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# Access Group

# Report on the state of development of the TTR project and its pilots

**November 2020**

## A Purpose and structure of the report

1. The aim of this report is to monitor the development and progress of the TTR project and its pilots, in order to determine key regulatory questions and challenges that could be raised by the redesign of timetable allocation processes in Europe. The data and information reported in this document come from the activities of the pilot projects in which the Regulatory Bodies (RBs) of the involved countries are frequently participating as observers and also from the engagement of the IRG-Rail Access working group, supported by the IRG Rail Emerging Legislative Proposals working group, with RNE and FTE and their members.

## B Aims of the TTR project

1. A project on the redesign of the international timetabling process ("TTR") was launched 2014 by Rail Net Europe (RNE) and Forum Train Europe (FTE). The programme is supported by the European Rail Freight Association (ERFA).
2. The overarching aim of the TTR process is to optimise the usage of existing railway infrastructure in Europe. To this end, TTR addresses several perceived barriers for effective usage of the infrastructure. These include i) temporary capacity restrictions (TCR's) and the coordination of such restrictions, ii) new design of the allocation process based on market-adequate capacity planning, iii) new IT tools for the allocation of capacity and management of conflicts between path requests, and iv) "commercial conditions" incentivising applicants to request capacity in a way which minimizes capacity hoarding and unnecessary changes to allocated train paths.[1]
3. Railway Undertakings (RUs) need a reliable process that allocates high quality capacity across European countries. In particular, shippers and some freight RUs look at placing capacity requests close to the period of operation. Their demand for rail capacity requires a more dynamic and flexible allocation system that ensures better capacity allocation both in terms of quality and timeframe. On the other hand, most passenger RUs require a clear anticipation of the release of the final version of the annual timetable, so to have a stable timetable at least six months before the date of timetable (TT) change, in order to start selling tickets in advance and improve the competitiveness of rail vis-à-vis other transport modes (e.g. road and air transport).
4. Infrastructure Managers (IMs) want to make their workflow more efficient while designing reliable timetables, so that the impact of modifying allocated train paths on the timetable is minimised. They are seeking therefore to optimise capacity and its availability while allowing for both a stable and flexible timetable.
5. The first phase of the TTR project concluded with the development of a new process for capacity management and allocation. A second phase has started to test and verify the outcomes of TTR; this experimentation phase is planned to last three years, starting from the 2020 Timetable (TT 2020) and is envisaged to finish in time to implement the updated procedures for the 2025 timetable (TT 2025), after the official validation and approval of the TTR project.

## C Developments in TTR in the last year

*TTR Migration*

6. In Spring 2020, the TTR-project introduced the so-called TTR Migration Concept as a major new aspect of TTR implementation.[1] TTR Migration Concept will allow certain infrastructure managers to become first-wave implementers and proceed with realizing important components of TTR before full implementation. The goal of full implementation of all TTR components by all IMs'/ABs' in time for the 2025 timetable remains, but TTR Migration Concept nevertheless has consequences for the TTR project in its entirety. TTR Migration Concept involves a proposed reorganization of the TTR project, expected to be approved by the RNE General Assembly and FTE Plenary Assembly in December 2020, in which, among other changes, the current TTR Steering Committee will be replaced by a Management Committee with representatives of first-wave implementers.

7. Currently, 11 countries are interested to be part of the TTR Migration: Italy, France, Switzerland, Austria, Germany, the Netherlands, Belgium, Luxemburg, Denmark, Sweden, and Norway. By doing this, they have, according to RNE, committed to the following tasks:

    - launch and maintain *implementation pilots*, which will no longer represent sandbox pilots where lessons are to be learnt and instead aim at the gradual introduction of TTR component on a permanent basis;
    - They will no longer be "use it if you want", but rather implementation pilots which will be permanent after the pilot phase, only updated with the learnings from the pilot phase;
    - *finetune the TTR process;*
    - agree on how to implement central *TTR IT* and its various dependencies and IT interfaces to national IT systems;;
    - launch all actions required to cope with *national particularities* hindering the implementation of new TTR pilots;
    - evaluate their costs for the migration.

8. In recent communication, RNE has downplayed the role of multiannual rolling planning. Multiannual elements remain a key feature of TTR, but have proven complicated, especially from a legal point of view.

*Full implementation and pilots*

9. The TTR project has set up a number of steps on the way to full implementation in December 2024. 2020 marked the beginning of the full implementation of the TTR project. January 2020 was the deadline for the first implementation package, requiring RNE members to appoint national implementation managers and deliver timelines and risk logs

[1] https://rne.eu/wp-content/uploads/TTR-Migration-Concept_V1.0.pdf, accepted by the RNE and FTE General Assemblies on 20 May and 10 June respectively.

for national implementation of TTR.[2] The deadline for the second implementation package is August 2021, which also is the point in time where preparations will begin for the Capacity strategy phase for the 2025 Time Table.

10. By September 2020, 20 RNE members have launched national TTR implementation projects. The deliverables of the first implementation package due in 2020 included appointing national implementation managers and producing risk logs. While several participating members have met at least some of the commitments, the implementation timelines in particular have proven difficult.

11. The three TTR pilots which run on sections of Rail Freight Corridors 2, 3, and 4 had their first year of full operation in 2020. The outcome of the pilots is described below.

*IT landscape*

12. According to the TTR implementation timeline, June 2022 is the deadline for implementation package 3, which covers the preparation of all framework conditions (including IT) needed for the smooth preparation of the capacity models and set-up of capacity partitioning.

13. This means that the TTR project will have to proceed rapidly with the design of the IT landscape. The project has estimated the total cost of required IT developments for IMs and RUs IT development to €675 million. The goal of the common TTR IT landscape is to achieve a high degree of preplanning and automatization, a single point of connection for users for the full life cycle of an item such as a path request, and a central IT-system which ensures communication between legacy systems adapted for the purpose.

*Legal framework*

14. In the autumn of 2019, the European Commission launched a process for revising Annex VII in order to accommodate the TTR pilots. However, in January 2020 the Commission aborted this revision and instead clarified that the current legal framework, as it stands, can support TTR pilots, provided that the core principles of the Rail Freight Regulation ((EU) 913/2010 and Directive 2012/34/EU are respected. The Commission moreover suggested that Article 14(5) of the RFC Regulation and Article 48 of the Recast Directive can constitute the legal basis for TTR pilots in as far as the setting aside of capacity for requests expected to be placed during the working timetable year does not end up circumventing the normal/annual scheduling process.

15. As for providing a framework for full implementation of TTR, there appears to be widespread agreement among stakeholders that there is a need for revision of Directive 2012/34/EU. The European commission has expressed support for the TTR project and urged stakeholders to proceed with a rapid and synchronized implementation. However, the Commission has also made clear that they expect a more detailed cost/benefit analysis and some verified results from the TTR pilots before they are prepared to initiate a revision of the legal framework. In any case, the Commission expects to be preoccupied with the revision of the Rail Freight Regulation until early 2022. The eventual revision of

[2] https://ttr.rne.eu/implementation/implementation-timeline/.

Directive 2012/34/EU should in any case be related and harmonized with the revision of the Rail Freight Regulation.

16. In the autumn of 2020, the Commission asked RNE to draw up an obstacles roadmap listing potential legal obstacles for full implementation of TTR. RNE was of the opinion that challenges at the EU level had already been mapped by the TTR legal task force in 2018[3] and focused the roadmap exercise on identifying legal obstacles for TTR at national level, i.e. stemming from national law/national RB decisions/etc., such as national rules complementing EU law such as national capacity allocation frameworks. The survey conducted by RNE highlighted the national differences and legal possibilities to be considered when developing a capacity strategy for TTR, setting long-term capacity planning, submitting a binding application for a capacity offer, defining capacity shares and securing the Rolling Planning capacity product for the TTR project.

17. In addition, RNE also asked what possibilities there are for establishing a common European priority rule for capacity allocation (for example, in case of an unsuccessful conflict resolution).

## D Overview of the TTR pilots

18. In the table below, IRG-Rail has gathered some facts and observation concerning the four TTR pilots.

[3] See TTR Legal Challenges and possible solutions (an update is planned during the second half of 2020).

| | Rotterdam (NL) - Antwerpen (B) | München Verona | Mannheim – Miranda de Ebro (ca. 1600 km). Partially different track gauge | TTR Pilot Pontebbana Slovakian Border –Wien – Italian and Slovenianborder | Opinions from the applicants (FTE) |
|---|---|---|---|---|---|
| **RFC** | **RFC2** | **RFC3** | **RFC 4** | **RFC 5** | |
| **IMs** | ProRail and Infrabel | DB Netz AG, ÖBB, RFI | SNCF Réseau, ADIF and DB Netz | ÖBB | |
| **TTR Capacity model and Rolling Planning Product (due to the legal situation, multi-annual RPs is not possible).** | - System paths for freight traffic<br>- Use of historical data and trend<br>- based on train parameters of RFC2 capacity in PCS<br>- The capacity model for TT2021 includes all trains on the two lines, both national and international, passenger and freight.<br>- includes reservations for RP slots, PaPs and freight paths for annual planning. | - Applicants were involved in defining their possible market needs in an early phase<br>- preconstructed rolling planning paths within the guaranteed bandwidth<br>- preconstructed paths is only provided for freight traffic | - Capacity bands 4 cap. bands for ATT, 1 cap. band for RP traffic<br>- prepared according to a set of predefined parameters | - The model is based on a systematisation of paths reflecting known market needs from previous years.<br>- The volumes were derived from traffic forecast 2025+ of the Austrian ministry of transport<br>- the characteristics of the system path parameters referred to the corresponding line sections and derived from existing traffic. | on some Pilots, there was no real involvement in analysing and reflecting the needs nor the TCR impacts (e.g. RU remarks not considered, RUs not actively approached)<br>different methodologies makes it difficult to cross-evaluate |
| **Consideration of TCRs** | The TCRs are considered in the capacity model and published. | IMs prepares every November the planning for the construction of all possible rail freight paths on the Brenner route. | The taskforce underlines the difficulty to make compatible major TCRs and long distance paths | | stability of TCRs is a challenging issue for TTR Project |

| | | | | | |
|---|---|---|---|---|---|
| | | - IMs coordinates TCRs on the Brenner route. | | | |
| **IT** | Internet platform Electronic Capacity Model Tool https://ecmt-online.rne.eu/ | National Tools | PCS and National Tools GESICO in France, TPN in Germany | | |
| **AOB** | • RP Product is not suitable for passenger trains due to national legislation in NL and also for transit trains<br>• The scope of the pilot project could be extended to Amsterdam-Paris (high-speed line), but this will not be the case in 2021.<br>• In 2022, a possible scenario is that the model would only include international capacity, while it could include more or most of the national capacity on the Dutch network | • An evaluation regarding a necessary amendment in the NS in view of the new pilot between Mannheim and Basel is currently in progress | • due to TCRs with high impact in France the capacity offer (cap. bands) was of a low quality and also the volume was on a low level (4 cap. bands for ATT, 1 cap. band for RP traffic).<br>• To allocate this capacity appropriately, priority rules are applied (to maximize the "km-day" allocation metric). | | there was no reasonable way to define meaningful KPIs to evaluate the Pilots' effectiveness. KPIs which were defined anyway on some Pilots are not measurable, reachable, realistic and defined within a time slot and no measurable key learning for evaluation<br>Independent Pilot escalation board/level is missing; One steering party to solve the conflicts<br>Only single components of TTR could be tested, but not TTR as a complete process. Therefore, these Pilots don't allow the drawing of final conclusions yet. |

*General Remarks from RBs:*

19. RFC 2: It is not clear whether the existing Pilot Information Document is an information document or legally binding. The parts that need to be included in the network statement as an annex are still undetermined.
20. RFC 2: In the pilot, multiple Temporary Capacity Restrictions (TCRs) issues that can trigger capacity problems have been detected. For instance a TCR on the High Speed Line to Belgium and a TCR in Germany on Rail Freight Corridor Rhine-Alpine is likely to cause substantial rerouting and, as a result, a capacity problem on the diversionary line. It is thus clear that the rerouting of trains can impact the capacity model on other lines. A question for regulators would be whether action would be required to achieve a better use of the infrastructure. There are also problems related to the stability, rules and measuring of TCRs.
21. RFC2: The regulatory body's monitoring should cover the actual allocation of rolling planning requests and changes to the demands for modification, alteration and cancellation of rolling planning requests.
22. RFC3: For the time being, and taking into account the description of the TTR-Pilot implementation, that in most parts lacks details, there is no confirmation whether the TTR-pilot lies within the framework set by Directive 2012/34/EU. ÖBB-Infra has published a paragraph on the TTR-Pilot for the first time in the Network Statement 2019. Schienen-Control, the regulator, notified ÖBB-Infra that the description was insufficient and in turn was assured that this would be remedied. However, no considerable changes were made in the network statement 2020. Schienen-Control's request was finally met in the Network Statement 2021, which includes a description of TTR and its pilots on the Austrian network. According to Article 38 (2) of Directive 2012/34/EU a multi-annual capacity allocation is not foreseen. Long-term capacity allocation is only possible in the course of framework agreements. For the first year of the TTR-pilot, capacity is allocated on a specific train path. For the following years the multi-annual rolling planning applies. This is neither in line with Article 38 (2) of Directive 2012/34/EU nor with the regime of framework agreements according to Article 42 of Directive 2012/34/EU.
23. RFC3: As the train paths for so-called rolling planning were offered as currently non-legally-binding preconstructed train paths of the pilot project "Redesign of the International Timetable Process" (TTR), the real effects of the pilot could not yet be tested. It would be helpful if the TTR pilot projects were designed in such a way that field trials to determine the practicability of securing capacity could be tested under real conditions.
24. RFC3: The Brenner pilot is the only one in which for TT 2020 two freight paths between Germany and Italy have been allocated by using the Rolling Planning concept (train 48814 S. Giovanni Valdarno-Gladbeck West and train 48815 Muenchen Nord RBF Einfahrt-S. Giovanni Valdarno).
25. RFC3: On 25th of September the RFC3 Pilot board has officially informed RNE that they do not plan a prolongation of the Brenner Pilot. This means that the pilot will end as planned after TT2021 and afterwards the pilot will be continued by ÖBB as a further part of the national TTR network pilot in Austria. Even if the Pilot board consider the pilot experience very fruitful in terms of cooperation between the IMs and in terms of achieved results, it has declared that there is no potential for any further development of the pilot concept at the moment, especially because of the legal limitations and constraints concerning the reservation of capacity. Furthermore, a greater commitment and active participation of the

RUs would be needed and wished, especially for an efficient calculation of the reserved capacity for Rolling Planning. Probably DB Netz will focus its own efforts on the new Pilot Mannheim-Basel, which could be prolonged on the Rhine Alpine Corridor to the North of Italy involving also the Swiss and Italian IMs SBB and RFI.

*Further pilot process with new timetable concept*

26. In addition to the above-mentioned pilots, DB Netz AG also planned to test an advanced TTR concept in a new TTR pilot test on the German line between Mannheim and Basel, where the capacity situation is much tighter. In the new binding concept, it was planned to offer only pre-constructed train paths in the first part of the working timetable. These pre-constructed train paths are to be prepared by DB Netz AG on the basis of past data (demands of recent years) and mad available via "train path catalog" system.

27. According to a legal examination by BNetzA, however, the intended procedure does not comply with the regular concept for train path allocation in accordance with national regulations. In principle, applicants can request the allocation of the rail infrastructure capacity they need. A rail infrastructure manager has to - as far as possible - accept all applications (§ 52 (1) ERegG).

28. In order to facilitate the implementation of pilot processes for new timetable concepts in Germany in the future, efforts are currently being made to include an opening clause in the German Railway Regulation Act.

## V. Preliminary findings on TTR pilots

29. At present and given the preliminary regulatory assessments on each TTR pilot mentioned above, we have observed that the allocation process of the pilot projects has raised several issues in terms of practical and regulatory barriers. They range from the implementation of Temporary Capacity Restrictions (TCRs) to the introduction of innovative components like Rolling Planning under the current legal framework.

30. In addition, RNE members are also working on developing new commercial rules which should guide and incentivise all the involved stakeholders towards the optimal use of TTR processes and related timelines. This can also trigger issues in terms of compliance with the legal framework and/or compatibility with existing national schemes.

31. As the TTR pilots have only begun with their own capacity allocation process , it remains to be seen which effects especially the introduction of rolling planning will have on RUs requesting capacity in the future [on the pilot routes]. Reserving capacity to be allocated outside the annual timetabling process could help IMs to fully enable Rolling Planning.

32. An important aspect with regard to the views of RBs directly involved in the pilots is a stronger involvement of the regulatory body in the control of compliance of the capacity model with the Directive.

33. The pilots serve testing elements of the TTR process. The question arises how the success can be evaluated. As the elements of TTR are not fully developed yet the results on the timetable 2020 can only be a first step in assessing the viability of the TTR process. RBs will continue monitoring the progress made on the pilot projects.

## E Commercial conditions

34. A key component of the TTR framework is to set up a framework of common, harmonised commercial conditions which encourage stakeholders to use the process and capacity products as efficiently as possible. A major problem in the current allocation process, according to TTR, is the high number of changes to planning parameters by RUs as well as IMs; and that capacity is blocked but not used by stakeholders.
35. The commercial conditions in TTR address the following process elements:
    - Path cancellation by applicant
    - Non-usage of a path by applicant
    - Cancellation of a partially non-used path by IM
    - Path modification by applicant
    - Path alteration by IM
36. In the monitoring of especially the RFC2 pilot, the participating Regulatory Bodies have noted the need for evaluating and monitoring key questions relating to Commercial Conditions such as the scope of force majeure (legal question), the process definition (i.e. applicability of commercial conditions) in case of force majeure on the neighbouring network, and the differentiation of deadlines and the level of charges for different products.
37. IRG-Rail has identified that several of the issues dealt with in the TTR Draft Commercial Conditions for the Evaluation Phase are also covered in IRG-Rail's Review of reservation charges from November 2019.[4] The IRG-Rail WGs Access and Charges have therefore collaborated to produce the following suggestions for the TTR Commercial Conditions.
38. The scope of TTR Commercial Conditions are currently limited to a set of charges which corresponds in broad terms to what is defined as reservation charges in article 36 of Directive 2012/34/EU. For increased clarity, TTR might consider replacing Commercial Conditions with a more suitable term.
39. IRG-Rail supports the harmonization of definitions of cancellation, modification, alteration, and non-usage. We support the suggested solution in the Draft to treat all major modification as cancellations followed by a new request, and to treat minor modifications outside of the commercial conditions. However, we believe that the criteria for drawing the line between major and minor modifications, e.g. defining impact on another path, may need more detailed elaboration.
40. TTR suggests a model for cancellation charges with a stepwise increase in the proportion of the Track Access Charges to be paid for the cancellation of a train path as the day of operation draws closer. The model as well as the level of charges have a lot of similarities with existing reservation charges in several European countries.
41. The regulatory bodies have little evidence of whether the charges currently in place do have an effect on the behaviour of applicants. Given the importance of Commercial Conditions to the TTR project and the similarity of the suggested solution to current reservation charges, it is uncertain whether the suggested charges will be sufficient to reach the objective of

[4] https://www.irg-rail.eu/download/5/650/ReviewofReservationCharges.pdf

encouraging stakeholders to use the allocation process and capacity products as efficiently as possible.

42. If a charge with stepwise increases in charges is introduced, IRG-Rail supports a harmonization of the cutoff-points in order to facilitate for international traffic.

43. If the Commercial Conditions aim at guiding applicant behaviour in a more detailed manner, in the long run it might be more suitable to base the charges on simulations and experiments on applicant behaviour, rather than on Track Access Charges. The TACs are derived from the need of the infrastructure manager to recover direct costs (e.g. of wear and tear) and in some cases markups for (part of) the total cost. TACs may moreover not be sufficiently predictable and stable between infrastructure managers to provide clear incentives for applicants to adjust their requests.

44. The Commercial Conditions need to strike a careful balance between on the one hand being high enough to create incentives and on the other hand not being so high as to push traffic off the rails, penalise innovation, or in other manners decrease the competitiveness of the railway sector. Given the lack of evaluation of existing reservation charges and other means of predicting the effects of the Commercial Conditions, the TTR project should pay careful attention to developing mechanisms for continuous evaluation and improvement of the Commercial Conditions towards the desired objectives and the relevant tradeoffs between costs and effects.

45. IRG-Rail members have little experience of double-sided models where infrastructure managers are liable for payment for path alterations. We believe that such a model, depending on design and legal basis, may help in improving the efficiency and legitimacy of the Commercial Conditions. We furthermore think that the deadlines and definitions in the new Annex VI constitutes a useful basis for such charges, which may contribute to an increased efficiency in infrastructure managers' planning of TCRs.

## F Conclusion and important issues to address

46. IRG-Rail supports innovation in the railway sector and strengthening of the rail transport mode for the benefit of passengers and freight users. We find that TTR is an innovative project to that effect.

47. IRG-Rail welcomes the TTR process objectives, in particular:

- the clear focus on the needs of the international freight and passenger markets by introducing redesigned timetabling process, including optimised and harmonised deadlines and processes for capacity requests. This is of particular importance for freight operations that can benefit from a more market-oriented approach for the allocation of capacity outside of the annual timetabling process;
- improved reliability, consistency and stability of the timetable thanks to better planning and execution of TCRs and
- making best use of existing infrastructure capacity.

48. IRG-Rail will continue to monitor and support the TTR project as an innovative approach to provide capacity based on market needs, strengthening the railway sector overall.

49. IRG-Rail appreciates the efforts of IMs and railway applicants for changing the capacity allocation procedure to be used in the TT design phase, with the aim to make the passenger and freight rail transport markets more competitive and attractive.

50. IRG-Rail follows with great attention the evolution of the TTR project, including the pilots, TTR Migration, national implementation, and framework conditions such as IT, commercial conditions and legal framework.

51. At the same time the establishment of the capacity model concerns the interests of all transport modes. Therefore, for the successful implementation of TTR the RBs do expect that all rail market players have the possibility to be duly involved in all the different phases which are needed to test and implement the TTR process.

52. IRG-Rail considers that before deciding to introduce new mechanisms and further actions, TTR needs to be thoroughly tested and evaluated. A system-wide implementation can only follow after all critical components have been tested and evaluated during pilot operations.

53. IRG-Rail will continue its engagement with European and national stakeholders. Based on the progress of the pilot projects IRG-Rail will develop further positions on the TTR project as a whole.

54. To that end, **IRG-Rail considers that a substantive analysis of the TTR concept and thorough, well-documented testing is needed. We believe that any major change in the existing legal framework to implement TTR across the European rail network has to be evidence-based.**

55. IRG-Rail believes that there are still some outstanding questions to ensure that the TTR process is properly assessed and can proceed with success. While discussions of the TTR project involving RNE tend to focus on practical obstacles to implementation, IRG-Rail would like to point out that there are important questions about policy-issues, risks or effects associated with the TTR allocation model which need to be analysed before implementation. These issues include:

    - Will the TTR model with its long lead-times and need to disclose information be conducive to entry in the open-access passenger market, or should we expect that segment to lose in relative importance?
    - Will there remain scope for competition and innovation through product differentiation (e.g. speed, acceleration, stopping patterns) or will all applicants have to adapt to predefined parametres for train paths?
    - In the TTR allocation model, the capacity partitioning/capacity model stage between X-24 and X-18 appears to be a main window for conflict resolution between competing requests for capacity. This raises several questions:
        - How can the format of the capacity needs announcements be designed in order to improve the conditions for innovation and market entry?
        - How can the process be designed in a way which protects competitor RUs vis-à-vis the RUs of a vertically integrated incumbent?
        - How can the capacity modelling be made transparent enough to allow monitoring by regulatory bodies while at the same time provide sufficient protection of sensitive business data?

- To what extent will IMs be required to justify deviations from requests by applicants?
- What incentives will there be for RUs to stick to their capacity needs announcements when applying for train paths later?

- What legal basis is required for full implementation and when does it need to be in place? IRG-Rail is of the opinion that implementation of TTR requires a revision of directive 2012/34/EU. Can that be done in time, given that the Commission has expressed that they will be busy with the revision of regulation (EU) 913/2010 until some point in 2022?
- Will the TTR model be compatible with the use of framework agreements, e.g. concerning conflicts between framework agreement requests and multiannual rolling planning?
- IRG-Rail applauds the goal of strengthening rail as an environmentally friendly transport mode by making it more competitive compared to other modes of transport. As transport for both goods and passengers depends on accessible and well-connected service facilities, how can the whole transport chain be integrated into TTR?

56. IRG-Rail plans to continue monitoring the TTR project and engaging with relevant stakeholders.