Guidelines for Train Performance Management on Rail Freight Corridors

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Content

Change history

Version	Author	Date	Changes
1.0	Ivana Tomekova Alessandro Fattorini		
2.0	RNE PM WG	12 March 2019	Final proposal

Abbreviations

IM   Infrastructure Manager
GA   General Assembly
MB   Management Board
OBI   Oracle Business Intelligence
PaP   Pre-arranged Path
PM   Performance Management
PMO   Program Management Office/Permanent Management Office
RAG   Railway Undertakings Advisory Group
RFC   Rail Freight Corridor
RNE   RailNetEurope
RU   Railway Undertaking
TAG   Terminal Advisory Group
TIS   Train Information System
TPM   Train Performance Management
WG   Working Group

1   Introduction

This document describes the basic processes needed to carry out a regular activity of quality monitoring and analysis within the framework of the Rail Freight Corridors (RFCs) established by the Freight Regulation (EU Reg. 913/2010). In particular, such processes are intended to fulfil the requirements stated in the following articles of the Regulation:

» Art.9: Measures for implementing the freight corridor plan
   1. *The management board shall draw up an implementation plan (...) This plan shall include:*
        C) *the objectives for the freight corridors, in particular in terms of performance of the freight corridor expressed as the quality of the service (…)*

» Art.17: Traffic management in the event of disturbance
   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.*
   2. *(…)*

» Art.19: Quality of service on the freight corridor
   1. *(...)*
   2. *The management board shall monitor the performance of rail freight services on the freight corridor and publish the results of this monitoring once a year.*
   3. *The management board shall organise a satisfaction survey of the users of the freight corridor and shall publish the results of it once a year.*

The Member States' governments and the national Infrastructure Managers and Allocation Bodies are of course responsible for the implementation of the Regulation as a European legislative instrument. Nevertheless, as RailNetEurope (afterwards RNE) has been active for years in many of the fields covered by the Regulation and in the tasks that the Regulation assigns to stakeholders, RNE has offered to act as a 'service provider of choice'. The provision of the present Guidelines is one of the services that RNE is offering to the Rail Freight Corridors (RFC) and their member Infrastructure Managers (IMs). The Guidelines are elaborated within the RNE Performance Management working group.

The main approach of the present document can be described according to the following principles:

» The document shall mainly describe the processes of performance management and connected issues (information needed, expected outputs, actors, pre-requisites, tools). In order to optimise the processes in each Corridor, some flexibility is left to decisions to be taken by the RFCs.
» As it is clear from the above-mentioned articles of the Regulation, EU law requires the RFCs to put in place the process phases related to the monitoring and analysis of the quality of the traffic. It does not, however, prescribe the planning and implementation of corrective actions for quality improvement. Nevertheless, although these phases of the quality improvement process are not mandatory, RNE and the Working Group that drafted the present Guidelines have decided to include such possible approaches in the Guidelines itself, and to leave it up to the RFCs to choose if and how the improvement processes will be implemented.

2   Train Performance Management in general

The train performance management process is composed of 5 main phases as shown on the picture below.
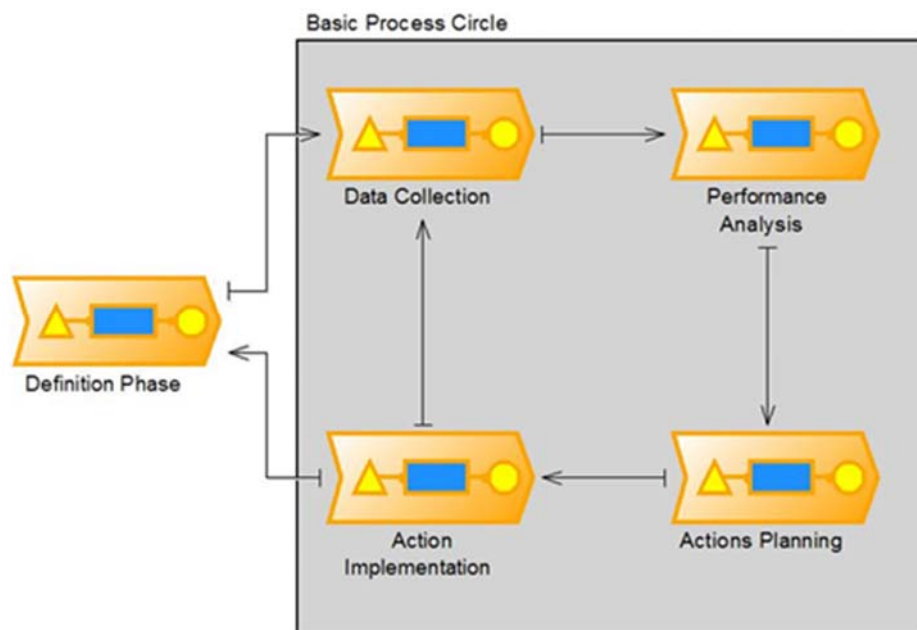

Figure 1: Overall process map

Definition phase
The aim of this phase is to set the principles that will be the basis for the following phases. The RFCs together with RNE check the technical possibilities and agree on the main monitoring principles.

In particular, the following topics will be dealt with:
» Indicators to be monitored
» Sample of trains to be monitored
» Geographical principles
» Frequency of monitoring
» Involvement of actors
» Data confidentiality issue

Data collection
The data collection process starts at the IM national level, where all train runs are monitored and recorded in the IM's domestic system and sent to TIS in real time. TIS processes all the received messages and stores the consolidated information in the TIS database. Performance reports are generated by using an interface tool (OBI) that, using the TIS database, allows the generation of simple and user-friendly reports.

Performance analysis
The goal of this phase is the regular investigation of rail freight transport performance on the Corridor through the processing and analysis of the data provided during the data collection phase. The analysis shall consist of two different steps:
» As a first step, the data coming from the data collection phase should be processed to have understandable, usable information (situation as-is);

» As a second step, the report provided by the first step shall be used for an in-depth analysis comparing the state of the performance with the pre-defined targets (situation as-should-be) and, in case of non-compliance with the targets, to find out the reasons for bad performance.

Actions planning

The further planning of any *analysis phase-based actions* depends on the kind and location of the weaknesses/problems identified in the previous phases. The goal of this phase is to delineate the Action Plans (corridor and/or national) defining the measures to be implemented to improve overall corridor performance.

Action implementation

To improve overall corridor performance, the efficient internal implementation processes should be defined to ensure a sustainable follow-up to the proposed Action Plan implementation.

3   Train Performance management on RFC level

Train Performance management on RFC level is subject of particular RFC decision. This chapter contains recommendations for setting up of organizational structure and processes for train performance management on RFC level.

The detailed responsibilities for each phase of the TPM process, including the organisational set-up, should be defined by each RFC.

The main goal of implementing the TPM on RFC level is the improvement of performance on the corridor.

3.1   TPM processes on RFC level

Several different reports to analyse the RFC performance are available in OBI (see chapter 5). These reports can be used for the basic analyses and identification of the main weak points. The OBI reports can help to examine which origins, points, trains or sections have the highest impact on the overall performance and to analyse the possible reasons.

In case the RFC reports are not sufficient for the detailed analyses, a deeper investigation in the national IMs tools might be needed.

Based on the results of the analysis, further activities to be done within the IMs, by WGs or involving other stakeholders shall be proposed and reported to RFC bodies.

The definition of improvement measures and activities shall be done jointly involving all relevant parties (IMs, RUs, terminals) affected by the identified weak points. If needed, dedicated meetings with concerned parties can be organized in order to set up and coordinate an action plan for specific points or areas. Other RFCs may be involved, if their support is necessary.

3.2   TPM organisation set-up on RFC level

RFC Train Performance Management working group is responsible for the complete TPM process on RFC level. According to the different RFCs' structure and background, specific bi- or multilateral groups can be addressed or even established to support the RFC TPM WG.

The Executive Board shall be informed about the activities and measures regarding the corridor's punctuality improvements.

The Management Board or the General Assembly shall receive information by WG TPM about the KPIs and supervise the activities and improvement measures proposed by the WG TPM. It can be addressed if support for the implementation of the agreed measures is needed.

If needed, RFC Advisory Groups (RUs and terminals) can be asked to assist the WG TPM with analyses, identification of bottlenecks and action planning. They are informed about ongoing activities and may be actively involved in solving specific problems along the corridor.

3.2.1   RFC working group for Train Performance Management (WG TPM)

The WG consists of representatives of each partner IM of the RFCs (IM Performance Manager) and, if necessary and foreseen, of a permanent staff member of the RFC (e.g. PMO). One of the members is appointed as RFC TPM WG Leader by the RFC MB/GA. RUs and terminals can also

be either directly involved in the WG TPM or at bi- / multilateral level (see 3.2.4) or in dedicated task forces.

The RFC WG TPM is responsible for the complete train performance management process as described in chapter 2 of this handbook. The crucial role of the group is in the Definition phase, where the RFC-specific monitoring principles are defined.

Depending on the RFC decision, the WG TPM can directly execute all the phases of the TPM process, or tasks can be delegated to specific bilateral or multilateral working groups.

If proposals done by the WG TPM to IMs, RUs, terminals, bi- or multilateral WGs are not followed up, the WG TPM escalates to the Management Board/General Assembly of the corridor. The Management Board/General Assembly can decide which actions should be taken to ensure performance improvements.

3.2.2   RFC TPM WG Leader

The RFC TPM WG leader is responsible for the organization and the chair of the RFC TPM WG meetings and act as a contact person for the RFC TPM related questions within RFC organisation and eventually also to the external bodies, e.g. RAGs, TAGs, etc. He/she coordinates the feedback towards the RFC MB/GA and ensures that the proper actions to implement MB/GA decisions are taken.

He/she represents the RFC within the RNE PM WG (see chapter 6).

3.2.3   IM Performance Manager

The IM Performance Manager is the IM representative in the RFC TPM WG and responsible for KPI analysis, punctuality monitoring, progress report and in charge of making proposals for improvement measures within his/her IM network. He/she is also responsible for the deep investigation within national IM system, if needed.

3.2.4   Bi- and multilateral Working Groups

The bi- or multilateral working groups between IMs focus on performance improvements in the cross-border context. They receive information and proposals from WG TPM, analyse the reports in depth to find out reasons for bad performance, agree on corrective measures and report back to RFC TPM WG on the results. They can involve RUs and terminals. These working groups can also be involved by the WG TPM for dedicated workshops. In case the bi- / multilateral working groups identify issues which need to be treated on a higher level, the WG TPM can be addressed for support.

4 Technical basis for RFC TPM

4.1 TIS and OBI

All information collected in TIS since August 2013 is stored in the data warehouse. Based on the data stored in the data warehouse, several different reports are built and can be accessed by the TIS users concerned via Oracle Business Intelligence (OBI).

Access to OBI is given to the IM Performance Managers of each participating IM, to the RU Performance Managers and also to the RFC TPM leaders.

The OBI manual can be found in Annex 1.

Information from IMs' national systems might be used where a more in-depth analysis is needed (e.g. to find out the reasons of bad performances).

4.2 Monitoring principles

In the below chapters, the main principles needed for the regular monitoring of RFC performance are described. They can be different for each RFC. The principles applied on the specific RFC, can be found in chapter 6 Train Performance Management of CID Book IV.

4.2.1 Indicators to be monitored

It is up to each RFC to decide which indicators should be monitored. Some RFCs are focusing primarily on the monitoring of the punctuality, others put a focus e.g. on the waiting times at borders. Several different indicators can be monitored and are available in performance reports. The detailed information about the reports can be found in Chapter 5.

4.2.2 Trains to be monitored

It is up to each RFC to decide which trains they would like to have monitored and included within the performance reports. In general, only the international trains for which at least one running advice is available are included in the reports.

A train is considered as international, if crossing at least one state border. National trains are out of scope of RFC performance reports.

In addition, each RFC defines its own criteria to consider the train as RFC related. For the moment 2 different approaches are applied:
- Monitoring only pre-defined list of train numbers – used for monitoring only the trains running on PaPs;

- Monitoring all trains running on RFC – defined as all trains that are passing at least one pair of points defined in the basic point list of the RFC.
  - By the definition of the pair of points (section), RFC can take into account the specificities of its corridor and thus influence the sample of trains included in the report.
    - E.g. if only state border sections are defined as a pair of point, then only those international trains that are running on the RFC sections are included in the report.
    - E.g. if every single section of RFC (including national part) is defined as a pair of point, then all international trains, which are passing at least one of these sections are included in the report.

4.2.3   Geographical principles

To cover the specificities of each RFC and to fulfil the different needs of different RFCs, two main point lists need to be defined by each RFC. It is also possible to create separate lists for specific needs of RFCs and IMs.

Basic RFC point list
- Used to identify the RFC related trains
- The list of pair points (section) which needs to be included in train run

Detailed RFC point list
- Used to identify the most important locations on RFC (e.g. RFC entry, RFC exit)
- The list of all points belonging to RFC

4.2.4   Frequency of monitoring

Depending on the needs of each RFC, the monitoring can be based on daily, monthly, quarterly or yearly frequency.

5   RNE Reporting portfolio

RNE as a service provider develops and maintains several different types of reports, as defined and needed by the RFCs. The full list of available reports, including their detailed descriptions, is available in OBI or can be provided on request. For each report, a detailed raw data report is also available to enable detailed investigations.

In the chapters below, just a few examples of available and frequently used reports are provided and described.

5.1   RFC punctuality report

The main purpose of this report is to show the overall performance on the chosen RFC over the chosen time period. Several parameters can be optionally chosen to make the report very flexible.

It provides detailed information about important performance indicators at main RFC locations, such as number of trains, punctuality, amount of delays and their delay causes.

This report is available for the different timeframes:
- daily
- monthly
- quarterly
- yearly

5.2   RFC monthly punctuality report – Management Summary

The main purpose of this report is to show the overall performance on the chosen RFC, excluding the commercially sensitive information from Standard RFC punctuality report. Based on the agreement between RFCs, this report is published monthly by each RFC.

5.3   Point oriented report

This report enables the detailed performance analyses in a specific point, e.g. in border stations. Report provides detailed information about the amount of trains in the selected point, their punctuality, the delay causes and dwell time analyses.

5.4   RFC punctuality overview report

This report displays punctuality of RFC related trains in important locations with different punctuality thresholds (e.g. 5 minutes, 30 minutes, 1 hour, 2 hours, 6 hours, etc.).

5.5   Dashboard report

The purpose of this report is to show the basic performance figures for the chosen border section area – defined as Dashboard – during chosen month, considering all RFC related trains passing the predefined stations.

5.6   Traffic flow report

In case a deeper focus on specific traffic flows is needed, this report can be used. It provides the basic performance information, as punctuality and delay figures, for the pre-defined trains in pre-defined locations.

5.7   Customized reports

RFCs, IMs, RUs, terminals, bi- / multilateral WG or other parties may request specific adaptations of the available standard reports or completely customized reports.

Requests shall be addressed to RNE Train Performance Management Manager. The feasibility will be checked within RNE PM WG, which will also decide about the priority in case of the several parallel new requests. Implementation costs may arise and if this is the case, it will be communicated to the applicant beforehand.

6 RNE/RFC Cooperation in Train Performance Management

The responsibility for the development and the technical maintenance of the tools needed to provide TPM-related services lies within RNE. In order to ensure sufficient quality of these services to carry out successful and reliable performance management tasks, the RNE Performance Management Working Group was established.

6.1 RNE Performance Management working group

The RNE PM WG is composed of representatives from IMs and RFCs and was established to:

- Serve as platform for networking and experience sharing within the TPM area
- Define the TPM and reporting related guidelines and processes
- Define and manage RNE reporting portfolio – OBI:
    o Standard services,
    o Additional services, etc.
- Serve as an OBI and reporting expert group and service provider:
    o for RFC WGs TPM,
    o for RUs,
    o for RFC/RNE KPI Coordination group, etc.
- Define the requirements and monitors the correctness and reliability of OBI reports
- Take care of defining the reports needed for RFC KPIs and the monitoring of their correctness
- Become the Reporting Change Control Board (Reporting CCB) - Decision taking instance about OBI new requirements and budget spending
- Decide on fundamental upgrades or changes of the technical architecture.

Reporting CCB has a mandate from the RNE General Assembly (the highest decision body of RNE) to decide about the further development and services of OBI. Therefore, Reporting CCB makes a final approval for the development of Change Requests.

6.2 Additional RNE's services related to TPM

6.2.1 Kick-off workshop

When a new RFC WG TPM is set up (for example: an RFC starts the activities in this field, or two or more IMs get together to analyse the performance on a new route), RNE can organise a kick-off meeting where:

- A general overview or RNE TPM-related activities is presented
- Tools supporting TPM are described
- Procedures are explained
- Personnel receives basic training on the use of the above-mentioned tools.

6.2.2 Manual and basic training for OBI

Annex 1 is a simple manual for OBI users made available to all WGs TPM. At the start of a TPM activity by an organisation, basic training will be provided. Training can also be organised for new staff on request.

6.2.3   Help Desk

RNE offers a technical help desk with telephone support in English during office hours. Details can be found on RNE website: http://tis.rne.eu/contact/

Any problems with reports should be reported in a web-based tool OTRS or by sending an e-mail to support.reports@rne.eu.

6.3   Contacts

The contacts to the RFC TPM Leaders and to the RNE staff related to the TPM services can be found on RNE website: http://www.rne.eu/tm-tpm/tpm-on-rfcs/

List of Annexes

Following annexes provide an additional information related to Train Performance Management and are not the essential part of these guidelines. Therefore, changes to the Annexes can be done independently from the Guidelines and their content is not the subject of the RNE General Assembly decision.

Annex 1: RNE OBI Manual
Annex 2: List of RFC TPM WG Leaders