Corridor information document refers to the documents prepared and published by management boards in accordance with Article 18 of the Regulation. These documents consulted for this implementation overview are the ones for working timetable 2021.

8 ROLES, FUNCTIONS AND TASKS CARRIED OUT AT NETWORK LEVEL

The Regulation even though aiming at the development of a *network* for competitive freight, does not explicitly define a network layer for key elements such as the governance structure, the geographical definition of the network as well as for the structure, tools and measures to be established and implemented. Instead it relies purely on a network approach.

This section provides an overview of the broad range of roles, functions and tasks carried out at network level as well as an indicative assessment of strengths and shortcomings of the voluntary approaches.

Function / measure / task required at corridor level	**Implementation at network level on voluntary basis**	**Challenges of the implementation**
Framework for the allocation of the infrastructure capacity [Article 14(1)]	Executive boards of all corridors have adopted a harmonised framework has been adopted since 2016 in a two-step approach: • A harmonised text is informally agreed by the so-called 'network of executive boards' (voluntary assembly of Member States involved in the corridors); • The harmonised text is formally adopted by executive boards at the level of individual corridors.	• Multiplication of the formal adoption processes at the level of individual corridors adds complexity without creating added value; • Remaining risk of divergence of the frameworks at corridor level from the harmonised text; • Legal status of the framework adopted by executive boards, i.e. an intergovernmental body, remains in question; at European Union level, the well-established instrument of implementing acts could be used.
Information on the conditions of use of the freight corridors (Article 18) –	The structure of the corridor information documents has been harmonised. The contents are a mixture of information valid for all corridors and corridor-specific-	• Corridor information documents of the individual corridors replicate a significant amount of information which is not

'corridor information document'	information.	specific to individual corridors but common to all corridors.
	Most but not all corridors provide information documents and lines-specific information on an IT platform operated by RailNetEurope, the so-called customer information platform (CIP)[153].	• Some corridors do not make use of the platform, resulting in incomplete information about the network of corridors. • Financing the provision of the platform is unnecessarily complex: RailNetEurope charges individual corridors for provision of the platform which in turn are co-financed to a significant share by the EU.
Transport market study [Article 9(3)]	Transport market studies were commissioned or carried out by all corridors independently. An attempt to commission a common market did not materialise.	• Potential synergies of cross-corridor market study have not been realised so far. • Consistency of analysis • The requirement to 'constantly ' Transport market studies have not been updated

[153] RailNetEurope's Customer Information Platform: https://info-cip.rne.eu/

Implementation of chapter IV of the Regulation ('management of the freight corridor')	Various guidelines and handbooks for the harmonised implementation of tools and measures related to capacity allocation, traffic management and performance monitoring have been elaborated under the auspices of RailNetEurope, e.g. Guidelines For Corridor One-Stop Shops[154], Guidelines For Performance Management[155], Handbook For International Contingency Management[156] etc.	• Harmonised guidelines, handbooks etc. are agreed by infrastructure managers on a voluntary basis; their implementation in practices often remains incomplete and/or ineffective.

[154] RailNetEurope. 2016, Guidelines for C-OSS concerning PaP and RC Management Version 1.0

[155] RailNetEurope 2019. Guidelines for Train Performance Management on Rail Freight Corridors (https://rne.eu/wp-content/uploads/RNE_Guidelines_for_Train_Performance_Management_on_RFCs.pdf)

[156] RailNetEurope and Platform of Rail Infrastructure Managers in Europe. 2018. Handbook for International Contingency Management (https://rne.eu/blog/news/international-contingency-management/)

9 PRE-ARRANGEMENT OF THE INFRASTRUCTURE CAPACITY OFFER

As regards capacity products, the Regulation defines the concept of 'pre-arranged train paths' as the key tool to support international freight traffic. The concept pre-dates the Regulation but earlier attempts to introduce it did not meet much success on the market either.[157]

The introduction in legislation constitutes a major change in the approach to the allocation of railway infrastructure capacity: In the relevant EU legislation prior to the Regulation[158], the starting point for the capacity allocation process were requests from railway undertakings; the role of infrastructure managers was limited to responding 'passively' by accommodating all requests received in the best way possible, if needed with modifications. The Regulation assigned infrastructure managers a more active role by structuring the capacity offered to railway undertakings through the pre-arranged train paths.

This provides infrastructure managers with an effective tool to maximise the utilisation of infrastructure capacity, e.g. by bundling train paths with similar speed characteristics. It is unlikely that uncoordinated capacity requests placed by individual entities (railway undertakings) would result in such optimal patterns.

At the same time, the pre-structuring of capacity by infrastructure managers inevitably reduces the flexibility of railway undertakings in requesting capacity custom-tailored to their specific needs. This is a natural trade-off.

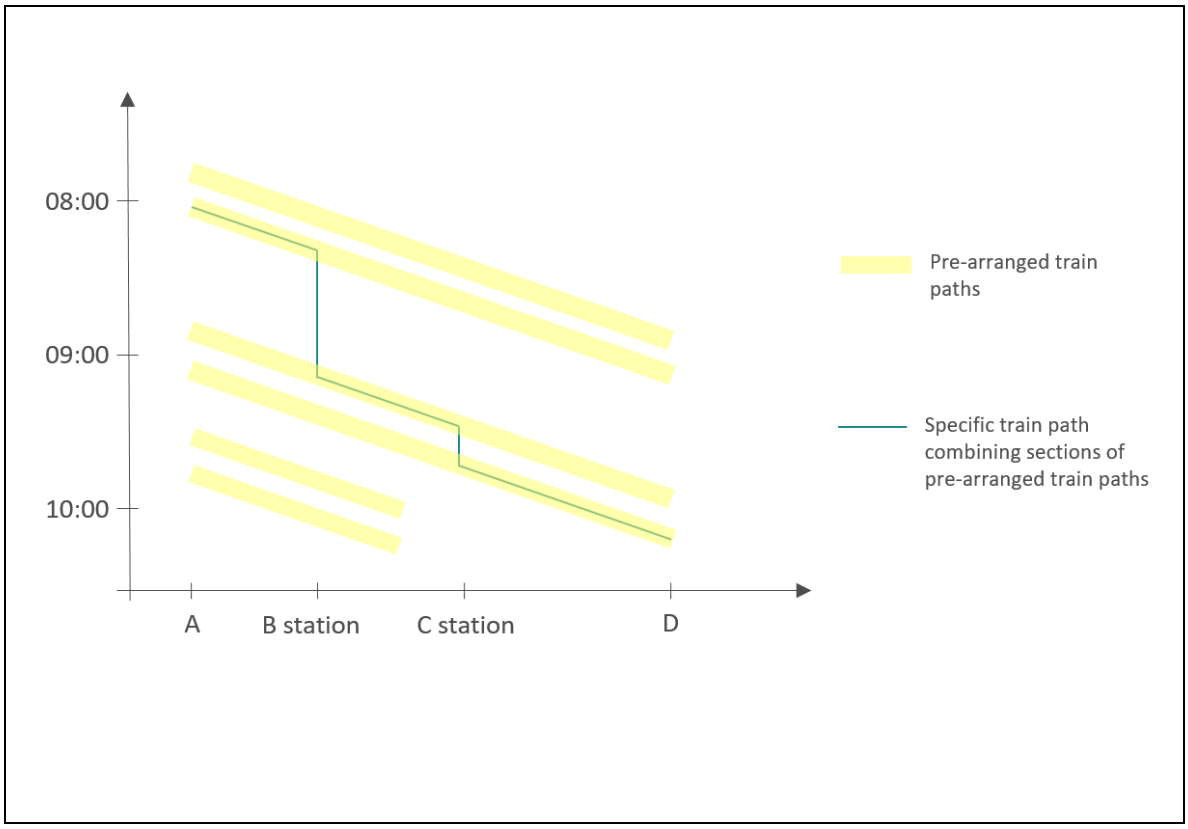
However, a sufficiently dense offer of pre-arranged train paths can compensate the rigidity of pre-arranged train paths, allowing to respond to specific needs such as intermediate stops for commercial and operational purposes, e.g. loading/unloading or changing locos (Figure 11 above).

---

[157] Infrastructure managers have marketed an essentially identical product as 'catalogue paths' via RailNetEurope.

[158] Directive 2001/14/EC of the European Parliament and of the Council of 26 February 2001 on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification (OJ L 75, 15.3.2001, p. 29).

Figure 20 Flexible infrastructure use enabled by combining sections of pre-arranged train paths. In this example, a train path from A to D with two stops at "B station" and "C station".



Source: own elaboration

In addition to the optimisation of capacity utilisation, pre-structuring the capacity offer in the form of pre-arranged train paths offers a series of further potential benefits over 'made-to-order' train paths, such as:

- Higher transparency: Pre-arranged train paths inform applicants about available capacity;
- Increased certainty: Pre-arranged train paths allow safeguarding capacity for specific purposes – i.e. international rail freight traffic in the context of the Regulation;
- Improved performance: Due to the ex-ante construction of pre-arranged train paths, parameters such as train length, speed etc, can be optimised taking advantage of the additional time available in the planning phase;
- Higher stability: pre-arranged train paths can be more easily coordinated with the planning of infrastructure works (maintenance, renewal) resulting in capacity restrictions;
- Harmonisation of capacity: additional planning time allows in principle more time for harmonisation, e.g. between infrastructure managers at border crossings or between infrastructure managers and terminal operators.

10 ESTIMATING THE IMPACT OF SHORTER TRAVEL TIMES FACILITATED BY PRE-ARRANGED TRAIN PATHS ON RAIL FREIGHT TRAFFIC

This section describes the information and assumptions used to estimate the impacts of reductions in freight train journey times on the volume of rail freight traffic as reported in section 5.3.

The basic reasoning underlying this analysis is as follows:

- In line with Article 14(3) of the Regulation, pre-arranged train paths 'shall facilitate journey times, frequencies, times of departure and destination and routings suitable for freight transport services with a view to increasing the transport of goods by freight trains running on the freight corridor.'
- As the majority of international freight trains is still running on train paths allocated by individual infrastructure managers in a piecemeal fashion, it is possible to compare the journey times of such train paths to that of pre-arranged train paths offered via the corridor one-stop shops. This gives an indication of the reduction of journey times brought about by the tool 'pre-arranged train path', assuming that the difference in journey times is not (mainly) due to other systematic factors[159].
- The impact of the reduction of journey times resulting from the use of pre-arranged train paths on the volume of rail freight traffic can then be estimated on the basis of the elasticity of rail freight transport demand with respect to journey time. Estimates of demand elasticities can be extracted from literature.

On the basis of the information available, this methodology could be applied to three corridors, namely Rhine-Alpine, North Sea-Mediterranean and Czech-Slovak RFC. Table 13 below shows the average speed of pre-arranged train paths and train paths allocated by individual IMs on these corridors[160].

Table 13 shows the demand elasticities identified in a literature review.

[159] For example, pre-arranged train paths could be used predominantly by intermodal traffic, which may have higher requirements in terms of journey times/commercial speed than other types of freight traffic.

[160] For practical reasons, the analysis is conducted on the basis of commercial speed, i.e. the average speed taking into account all intermediate stops. Journey times are obviously specific to each origin/destination pair and therefore not conducive to the type of general demand analysis conducted here.

Table 13 Estimates of freight transport demand with respect to journey time

Jourquin and Beuthe (2019)		TRT et al. (2018)			
Europe NUTS-2	Benelux NUTS-3	Intermodal	General cargo	Wet bulk	Dry bulk
-1.05	-0.80	-0.63	-0.38	-0.44	-0.44

Source: evaluation support study

As pre-arranged train paths are most suitable for stable, regular transport flows, the elasticity for intermodal rail traffic (−0.63) is selected for the analysis.

The impact of the reductions in travel time (or, increase of commercial speed) on the volumes are estimated as follows:

$$\frac{\Delta total\ trains}{total\ trains_{observed}} = \left(1 - e \cdot s \cdot \frac{\Delta_{commercial\ speed}}{commercial\ speed_{PaP}}\right)$$

where:

- $\frac{\Delta total\ trains}{total\ trains_{observed}}$ is the percentage variation of international freight trains between the observed situation and the evaluation baseline;
- e is the elasticity value identified from the literature (i.e., -0.63);
- s is the share of the capacity allocated by the corridor one-stop shop with respect to the total allocated capacity (see KPI II.3); and
- $\frac{\Delta_{commercial\ speed}}{commercial\ speed_{PaP}}$ is the percentage performance difference of commercial speed between international rail freight services running on other paths and pre-arranged train paths.

The results are clear (see Table 13 below). Pre-arranged train paths only produced limited reductions in journey times – close to zero for Rhine-Alpine RFC and in the range of 5 to 10% for rail freight corridor North Sea-Mediterranean and Czech-Slovak. The estimated impact on the volume of rail freight traffic remains limited as well: 0.1% for Rhine-Alpine RFC, between 1.4 and 2.4% for North Sea-Mediterranean corridor and 3.3% for Czech-Slovak RFC.

However, these result must be taken with caution. As demonstrated by the data elaborated for the three corridors, in actual operations the performance of trains running on pre-arranged paths are not regularly and significantly stronger compared to other paths.

Table 13 Average speeds of pre-arranged train paths and 'conventional' train paths and impact on the volume of rail freight traffic for Rhine-Alpine and Czech-Slovak RFC.

Freight corridor	Percentage difference of the commercial speed between PaP and other paths	Share of the capacity allocated by the C-OSS with respect to the total allocated capacity (KPI II.3)	Estimated change in traffic volume
Rhine – Alpine	−0.5%	21.4%	0.1%
North Sea – Mediterranean	−5.4%; −9.4%	41.0%	1.4 %; 2.4%
Czech-Slovak/Rhine – Danube	−12.9%	38.9%	3.3%

Source: RailNetEurope (Path Coordination System); evaluation support study