Delegated Regulation (EU) No 2017/1926 Progress Report 2023 *Czech Republic*

30 November 2023

1 Introduction

Concerning the provision of information on travel by individual car, this information is provided through the "Integrated (harmonised) Traffic Information System of the Czech Republic" (known respectively by the Czech language abbreviation JSDI). JSDI was launched in 2005, on the basis of the Resolution of the Czech Republic Government No. 590/2005 on the Integrated Traffic Information System of the Czech Republic as well as according to paragraph 124 section 3 of Act No. 361/2000 Coll. on road traffic and in accordance with Decree No. 3/2007 Coll. implementing the paragraph 124 section 3 of road traffic act.

Concerning the issue of Multimodal Travel Information Services historical background to the planning and organisation of Public Transport. The practical implementation of the European Commission Delegated Regulation (EU) 2017/1926 for the public transport target is carried out through the National-wide Information System on Public Transport Timetables (known respectively by the Czech language abbreviation CIS JŘ). This system is operated based on § 17 of the Act no. 111/1994 Coll., on road transport, as amended, and § 40 of the Act no. 266/1994 Coll., on railway transport, as amended. Its main goals are gathering timetable information, their approval by the relevant transport authorities and their subsequent release to the public. CIS JŘ collects information not only on road public transport, but also on railway transport, trams, buses, metro, trolleybuses and cable railway systems used for regular public transport services. CIS JŘ also contains information about public transport stations (*terminals*) and public transport stops. Since the CIS JR was developed and put into operation more than 20 years ago, its structure and data content allows for a comprehensive exchange of data in the context of the public transport timetable publication procedure, but it is difficult to adapt it to the expanding requirements of the Regulation within the current contractual relationship. Further development already requires a major redesign of the system at its core, starting with the digitisation of the related administrative operations and the interconnection with spatial data. This implementation of the current requirements of European and national legislation is taking place in the context of the preparation of the new Public Transport Information System. Currently new proposal for national information system is under preparation. This process is now at the stage of preparing the

design and tender documentation for the public contract. The work schedule foresees the start of the pilot operation at the turn of 2026 and 2027.

1.1 Contact information

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2 Projects, activities and initiatives

2.1 Priority area I. *Optimal use of road, traffic and travel data*

2.1.1 Description of the national activities and projects

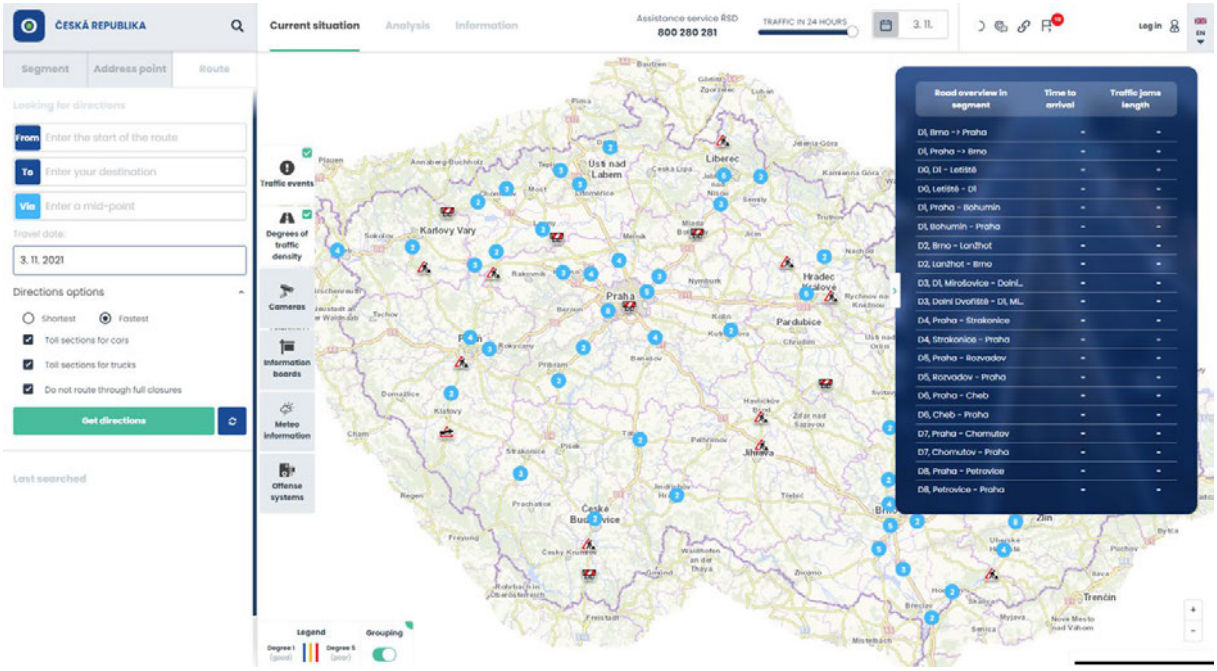
Description of the relevant initiatives, their objective, timescale, milestones, resources, lead stakeholder(s) and status:

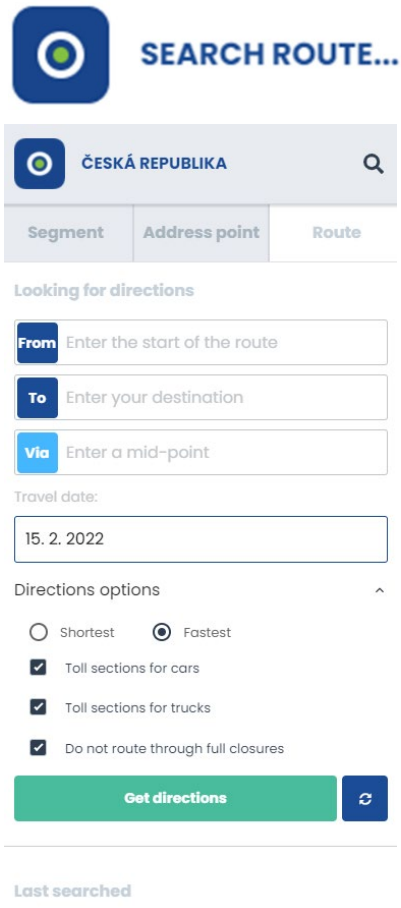
In 2005 the project titled "Integrated (harmonised) Traffic Information System (known respectively by the Czech language abbreviation JSDI) / National-wide Traffic Information Centre (known respectively by the Czech language abbreviation NDIC)" was launched. The main project objective was to create a comprehensive system for the collection, processing, sharing, distribution and publication of traffic information and traffic data.

This step was considered as the beginning of the systematic development of ITS in the Czech Republic. It is therefore essential to pay attention to the constant development National-wide Traffic Information Centre (NDIC) located in the City of Ostrava with the main focus on measures for improving the existing traffic information collection and exchange.

JSDI is comprised of three main parts:

1) Sub-systems for data collection,
2) Traffic Information Centre (known respectively by the Czech language abbreviation NDIC),
3) Sub-systems for traffic data and information provision.





NDIC represents the executive unit of Roads and Motorways Directorate of the Czech Republic (ŘSD) which is operated on a 24 hours-a-day basis and at the state level (centralised activity) guarantees the collection, processing, evaluation, verification and authorisation of traffic related data and information. Based on these data, NDIC operators take measures for traffic control and regulation by means of variable message signs, driver information panels or through various communication channels such as Radio Data System - Traffic Message Channel, website http://dopravniinfo.cz, DOPRAVNÍ INFO.CZ mobile application and radio broadcasting.

A current traffic status on the Czech road and motorway network is produced based on FCD data provided by the Road and Motorway Directorate. Road traffic condition is regularly updated in two minutes period. The traffic density levels are calculated from the individual positions of the FCD fleet vehicles.

National Access Point situated in NDIC consists of three components:

- Web interface http://dopravniinfo.cz,
- NDIC Distribution interface: https://mobilitydata.rsd.cz,
- Metadata Registry: http://registr.dopravniinfo.cz.

NDIC Distribution interface (https://mobilitydata.rsd.cz) provides access to NDIC traffic data and information and has the following main characteristics:

- personalised access,
- subscription history,

- support and licence management,
- platform for additional data and services.

The site http://dopravniinfo.cz also offers car and motorcycle routes calculations. It is possible to choose from the following variants:

- the fastest (prioritising time),
- the shortest (prioritising distance).

There are three options to refine the route:

- avoid toll sections for cars,
- avoid toll sections for trucks,
- avoid scheduled full road closures.

Metadata Registry (http://registr.dopravniinfo.cz) provides information about data and traffic information available at NDIC and has the following main characteristics:

- data classification according to coordinated metadata catalogue,
- documentation in Czech and English including schemas and samples,
- contact information and search functionality.

As regards the provision of multimodal public transport data, CIS JŘ entered into operation in 1998. It was intended from the beginning that this system be designed to gather and process public transport timetables data which are subsequently published for both commercial and non-commercial use. The original format was PDF and XLS to publicise these data. In response to the requirements made in the legislation, with respect to the relevant case-law and to the evolution of demand from public in the field of information systems that are accessible to the public, in particular the growing need to open-data formats, CIS JŘ was modified in 2015 for open-data publication and re-use.

In compliance with **PSI Directive** timetables metadata are published in the National Open Data Catalogue data.gov.cz (administered by the Czech Ministry of the Interior).

The public transport timetable data are freely available in PDF format to the public, for professionals and application developers these data are freely available for re-use in following formats:

- in machine-readable format CSV for regional bus transport and city public transport
- in the XLS format for data with content relating to railway timetables, respectively in its international standardised railML version.
- newly available in NeTEx EPIP format at https://portal.cisjr.cz

From 31 October 2023, all machine-processable data are also converted into a structure according to the NeTEx standard and published via the National Transport Information Register (http://registr.dopravniinfo.cz), which is part of the National Access Point (NDIC).

Although the CIS JŘ system was developed and became operational over 20 years ago, the system structure and data content is capable of comprehensive data exchange in the framework of the formal procedural steps taken towards publishing of public transport schedules. However, under current contractual relationship with the CIS JŘ system supplier it is difficult to adapt this system to some of the expansive requirements established by the European Commission Delegated Regulation (EU) 2017/1926. In accordance with the relevant parts of the supply contract on the CIS JŘ system management it is necessary to ensure the system provision to the proper functioning of the public administration in the field of timetables approval process concerning regular public transport services. This is a key factor in ensuring the data guaranteed by the state. Over time, the CIS JŘ system has been

modified several times on the basis of the original principles. At present, this system has reached the upper ceiling of its technical capacity for further development in order to meet new legislative requirements and times' demands. The further development of the CIS JŘ system requires the fundamental redesign of the existing system, starting from the digitalisation of related public administration processes and linking with spatial data. This implementation of contemporary requirements of European and national legislation is taking place within the framework of the preparation of the new Information System for Public Transport (ISVD). This process is now at the stage of preparing the project and tender documentation for the public contract. The work schedule foresees the start of pilot operation in late 2026/early 2027.

2.1.2 Delegated Regulation (EU) 2017/1926 on the provision of EU-wide multimodal travel information services (priority action a)

(see guidance provided in Member States experts follow up meetings)

Progress made in implementing the information service, including the criteria used to define its level of quality and the means used to monitor its quality:

The current CIS JŘ system consists of:

- Approved timetables of national regular public transport services (including urban bus transport),
- Approved timetables of international regular public transport connections with a stop for boarding passengers on the territory of the Czech Republic ,
- Approved timetables of public passenger transport on railway on Czech nation-wide & regional rail network, tram network, trolleybus lines, special railways (METRO in the Czech Republic context) or funicular railways operated in the Czech Republic.

Where relevant, a description of changes to the national access point:

1. Timetables are still submitted to CIS JR in machine readable electronic form in JDF format. The JDF-1.11 version contains a description of the JDF format for bus transport and is published as Annex in the guideline for CIS JŘ.

CIS JŘ also contains approved timetables of public railway passenger transportation on nation-wide, regional in the Czech Republic. Timetables are submitted to CISJR in electronic form in format version TAF/TAP TSI version 2.1.

The data set in the DJŘ_CIS format is a single XML file and contains the timetable of one specific train or its variants in terms of the train operation calendar. The data file is submited to the CIS JŘ by the Railway Administration, state organisation.

2. NeTEX minimum profile for electronic timetables base on EPIP (CEN/TS 16614-4) has been created.

3. The existing timetable published in the CIS JŘ consists of one ZIP archive with the timetable for public line transport in files in the JDF data format and one ZIP archive with the timetable for public passenger transport on special railways, tramways, trolleybuses and cableways in files in the JDF data format.

Each JDF data files is converted into a NeTEx EPIP data file structure. The timetable data files in the NeTEx EPIP structure are published in ZIP archives:

- NeTEx_VerejnaLinkovaDoprava.zip - JM of public line transport,

- NeTEx_DrahyMestske.zip - Public passenger rail transport on special railways, tramways, trolleybuses and cableways.

4. The existing timetable published in the CISJR consists of a number of XML files in the DJŘ_CIS format, which are continuously added as the timetables are changed. The DJŘ_CIS files containing the train timetable are individually converted into XML files of the NeTEx EPIP data structure, which are published on an ongoing basis. The names of the source and destination files include the train identification (variant).

Timetable data files in the NeTEx EPIP data structure are published grouped in ZIP archives in folders according to the train timetable period.

5. MMTI NAP has been integrated into existing structure of NAP for RTTI/SRTI. Description is available at access point https://registr.dopravniinfo.cz/en/providers/cz-md-cr/.

6. The development of the MMTI NAP is underway including an organisational structure of a NB.

Additional information (e.g. sources of data used for the provision of safety related traffic information):

3 Key Performance Indicators (KPIs)

Note: ***The EC document on "ITS KPIs for the EU" is to be used for comprehensive definitions of the KPIs and further guidance. The EU EIP Activity 5 report on "ITS Deployment and Benefit KPIs definitions" is a complementary document providing in particular estimation methods.***

KPI will be reported separately by type of road network / priority zone / transport network and nodes (when appropriate).

3.1.1 Information gathering infrastructures / equipment (road KPI)

Figures to be provided by type of network / zone.

Figures to distinguish fixed and mobile equipment.

KPI to be calculated by type of network / zone (when relevant).

- Length of road network type / road sections (in km) equipped with information gathering infrastructures & Total length of this same road network type (in km):

- KPI = (kilometres of road network type equipped with information gathering infrastructures / total kilometres of same road network type) x 100

3.1.2 Incident detection (road KPI)

Figures to be provided by type of network / zone.

KPI to be calculated by type of network / zone (when relevant).

- Length of road network type / road sections (in km) equipped with ITS to detect incident & Total length of this same road network type (in km):

- KPI = (kilometres of road network type equipped with ITS to detect incident / total kilometres of same road network type) x 100

3.1.3 Traffic management and traffic control measures (road KPI)

Figures to be provided by type of network / zone.

KPI to be calculated by type of network / zone (when relevant).

- Length of road network type / road sections (in km) covered by traffic management and traffic control measures & Total length of this same road network type (in km):

- KPI = (kilometres of road network type covered by traffic management and traffic control measures / total kilometres of same road network type) x 100

3.1.4 Cooperative-ITS services and applications (road KPI)

Figures to be provided by type of network / zone.

KPI to be calculated by type of network / zone (when relevant).

- Length of road network type / road sections (in km) covered by C-ITS services or applications & Total length of this same road network type (in km):

- KPI = (kilometres of road network type covered by C-ITS services or applications / total kilometres of same road network type) x 100

3.1.5 Real-time traffic information (road KPI)

Figures to be provided by type of network / zone / node.

KPI to be calculated by type of network / zone / node (when relevant), and if relevant indicate the proportion of services accessible to passengers with reduced mobility, orientation and/or communication.

- Length of road network type / road sections (in km) with provision of real-time traffic information services & Total length of this same road network type (in km):

- KPI = (kilometres of road network type with provision of real-time traffic information services / total kilometres of same road network type) x 100

3.1.6 Dynamic travel information (multimodal KPI)

Figures to be provided by type of network / zone / node.

KPI to be calculated by type of network / zone / node (when relevant), and if relevant indicate the proportion of services accessible to passengers with reduced mobility, orientation and/or communication.

- Length of transport network type (in km) with provision of dynamic travel information services & Total length of this same transport network type (in km):

- Number of transport nodes (e.g. rail or bus stations) covered by dynamic travel information services & Total number of the same transport nodes:

- KPI = (kilometres of transport network type with provision of dynamic travel information services / total kilometres of same transport network type) x 100

- KPI = (number of transport nodes with provision of dynamic travel information services / total number of same transport nodes) x 100

3.1.7 Freight information (multimodal if possible or road KPI)

Figures to be provided by type of network / zone / node.

KPI to be calculated by type of network / zone / node (when relevant), and if relevant indicate the proportion of services accessible to passengers with reduced mobility, orientation and/or communication.

- Length of road network type / road sections (in km) with provision of freight information services & Total length of this same road network type (in km):

- Number of freight nodes (e.g. ports, logistics platforms) covered by freight information services & Total number of the same freight nodes:

- KPI = (kilometres of road network type with provision of freight information services / total kilometres of same road network type) x 100

- KPI = (number of freight nodes with provision of freight information services / total number of same freight nodes) x 100

3.1.8 112 eCalls (road KPI)

N.a. – will be provided through the COCOM 112 questionnaire

3.2 Benefits KPIs

3.2.1 Change in travel time (road KPI)

Figures to be provided also include vehicle.km for the route / area considered

KPI = ((travel time before ITS implementation or improvement – travel time after ITS implementation or improvement) / travel time before ITS implementation or improvement) x 100

3.2.2 Change in road accident resulting in death or injuries numbers (road KPI)

Results shall be provided / aggregated at national level to be representative enough. If possible, distinction can be made between accidents resulting in deaths, serious injuries or slight injuries.

Figures to be provided also include vehicle.km for the route / area considered.

- Number of road accident resulting in death or injuries before ITS implementation or improvement:

- Number of road accident resulting in death or injuries after ITS implementation or improvement:

3.2.3 Change in traffic-CO2 emissions (road KPI)

Routes / areas where ITS has been implemented or improved should be specified. Length along / area within which the change in CO2 emissions is calculated should be long / wide enough to be representative.

KPI = ((traffic CO2 emissions before ITS implementation or improvement – traffic CO2 emissions after implementation or improvement) / traffic CO2 emissions before ITS implementation or improvement) x 100

3.3 Financial KPIs

ITS includes any types of systems and services altogether.

Annual investment in road ITS (as a % of total transport infrastructure investments):

Annual operating & maintenance costs of road ITS (in euros per kilometre of network covered):