

Directive 2010/40/EU Progress Report 2023 *Belgium*

13 October 2023

1 Introduction

1.1 General overview of the national activities and projects

In Belgium, responsibilities in the field of ITS are shared between the Regions and the Federal State. Coordination is ensured through the Belgian ITS Steering Committee.

1.1.1 Interfederal Governance

In the Belgium federal context, where decisional power is shared between the federal authority and the three Regions, the Brussels-Capital Region, Flanders and Wallonia, transport competences are shared between these four entities. Concerning ITS the domain for instance of telecommunications, railways network and operations, airways, some road safety aspects, vehicle registration and vehicle regulation, are federal competences. Whereas the domain for instance of road infrastructure, parts of road safety, inland waterways transport and public transport (other than railways) are regional competences. Therefore the Federal, Brussels-Capital, Flemish and Walloon Authorities are in charge of the ITS activities in their competences and on their territory.

Regarding ITS and the implementation of the Directive 2010/40 EU, the governments of the four Belgian entities, Federal, Brussels-Capital, Flemish and Walloon, signed July 15th, 2014, a *Cooperation Agreement* for the Implementation of the ITS-Directive 2010/40 EU. This ITS Cooperation Agreement has created an *ITS Steering Committee*: each entity is represented for its competences on ITS in this Committee. The aim of the ITS Steering Committee is to follow up and exchange information about

technical and legal aspects of ITS, to discuss, coordinate, align and to co-operate in all matters concerning the Directive 2010/40 EU and the forthcoming delegated acts.

The intention to develop a framework for Mobility as a Service in Belgium was expressed at the ministerial level. The objectives were to clarify the role of all stakeholders, to enable the development of MaaS solutions, and to reach a coordination amongst the four authorities (federal and regional) regarding four key aspects. Those aspects are the economic model, the technological and data model, awareness raising and communication to the population, and infrastructure. With clear support from civil society, the vision was realised in one year. This framework was agreed upon in September 2022, called *'Interfederal vision for Mobility as a Service'*.

However, a vision needs to be worked out, and more time is needed to achieve this. At present, a working group including Ministers' staff and the four transport and mobility administrations is being shaping this vision and giving it more concrete form. We will also monitor developments in neighbouring and other European countries, just as we want to align the implementation of the vision with the announced initiative of the European Commission for multimodal digital mobility services (MDMS).

1.1.2 ITS - Visions of the Belgian entities

1.1.2.1 Brussels Vision for Mobility in line with ITS

A new regional mobility plan, entitled "Good Move", was developed and validated in 2019. This plan, both strategic and operational, provides a vision for the next ten years.

To provide an innovative and coherent response to the challenge of mobility, the Brussels-Capital Region has chosen to direct the reflections on the development of its mobility plan on the user, in order to provide him with adapted, facilitated and integrated solutions allowing him to opt for the most efficient mode of travel each time he travels. Mobility in Brussels cannot be reduced to infrastructure challenges congested by traffic.

As an urban region, the objectives focus on themes such as dynamic flow management, logistics, parking, security and even reducing noise and pollutants.

Intelligent transport systems, and more broadly intelligent mobility solutions, play an important role in supporting this mobility plan centred on the user and quality of life. Among the six identified action programs, three are particularly impacted:

- Mobility networks: optimization of the use and operation of the network.
- The offer of mobility services: MaaS, optimization of services.
- Development of knowledge and monitoring: data collection, data sharing, innovation.

Each of these identified action programs have several action plans, all with a different ambition. The ambition is translated in multiple clear measures and can be followed up through the indicators specified for each of the goals that are identified in the action plan. Furthermore for each of the action plans there is a responsible entity who takes the lead and which counts on the support from its partners in the action plan. Lastly, the resources for the action plan are also defined in the strategy plan.

1.1.2.2 Federal vision for mobility in line with ITS

In a context of increasing digitalisation, ITS are one of the keys to meeting the challenges of mobility in Belgium.

Our vision is based on a model of sustainable mobility that is not limited to ITS but fits in with a more comprehensive mobility policy. The strategic approach « AVOID-SHIFT-IMPROVE » (A-S-I) aims at reducing unnecessary travel needs, promoting multimodality and intermodality, and improving transport efficiency of each transport mode. This applies to the transport of both passengers and freight. The expected results are in line with each of the aspects of sustainable mobility: improve energy efficiency, reduce emissions, increase operational efficiency, safety and accessibility (with particular attention to target groups such as persons with reduced mobility), and reinforce the Belgian economy.

Thanks to ITS, the quality of the mobility experience will improve, with services that are important for the elaboration of a **'shift' and 'improve' policy**. Therefore, the Federal Government wants to seize every opportunity to successfully implement such innovative solutions to the congestion problems, to the issues of traffic safety, and to a negative environmental impact of the transport sector.

In this **'shift'** perspective, priority is given firstly to active modes (walking and cycling) and then to public or shared transport (bus, rail, car sharing, carpooling, etc.). Applied to ITS, it concerns actions such as supporting the development of information services on multimodal travel. We invest in financial and human resources to successfully develop the **Belgian National Access Point** www.transportdata.be. We participate in the NAPCORE project, for instance as MaaS ambassadors, looking for ways to increase the usability of NAPs for **MaaS**. The latter is a topic we attach great importance to, by actions such as the development and implementation of the *'Interfederal vision for Mobility as a Service'* and surveys assessing the current use of, and interest for using, mobility apps by the Belgian population.

In terms of **'improve'**, ITS can be found in the transition to **connected, automated, and autonomous transport**, presenting another great potential for more sustainable mobility. In the short term, several Advanced Driver Assistance Systems (ADAS) will be available to an increasing number of drivers. In the long term, autonomous vehicles can bring about a real revolution in mobility. Indeed, they have enormous potential for shared transport, and offer an unprecedented possibility for people with reduced mobility to participate in social life. Other major social benefits await us: fewer road accidents, less pollution, less need for enforcement. To keep up with developments, particularly with research and investigations in this area, the Belgian Federal Public Service Mobility and Transport is member of the States Representatives Group of the CCAM Partnership.

While from a federal perspective, 'shift' is particularly important for the Belgian railway undertaking SNCB-NMBS and for the Federal Public Service Mobility and Transport, 'improve' actions are spread over several institutions, including the Belgian Federal Police.

The authorities have an important role to play in stimulating this development, promoting market introduction, and subsequently accelerating deployment. In addition, the authorities have a regulatory role to play, i.e. to prevent potential abuses of a dominant position by the major digital actors, to safeguard the right to consumer protection, and to monitor cyber security.

At the same time, it is essential that these ITS services are interoperable throughout the country in order to avoid creating new barriers to traffic. We therefore attach great importance to consultation between all actors that can promote smart mobility in Belgium.

1.1.2.3 Flemish vision for mobility in line with ITS

Flanders created a **multimodal, long term strategic vision and operational action plan** to guide in the decision making of the future implementation of Intelligent Transport Systems (ITS). The ambition of the strategic vision and operational action plan, with time frame **2030 - 2050**, is to *“change the way Flanders moves itself”*. Together with other governmental institutions, the private sector and the academic sector, we define intelligent transport services and implement ITS within the triple helix context.

We’ve structured our vision around five basic values: sustainability, safety, accessibility, social inclusion and intelligence. Furthermore, we’ve defined **six strategic clusters**, that shape, guide and steer the development of our ITS-action plan. The six strategic clusters on which Flanders will focus are:

1. Multimodal Traffic Management 3.0
2. Cooperative, Connected and Automated Mobility (CCAM)
3. Mobility as a Service (MaaS)
4. Dynamic road charging with smart services
5. Physical Internet
6. Smart maintenance and asset management

For each of these clusters we’ve set out a vision, and we’ve defined actions in order to implement this vision. For each action we’ve estimated the necessary effort, impact, time frame and budget and prioritized accordingly. Examples of actions are the creation of a legal framework, setting up a digital infrastructure, the roll-out in physical infrastructure, setting up pilot projects ...

Our main priorities lay within the first three domains whereas in 2019 the political decision has been taken to put on hold all preparatory work related to a potential implementation of a road charging system applicable to personal vehicles.

Some of the measures that we will work upon by 2030 relate to

- Creation of a concerted legal framework for CCAM deployment
- Determine the role of local governments
- Invest in pilots
- Inform the public and create a support base for MaaS and CCAM
- Integrate NAP database systems
- Work on common standards
- Encourage alternative modes of transport
- Connect data, travel information services between road, water and railways
- Invest in research for example on reliability of technology, impact on road safety, perception, multimodal traffic models and information systems ...
- ...

Our multimodal, long term strategic vision and operational action plan with time frame 2030 - 2050 is publicly available on the following website:

<https://www.vlaanderen.be/mobiliteit-en-openbare-werken/slimme-mobiliteit>.

1.1.2.4 Walloon Vision for Mobility in line with ITS

In Wallonia, the FAST vision for 2030 aims to ensure the fluent and secure movement of people and goods in a sustainable manner by making the best use of each mode of transport in terms of its economic and ecological relevance.

The objective is to develop intelligent transport systems with a view to making safer, more coordinated and more «intelligent» use of transport networks. At the same time, the goal is to promote the development of high-value-added services related to the movement of people and goods. Finally, collaboration with the regional public transport operator must be strengthened in order to progressively organise the integration of data and to harmonise the functionalities of the operating aid systems enabling a reliable quality of service.

This strategy is based on the upgrading and extension of the traffic centre within the framework of the PEREX 4.0 programme and on an ITS plan which includes a series of projects for the renovation of equipment on the network and the implementation of new services.

The evolution of infrastructure and vehicles goes hand in hand with the evolution of servicial mobility (MaaS) which exploits real-time data, made available from various sources and thus allowing more efficiency. Both public authorities and companies must take advantage of MaaS solutions to provide mobility packages that will gradually replace the use of an individual vehicle by integrating other mobility services into public transport.

1.2 General progress since 2020

1.2.1 Brussels

In 2021, Brussel Mobiliteit relocated "MOBIRIS" to a completely revamped and modernly equipped control room. This control room shares its space within the same building as various 24/7 dispatch centers of MIVB. This co-location facilitates closer collaboration between Brussel Mobiliteit and MIVB in terms of mobility management during events and incidents affecting the road network. For instance, it allows for direct communication upon incident detection or adjustments to traffic light control when replacement buses are needed.

In 2022, Brussel Mobiliteit took a significant step by splitting "MOBIRIS" into two distinct functions: a Mobility Operations Center and a Technical Operations Center. This division aligns with the specialized roles within Brussel Mobiliteit more accurately. Both centers operate from the same operator room, marking the end of the "MOBIRIS" name. In addition, a new role was introduced – the Mobility Manager – responsible for real-time monitoring of mobility congestion and actively intervening in traffic light control as needed. This capability is made possible through a centralized system that enables remote control of traffic lights.

Furthermore, the collaboration with safe.brussels has been strengthened to support the organization of various emergency exercises conducted by Brussel Mobiliteit. This enhanced cooperation ensures better preparedness and response during critical situations, further solidifying the effectiveness of the control room's virtualized applications.

Of noteworthy mention are the innovative Barco screens employed in the control room, providing cutting-edge display solutions, while OpSpace serves as the central platform for aggregating and utilizing various virtual applications, enhancing the overall operational efficiency of the control room.

In the realm of traffic management and mobility through intelligent transport systems, multiple progress has been made, which will be discussed further.

These initiatives collectively reflect a commitment to improving traffic management, enhancing road safety, and harnessing the power of technology to create a more efficient and data-driven transportation system for the region.

With regard to the application of MaaS in the Brussels Region, the public transport provider STIB launched a test application since 2021 as a pilot project. Through these single app, all means of transport in Brussels are gathered to makes it possible to plan a journey from door to door in just a few clicks. The app is still in a test phase and under further evaluation.

Smart Move is also an important pillar of further traffic management, using ITS services. It is fiscal project that aims to reduce traffic congestion, improve air quality, support the local economy and make our capital more pleasant for everyone.

1.2.2 Federal

Firstly, in our support to **multimodal travelling** (i.e. decrease of car use, and especially of single-occupant cars), we highlight:

- The deployment and continuous growth of the national access point (NAP) for ITS: project in cooperation with regional authorities and the National Geographical Institute. The Belgian NAP www.transportdata.be serves as a good practice, as we notice from our participation in the NAPCORE project;
- The publication of the *'Interfederal vision for Mobility as a Service'* in October 2022 and following implementation actions, here again in cooperation with regional authorities, and some federal advice bodies as well;
- Several projects undertaken by the Belgian railway undertaking SNCB-NMBS which lead to a considerable progress in passenger comfort, especially regarding (real-time) travel information and multimodal e-ticketing.

Secondly, in our support to **automated and connected mobility**, two items are key at the federal level:

- The continuous implementation of the Delegated Regulation on eCall by the Federal Public Service Health, the Federal Public Service Home Affairs, and the Belgian Institute for Post and Telecommunications;
- Our progressive policy for testing automated vehicles:
 - the Federal Government has allowed exemptions to be granted within the framework of testing automated vehicles, including use cases with a remote operator;
 - numerous pilot projects have been running on Belgian public roads.

1.2.3 Flanders

The list below highlights the work undertaken regarding multimodal ITS-services on a Flemish level. This list is not exhaustive.

1. Multimodal Traffic Management 3.0
 - a. Active participation in the deployment and further development of the NAP for Multimodal Travel Information Services (NAP MMTIS) for which Flanders provides the project leader; participation in the extension of this NAP MMTIS to the NAP ITS (NAP for Intelligent Transport Systems).
 - b. OSLO standard Timetable and Planning (De Lijn)

- c. Participation in the European NAPCORE project (together with Federal Government and NGI)
 - d. Flanders is involved in the European Data Task Force on SRTI, and its successor Data for Road Safety (DFRS) where we are in contact with the private sector to share the SRTI-data and investigate business models.
 - e. Installation of variable message signs
 - f. Static truck parking data is available on the European Open Data Portal and we concluded a pilot project with the aim to provide a dynamic information service about the parking occupancy rate of truck parking places.
 - g. The use of the traffic lights coordination centre in Antwerp since 2018
 - h. The installation of Waze beacons in tunnels
 - i. The realisation of physical real time information boards by PTO De Lijn
 - j. Dynamic traffic management
 - k. Participation in several European projects/fora such as Socrates2.0, TM2.0, Arc Atlantique III
 - l. River information services
 - m. ...
2. CCAM
- a. De Lijn is supporting LRM in the implementation of automated shuttles at the Terhills site and is actively monitoring the market for automated transport in order to prepare to launch follow-up projects.
 - b. Smart shipping & automatic operation of locks and bridges
 - c. Participation in numerous European (deployment) projects/ fora
 - i. C-Roads platform & C-Roads pilot
 - ii. CONCORDA / Smart Highway
 - iii. InterCor
 - iv. EU CCAM Single platform
 - v. EU Data Task Force initiative (MoU & public-private co-operation in data sharing)
 - d. Mobilidata
 - i. Co-investment of C-ITS services
 - ii. Roll-out of intelligent traffic light control systems
 - iii. Policy supporting applications
 - iv. Research & development (services for vulnerable road users & truck guidance system in the port of Antwerp)
 - e. Setting up POC such as: investigating in vehicle data and whether this data is useful to identify dangerous locations...
3. MaaS
- a. Mobility central for demand responsive transport
 - b. Oslo standard for shared mobility
 - c. Account based ticketing by De Lijn
 - d. Soft legislation/ setting up an ecosystem for open data within a MaaS-context
 - e. Setting up a MaaS architecture
4. Road charging
- a. a network-wide scheme applicable to freight transport has been implemented

5. Physical internet
 - a. Participation in Alice to develop the roadmap for physical internet
6. Smart maintenance & asset management
 - a. Digital twin - Building information management, asset information management
7. Other
 - a. Extending the network of camera's
 - b. Improvement of the open data portal which is available on <http://opendata.mow.vlaanderen.be/nl/data-register> or on the Flemish Open Data Portal (www.opendata.vlaanderen.be) and registered in the Belgian National Access Point (NAP)
 - c. Data science projects
 - d. Participation in TN-ITS within one of the working groups of the NAPCORE project
 - e. The realisation of the project 'snelheid.vlaanderen' [speed.flanders], in which the MOW department and AWV will collaborate on making 1 application for recording traffic signs for all road managers in Flanders.

1.2.4 Wallonia

In Wallonia, PEREX 4.0, the new traffic centre was opened mid-2019. It aims to provide users with qualitative and permanent real-time information so that they can both adapt their immediate behaviour to the real situation of the network and anticipate by programming their journey. Afterwards the knowledge of traffic makes it also possible to better adapt the service to the need through more complete and reliable statistics.

It relies on the various ITS plan projects that have been implemented since 2020, mainly:

- The implementation of a new operating aid system for the traffic centre in order to gather and disseminate relevant information on traffic conditions and to provide assistance to operators;
- Improved counting systems, based on counting loops but now also using other technologies and external sources;
- Maintenance and renovation of road network equipment: weather stations, variable message signs (fixed and mobile);
- Experimenting with a carpool control system on two strategic sections of the network in order to dedicate a specific traffic lane;
- Increased video surveillance coverage to validate network incidents, monitor parking areas along the motorways and detect trucks parked in emergency lanes;
- The implementation of a C-ITS project within the framework of the C-Roads platform to communicate to users in their vehicles several use cases (accident, obstacle, work,) through a smartphone application, depending on their position on the network;
- The centralization of the management of traffic lights to identify outages, adapt the strategies of regulation according to traffic conditions and in particular to give priority to the buses;
- Automation of weigh-in-motion stations, to fight against overloaded heavy goods vehicles which damage the roads and are a factor of danger ;
- Modernization of lighting on the motorways with the implementation of dynamic lighting;
- Development of an app on smartphone for emergency calls, also informing about traffic conditions.

1.3 Contact information

1.3.1 Brussels

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1.3.2 Federal

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1.3.3 Flanders

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1.3.4 Wallonia

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1.3.5 Belgian ITS Steering Committee

Chairman 2023: David Schoenmaekers: david.schoenmaekers@mobilit.fgov.be
Secretariat: its@mobilit.fgov.be

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:

2.1.1.1 Brussels

The main projects concern the collection and the publication of traffic data, bike data, and public transport travel information. Another important focus is the management of works and the management of parking places throughout the Region.

2.1.1.2 Federal

On the one hand, this area is closely related to the continuous efforts of the Belgian railway company SNCB to improve the usability and attractiveness of passenger travel information services.

On the other hand, the federal level is active regarding two initiatives:

- Management of the National Access Point www.transportdata.be: daily management, including a helpdesk, and further development of the NAP realised by the National Geographic Institute. General management and follow-up by the Belgian ITS steering committee, where 3 civil servants from the Federal Public Service Mobility and Transport and 2 SNCB employees are appointed as experts to the dedicated working group. See point 2.1.3.

- CEF NAPCORE project: 3 civil servants from the Federal Public Service Mobility and Transport, and the National Geographic Institute operating as its implementing body, are actively involved in the project. See point 2.5.1.

2.1.1.3 Flanders

- Flanders is one of the partners in the PSA project IDACS (ID and Data Collection for Alternative Fuels in Europe) which started in 2019 and runs until the end of 2021. Currently, Flanders and the other regions of Belgium are exploring the national implementation of data collection requirements of IDACS in relation with the existing NAP and ITS requirements, in collaboration with relevant stakeholders and market players.

- In the meantime, Flanders is further deploying a basic network of publicly accessible charging points through concessions organized by the DSO of Flanders (Fluvius). Currently, Flanders has 3,818 publicly accessible charging points in operation, of which 89 fast charging points (50kW or higher).

- Collection and publication of traffic data by the Flemish Traffic Centre:

- The Flemish Traffic centre publishes real-time traffic information through a Datex II feed.
- Online traffic indicators: statistical information on traffic on Flemish main roads.
- Minute values traffic measures:

The data of the project “measuring in Flanders” contains the minute values of the traffic measurements that the Traffic Center carries out on the Flemish main roads. These measurements are carried out on the basis of double measuring loops in the road surface and concerns the number of vehicles and average driving speed.

- Data for dynamic lane signalisation
- We also collect bicycle data through amongst others “Geoloket Fiets” in which we provide information on the state of the supra-functional cycling route network
- Launch of the Mobilidata program since the beginning of 2019 in which we improve the quality of our existing data that is considered as a useful source for the implementation of the selected use cases. More details on the Mobilidata program via www.mobilidata.be/en.
- Participation in the TN-ITS related activities within the CEF project NAPCORE to provide updates of ITS spatial road data was completed in 2021.
- New variable message panels were deployed.
- Creation of standards, for example a Flemish standard for shared mobility
- Visual and audio stop announcement on buses of PTO De Lijn (+ preparation for multimodal integration)

2.1.1.4 Wallonia

Data management is a key activity of the PEREX 4.0 programme, which includes the implementation of a data centre centralizing all data available from collecting equipment installed on the transport networks.

The processing of road traffic data is realized through TRADEMEX, which is a huge project aiming at collecting traffic data produced by road equipment but also at integrating external data in order to process them and disseminate traffic information in DATEX II.

Moreover, the Public Service of Wallonia also provides basic traffic information services, through RDS-TMC, variable message signs and a dedicated website “trafiroutes”.

2.1.2 Progress since 2020

Description of the progress in the area since 2020:

2.1.2.1 Brussels

The last 3 years, the main progress concerned the installation of cameras, sensors, new information boards and intelligent detection systems, as well as creation of API for sharing data.

In total 15 bike counters were installed throughout the Brussels Region Real-time bicycle count data is now accessible via the dedicated platform, providing valuable insights into cycling patterns and trends. The data can be accessed through <https://data-mobility.irisnet.be/bike/rtCount/>.

Advancements in surveillance technology are evident with the imminent deployment of a 360° camera at Troonplein. Additionally, trials with Bosh Inteox cameras for classification and counting purposes are underway, further enhancing security and data collection. The installation of above-ground cameras at key intersections continues as part of ongoing efforts to enhance monitoring capabilities.

The integration of traffic lights (VRI's) has been an ongoing process, with an annual addition of 50-55 units. The dynamic traffic management approach helps to optimize traffic flow across the region. Through the use of the Traffic Light Center (TLC), the dynamic traffic management is more and more realised into practice, on one hand by the use and introduction of FCD data, travel time of road sections and on the other hand by introducing response plans in case of recurring events, like a tunnel closure.

Since 2022, Brussels Mobility has an extended government contract to collect FCD data, using it in real-time and delayed time for multiple purposes. One of the purposes is collecting real-time travel data for chosen road sections, which are displayed on the variable message signs throughout the Region.

Furthermore, phase 2 of the Parking Guidance System is progressing, with a primary focus on the Ceria Park & Ride facility. This includes the provision of specific parking guidance on existing Variable Message Signs (VMS) boards for the Ceria parking area, as well as the installation of additional signage to aid navigation in Vorst.

Lastly, in the context of the ambition of introducing Smart Move, where road pricing will be a new tool to manage traffic management, a test application has been launched by Brussels Mobility. This application is more or less the same as the test application of the MaaS project, but with another focus. Mainly it aims to give an overview of your trip data and its financial cost and ecological impact. Furthermore, it offers alternatives to the chosen trip.

2.1.2.2 Federal

The progress made at federal level mainly concerns the SNCB's travel data under the MMTIS delegated act and the gradual broadening of the scope of the National Access Point. We refer as well to the 'Interfederal vision for Mobility as a Service'.

The main projects carried out by SNCB-NMBS during the past three years are described below.

SNCB-NMBS: Door-to-door multimodal route planner

Description

The SNCB door-to-door multimodal route planner is an information system on a travel trip which includes all public transport modes (Train, Tram, Metro & Bus) and which is oriented towards the publication of actual, integrated and objective information on the trip from door to door. The objectives are to give the traveller a door-to-door multimodal information before and during his journey and to allow him to easily access this information via modern means of communication (all SNCB website visitors and SNCB Smartphone App users). The routeplanner also includes real-time information on the train schedules (doing so, it takes over the old RailTime Application, formerly described in the previous Progress Report in the ITS project sheet "*Railway real-time Information service: Rail-time*"). All Railtime functionalities have now been transferred to the door-to-door multimodal route planner of SNCB-NMBS.

Source of data: Use of Beltac format to get planned data from TEC, De Lijn, STIB-MIVB.

Already done

- As begin 2020: 52% of the 3.850.000 unique visitors on the website happen from a Mobile device – which underlines the importance of the responsive redesign
- 2020: in September, launch of the new mobile app with the revised route planner included
- 2020: RP migrated to new data centre of SNCB-NMBS
- 2020-23: The interfaces of the Website & the app have been modernized to simplify the user interfaces, making them more intuitive and user friendly. It will also complement the Route Planner by indicating the facilities in the departure/arrival stations (taxis, parking, shared bikes, etc..).

- 2023 : launch of real time De lijn on the website & the app

Ongoing

- Continuous improvement for a well-functioning route planner answering the needs of the customer
- Use/future use of GTFS open data of Tec, De Lijn & STIB/MIVB for realtime data

SNCB-NMBS : Optimization of connections among public transportation providers : ARIBUS

Description

The current ARIBUS optimizes connections among (public) transportation providers for travellers by adding a waiting time for busses if necessary. The new ARIBUS is an open system, prepared to operate as a platform for centralizing and distributing real-time data from / for the transportation companies and offer the possibility to define guaranteed connections.

Already done

- 2020 : ARIBUS migrated to new data centre of SNCB
- 2022 : Analysis ARIBUS Digitalization project to get rid of hardware becoming obsolete
- 2023 : Implementation ARIBUS Digitalization by NMBS and start of implementation by De Lijn and Le TEC

Ongoing

- Depends on the requirements for adapting the software to new needs.
- From 2024 on, SNCB-NMBS will review the architecture of ARIBUS through the ARIBUS Digitalization project and quit the current way of working with modems, cables and screens which will greatly optimize maintenance costs. In the future and for as much as this is technically feasible for the different transport companies, data will be sent to their servers. These servers are communicating directly with the computers on board of the vehicles of the other transport companies.

SNCB-NMBS : Open Data

Description

Making scheduled and real-time train information data publicly available so that partners and social media can further integrate this data into their applications. Greater visibility of train offerings will be obtained as a result. The legislation in force changes regularly, both at the European level (MMTIS), Belgian (Evolution of the 2016 law) and regional level (OSLO initiatives in Flanders). The goal of the project is to stay up to date and compliant with these. The users are individuals, small & medium companies, universities, public institutions, big companies (Google, Apple, Microsoft) and the mobility service providers that are active in Belgium.

Already done

- 2020 : Publication of the Data on the National Access Point (NAP) on transportdata.be
- 2021 : Development of the NETEX format, for planned data (complementary to the GTFS planned)

- The project is implemented and up to date with the legislation currently in force, with 560 signed contracts (Augustus 2023). Main achievement : Access to planned data & real-time data by third parties. There are two GTFS feeds available:
 - o The scheduled data which are updated daily
 - o The real-time data which are updated every 30 seconds
- There are in total 11 datasets published by SNCB on the National Access Point (NAP) (September 2023)

Ongoing

- End date is not determined as there is a continuous improvement going on taking into account developments in legislation.

SNCB-NMBS : EMMA - Electronic Management of Messages and Announcements

Description

EMMA is an automatic information system that informs passengers in real-time at stations and stops through the following channels:

- Audio announcements distributed through loudspeakers
- Visual announcements via information screens
- An intranet site intended for station staff (Infodesk)

EMMA was launched within Infrabel in 2009. The full roll-out of EMMA in all stations will be completed in 2018.

The objectives of the EMMA software are to provide passengers at stations and stops with all the necessary information automatically, in real time, correct in terms of content and language of the information and the time of the announcement, via the selected audio lines and displays. For this, the system relies on files with train data and passenger information made available daily, on files with pre-recorded digitised and coded texts, on real-time monitoring of arrivals, departures and delays of trains and on information and commands entered by operators, using an extremely user-friendly user interface. Intermodal component: in a further future, SNCB-NMBS also plans to be able to use EMMA to provide info on bus services to be requested by SNCB in order to inform travellers of an alternative bus service in case of cancelled trains. Following the liberalisation of national and international passenger rail services, EMMA provides passengers with information on all passenger trains operating in Belgium.

Dynamic passenger information in stations - Adopted principles :

- In terms of equipping stations with terminal equipment to provide dynamic passenger information, the following principles have been adopted:
 - In each station and stop, passenger information must be able to be distributed via loudspeakers (audio information).

Already done

- From 2020, the EMMA system will evolve along 3 axes:
 1. Consistency of information with other passenger information channels (App, website, in-train displays);
 2. Improving the quality of information to make it as accurate and reliable as possible;

3. Optimising costs by, among other things: automating and/or centralising certain manual tasks; aligning functional rules; optimising the ICT infrastructure.
- 2020:
 - o Completion of EMMA release with real time information of delays, platform changes, adjustment of train paths, cancellations etc coming from NMBS' Passenger Information Factory instead of Infrabel.
 - o Grouping of control centres from 13 to 9.
 - 2021: Grouping of control centres from 9 to 5.
 - 2022:
 - o Further phasing out of information coming from Infrabel. All data that will be sent to EMMA (e.g. long-term planning, compositions, local movements, etc) will be sent from SNCB's Passenger Information Factory.
 - o Automated processing of train route changes.
 - 2023 : Setting up a centralised dashboard for operators.

Ongoing

- In stations where passengers are at risk of getting on the wrong train or platform, displays are installed at the entrances and on the platforms. The aim is to have all 62 stations equipped with screens by 2026. At the beginning of 2023, only 36 stations were fully equipped. A further 50 stations are equipped with screens at station entrances.
- 2023: Modification of display templates to better match passenger needs and expectations (determined by customer surveys and interviews).
- 2024: Complete integration of international trains and their specific features into EMMA. [B] Extensive automation of announcements and texts describing trains.

SNCB-NMBS : TIS - Train Information System

Description

TIS (Train Information System) is an "on-board" passenger information system that allows real-time and complete information to passengers on the train. It also collects (technical) information about the train, including GPS position, monitoring information, status of software versions, etc. There is a back office module that allows for software updates, displaying other information, monitoring technical issues, etc. In time, thanks to this flexible system, connections to other modes of transport could also be displayed via this channel. The users and end users are the passengers on board the train and the SNCB-NMBS staff (for management).

Already done

Already in production, additions and improvements under development Since 2016, work has started on integrating the new M7 carriages into the back office so that passengers can also enjoy the same high-quality, real-time passenger information on the M7 carriages. Work is being done primarily on the accuracy and consistency of the information. Other modes of transport are currently displayed in a static way (are there bus, or metro connections at the next station), but not yet in real time.

- From January 2020: Real-time data in-house
- 2021 : Childfocus (missing child) emergency messages on Desiro trainsets
- 2022-2023 : Improve online data delivery to M7 coaches (delays and train connections)

Ongoing

- 2024 onwards : more comprehensive passenger information on all 'online' train types, in particular information on track works.
- Comprehensive / accurate and more flexible communication to travellers via screens in trains. System easy to manage and update via back office.

SNCB-NMBS : WiFi in railway stations

Description

The success of mobile devices urges the SNCB railway company to offer a performant wireless network service to its customers at the railway stations. Wifi is a facilitator for multimodal travel information services, which is a priority action in the ITS Directive 2010/40. Offering this service fulfils the aim to have the customers spending their time usefully and in a comfortable way while being at the railway station, which is a key point of the company's customer policy. Additionally Wifi offers an excellent platform for customer oriented applications such as a multimodal route planner and real-time information.

The currently existing Wifi offer in 38 stations (Telenet Wifi hotspot) is in operation since 2004 and does not fulfil anymore the current needs (technology, capacity..., moreover it is only for free for Telenet customers) and needs to be improved and extended. The users are the travellers (as well by train only as those using other transportation modes before and after their journey by train) and non-travelling visitors, while the own railway company staff will also benefit from it, improving in this way the daily operation.

Use by customers will be for free for a determined time and/or volume.

Already done

Already in production, additions and improvements under development Since 2016, work has started on integrating the new M7 carriages into the back office so that passengers can also enjoy the same high-quality, real-time passenger information on the M7 carriages. Work is being done primarily on the accuracy and consistency of the information. Other modes of transport are currently displayed in a static way (are there bus, or metro connections at the next station), but not yet in real time.

- From January 2020: Real-time data in-house
- 2021 : Childfocus (missing child) emergency messages on Desiro trainsets
- 2022-2023 : Improve online data delivery to M7 coaches (delays and train connections)

2.1.2.3 Flanders

- A real-time RTTI and SRTI service is available (open data) on DATEX II from the Traffic Management Centre. An RDS-TMC service is also running. The DATEX II feed is also accessible through www.transportdata.be (the National Access Point on Multimodal Travel Information Services).
- Real-time info is being presented directly to road users via VMS along the road network as well as [website](#) and traffic info through radio broadcast.
- Public transport travel information (API, app De Lijn).
- Installation of cameras, sensors, new information boards and intelligent detection systems, as well as creation of API for sharing data.
- Smart traffic lights in Antwerp and Ghent.
- Floating Car Data is used within the ITS environment of the Traffic Management Centre.
- Flanders participated in the European Socrates 2.0 project with a Flemish pilot focusing on cooperation between public and private parties in order to realize interactive traffic management.

2.1.2.4 Wallonia

The deployment of the TRADEMEX project has led to the increase of traffic data produced by road equipment (counting loops) but also to the integration of data from external sources (floating car data, OBU of toll system for trucks).

A Datex II node has also been implemented, which facilitates the fluency of data exchange and dissemination. Available data sets related to road infrastructure, regulations and restrictions, state and real-time use of the network have been put available on the Belgian ITS NAP “transportdata.be”.

The implementation of the C-Roads Belgium / Wallonia project (Action 2016-BE-TM-0289-S) has led to the launching of a cellular-based C-ITS service in collaboration with service provider Coyote and to the testing of an own wifi G5 service on a limited section, both services making use of the traffic data provided by the traffic centre.

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

Joint progress report for the four entities (Brussels, Federal, Flanders, Wallonia)

Progress made in terms of the accessibility and exchange of the travel and traffic data types set out in the Annex:

On August 31st 2023, 150 datasets were made accessible and 82 organisations had registered on the NAP ITS.

In the framework of the NAPCORE working group 3 ‘NAP content and accessibility’ a report (M3.3: “Second report on NAP data availability”) was made that provides information about the progress of NAP implementations across Europe and data availability in 2021 – 2022. The results for Belgium are shown in the table below.

Country	Static information for location search (address identifiers)	Static information for location search – scheduled modes (identified access nodes)	Static information for location search – DRT services (location of stops/stations)	Static trip plan information – scheduled modes (operational calendar)	Static trip plan information – scheduled modes (fare network data)	Static auxiliary information – scheduled modes (vehicle facilities)	Static trip plan information – cycling	Static information for trip plan computation – scheduled modes (connection links between interchanges)
Belgium	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Country	Static information for trip plan computation – personal modes (e.g., network topology and attributes)	Static information for trip plan computation – multimodal (estimated travel times by day type and time band by transport mode/combination of transport modes)	Static information for detailed common standard and special fare queries – scheduled modes (passenger classes)	Static information for the provision of traveler services – scheduled modes (where and how to buy tickets)	Static information for the provision of traveler services – DRT modes (where and how to book)	Static information for the provision of traveler services – other mobility services and infrastructure	Static environmental information (parameters needed to calculate an environmental factor)
Belgium	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Geographical scope of the data set out in the Annex accessible via the national access point, and their quality, including the criteria used to define this quality and the means used to monitor it:

The Belgian NAP ITS centralizes access to mobility datasets and services in Belgium. Data relating to the 4 Belgian entities (Federal, Flemish region, Walloon region and Brussels Capital region) are registered on the NAP. For the moment, the datasets on the NAP mainly relate to the comprehensive TEN-T network. With the new deadline of December 1st 2023, efforts will be done to inform stakeholders like cities and municipalities about this deadline and to assist them in registering datasets for the entire road network.

The National Geographic Institute (NGI), who is in charge of the development and management of the Belgian NAP MMTIS based upon a first cooperation agreement between the Belgian state, the Flemish region, the Walloon region and the Brussels Capital region and the NGI, had appointed a control body for the NAP MMTIS in 2021. The contract was awarded to the temporary consortium between Anyways and GEO6 and started on 01/03/2021. The responsibilities of the control body have been determined based on Article 9 and Articles 3 to 8 of the European Delegated Regulation (EU) 2017/1926.

With a renewed cooperation agreement, the NGI is now in charge of the development and management of the Belgian NAP ITS. Therefore, the NGI has in 2022 appointed a control body for this extended NAP ITS. The contract was awarded to Anyways. The responsibilities of the control body have been determined based on the relevant European Delegated Regulations.

The mission of the control body consists concretely out of the following tasks.

- Evaluation 1

The control body (CB) has to verify yearly for all stakeholders the task mentioned in the delegated act (DA) MMTIS (art 9.2 – a en b art. 9.3). The CB will do this by executing the following evaluations:

- Evaluation 1.1 - Check of registration: Check if each stakeholder that has to register data according to Delegated Regulation (EU) 2017/1926 has done so and has met the required deadlines.
- Evaluation 1.2 - Check compliance: Check if the datasets registered on the NAP comply with the requirements set out in Articles 3 to 8 of the delegated act MMTIS. A stratified sample is used for this evaluation.

- Evaluation 2

This evaluation concerns the declaration of compliance (art 9.2b of the DR). For MMTIS the declaration is filed by clicking a checkbox.

- Evaluation 2.1 - Check submitting of declarations: Check if all stakeholders required to submit a declaration of compliance have done so and have done so before the deadlines if applicable.
- Evaluation 2.2 - Check of declarations: Check if what the stakeholders state in their declarations is correct and true.

- Evaluation 3

The delegated act MMTIS states conditions for correct reuse of the data available on the NAP. This evaluation should verify these conditions. So far, no information was available on reuse. So this evaluation could not be performed yet.

Linking of travel information services:

By centralizing access to mobility datasets and services, the NAP ITS aims to facilitate their reuse by third parties such as travel information service suppliers and producers of digital maps. Datasets and services can include all modes of mobility and originate from all possible parties in both the public as well as the private sector.

The stakeholder Stoomlink e.g. registered on the NAP the Smart Mobility Planner (SMOP). The 4 Belgian public transport companies have joined forces to create this intermodal travel planner. SMOP integrates real-time data from mobility operators De Lijn, TEC, STIB and SNCB as well as other service providers into a single interface, which provides the best route for its users. The data of the SMOP is accessible via an open-source, multimodal WebApp (bus, train, streetcar, metro and bike).

Results of the assessment of compliance referred to in Article 9:


So far, the NAP MMTIS has been working with a self-declaration of compliance. When adding a dataset, the stakeholder has to tick the checkbox “I hereby declare to be in compliance with articles 3 to 8 of the European regulation (EU) 2017/1926 for this dataset”:

Declaration of compliance MMTIS:

I hereby declare to be compliant to articles 3 to 8 of the European regulation (EU) 2017/1926.

 For more information [click here](#)

I do not yet submit a declaration of compliance.

 *It is possible to submit this declaration at a later moment. However, do not forget to do this as the declaration of compliance is necessary for the assessment of compliance.*

text box for optional comment:

In 2022 the control body noticed that 15 of the organisations that were registered on the NAP with a MMTIS dataset, did not submit a declaration of compliance. These stakeholders have since been contacted by the NAP helpdesk with the request to rectify this.

On August 17th 2023, 60 declarations of compliance had already been received.

Taking into account the current developments within the NAPCORE project, the above way of working might be changed in the future.

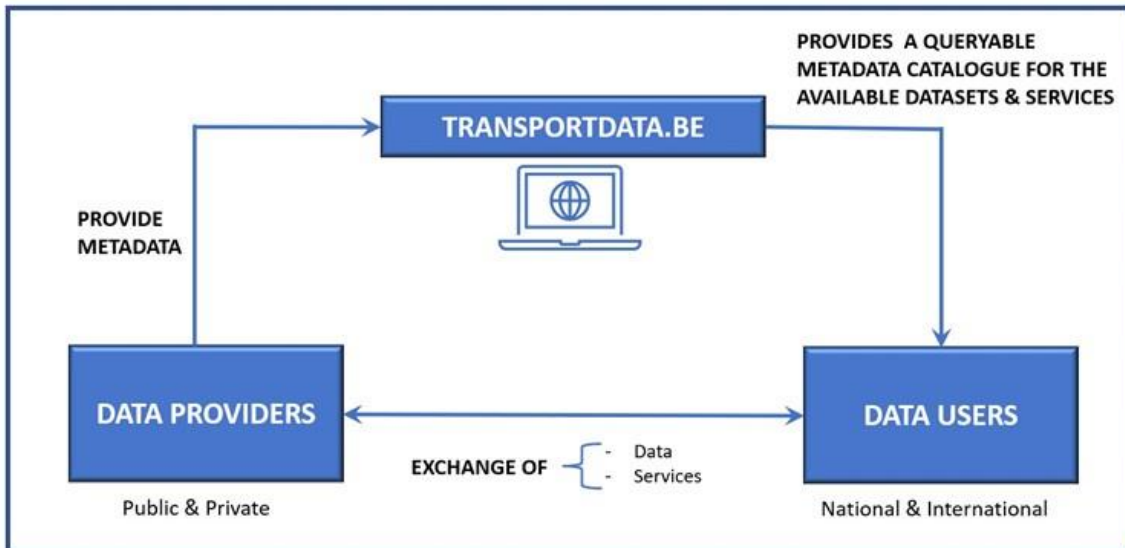
Where relevant, a description of changes to the national or common access point:

On April 19th, 2022, the Belgian NAP transportdata.be has undergone a major update to broaden its scope. Whereas previously the portal only included multimodal datasets and services, Transportdata.be from then on serves as the NAP for all datasets and services concerning:

- Multimodal Travel Information Services (MMTIS);
- Real Time Traffic Information (RTTI);
- Safety Related Traffic Information (SRTI);
- and Safe and Secure Truck Parkings (SSTP).

The NAP MTTIS was therefore renamed to the Belgian National Access Point for Intelligent Transport Systems (NAP ITS), as it now centralizes access to mobility datasets and services in Belgium for MMTIS, RTTI, SRTI and SSTP.

The NAP ITS consists of a continuously evolving metadata catalogue equipped with extensive search facilities that enable the data users to find relevant datasets and services. The contact details in the metadata of the datasets and services facilitate communication between the data providers and data users.



To consult the metadata catalogue, it is not necessary to register on the website. Everyone can browse the catalogue, either manually or through machine-reading.

To access the datasets and services, the metadata will in most cases include one or multiple access URLs that allow to exploit the datasets and services at the data providers' site. Some smaller datasets can be accessed and downloaded directly from the NAP ITS. The metadata also includes important information regarding licensing and payment requirements (if applicable). If necessary, the data provider can be contacted directly through the contact details provided in the metadata. The NAP ITS has no stake in relations between data providers and data users.

Additional information (e.g. have metadata catalogues been implemented?):

- **Metadata**

transportdata.be is first and foremost a metadata catalogue aiming at putting data providers in contact with data users. The catalogue offers metadata sheets in line with the coordinated European profile (i.e. the Co-ordinated Metadata Catalogue).

The Belgian NAP operator NGI is participating in working group 4.4 '*Metadata*' of the NAPCORE project and is monitoring the development of the new NAPCORE mobilityDCAT-AP metadata profile.

- **Model agreement proxy**

The Delegated Act RTTI and the revised Delegated Act MMTIS state that any entity providing data via the National Access Point can do so by proxy in accordance with applicable agreements. The legal taskforce (= a taskforce that works on legal issues and in which the 4 administrations are represented) studied its practical implementation and proposes to regulate the concept of the proxy in the form of concluding an agreement between the parties involved, namely the proxy and the data holder. A model for this agreement has been developed within the legal taskforce and will be usable from October 2023 onwards.

- **Stakeholder engagement**

- Helpdesk. If data users have questions, they can contact the service desk at contact@transportdata.be.
- Communication platform/LinkedIn. Initially, the transportdata.be portal also included a communication platform. During the past years, this communication platform was not intensively used. Therefore this forum was stopped as from 01/01/2022. In the meanwhile, to increase the visibility of the Belgian NAP MMTIS/NAP ITS and to support communication about the NAP, a LinkedIn page has been created (<https://www.linkedin.com/showcase/transportdata.be/>). This LinkedIn page is quite successful; it has already 239 followers, and this number is continuously growing.
- Newsletter. Updates from the access point are communicated in the quarterly NAP newsletter, which also mentions planned events and upcoming deadlines. The newsletter also gives users of Transportdata.be their say in interviews, which can provide inspiration for both potential data providers and data users. There are 206 subscriptions to this newsletter. Till December 2022, these newsletters were always sent in 4 languages: Dutch, French, German and English. Since however the German version of the newsletter was barely read, it was decided to send the newsletter in 3 languages (Dutch, French, English) as from 2023.
- E-mail campaigns. Since the start of the NAP MMTIS, several e-mail campaigns were organised in order to contact stakeholders on the stakeholder list and to draw their attention to the obligations of the delegated regulation (EU) 2017/1926, or to inform them about the results of the control body.
- NAP MMTIS workshops. In 2021, a NAP MMTIS workshop was organised in Brussels on November 16th. Among other topics, the new deadline for datasets of service level 3 was highlighted in this workshop. 29 persons attended this workshop.
In the course of October 2023 two digital workshops (one in Dutch, one in French) will be organised, respectively on October 10th and October 12th. All stakeholders will be invited, including organizations already registered on the NAP and also all cities and municipalities.
The digital workshops will consist of two parts:
 - Part 1: General (ITS Directive, MMTIS Regulation, general demo of the website)
 - Part 2: Two break-out rooms
 - 1: How to register data on the NAP, including a live demo.
 - 2: A more technical session on harvesting.
- ITS.be congress. In 2022, the NAP ITS was promoted during the ITS.be congress that took place on October 6th in Brussels. On this congress, the NGI had a joint stand with the Federal government. The main message of this stand was the NAP ITS. A banner and a video of the NAP were shown. There have been many contacts and contact details have been collected.
In 2023, the ITS.be congress will take place in Brussels on October 4th. It is planned that the NGI will have a stand on this congress to spread information about the NAP ITS, to answer questions from stakeholders and to help stakeholders with the registration on the NAP.

- **NAP MMTIS working group and taskforces**

In order to follow up the activities and the progress of the Belgian NAP MMTIS, a MMTIS working group has been created. The members of this working group consist out of employees of the 3 regions, the federal government and the public transport operators De Lijn, NMBS-SNCB, MIVB-STIB and TEC. The NGI is also invited to the MMTIS working group meetings. This working group is chaired by the Flemish region.

In 2020, 3 taskforces were created within this MMTIS working group.

- *Taskforce on Harvesting (chaired by the Federal government)*. With the extension of the NAP MMTIS to the NAP ITS, this taskforce was transferred to the Single NAP working group, since harvesting is relevant for all NAPs (MMTIS, RTTI, SRTI and SSTP). The activities of this working group were temporarily put on hold in order to wait for some results of the NAPCORE project.
- *Legal taskforce (chaired by the Federal government)*. With the extension of the NAP MMTIS to the NAP ITS, this taskforce was also transferred to the Single NAP working group, since harvesting is relevant for all NAPs (MMTIS, RTTI, SRTI and SSTP).
- *NeTEx taskforce (chaired by the Flemish government)*. In this taskforce topics relevant for the public transport operators are discussed and the taskforce follows up the development of the Belgian NeTEx profile. The 4 public transport operators participate in this taskforce (De Lijn, NMBS-SNCB, MIVB-STIB and TEC), together with the BMC (Belgian Mobility Company). The public review of the Belgian NeTEx Standard ended on May 15th 2023.

- **Control body**

The main conclusion from the activities of the control body in 2021 were:

- Private companies often have not yet registered on the NAP.
- There is a lot of very useful information on the NAP, but it is often not practically reusable.
- There is a lot of variability in the datasets in terms of licenses and update frequency.
- There is a lot of variability in the quality of the datasets.

As far as the NAP MMTIS is concerned the main conclusion of the control body in 2022 were:

- A lot of useful information is available on the NAP, specifically some of the bike/step sharing companies that provide a state-of-art API or dataset following current standards.
- For MMTIS there are quite a few stakeholders that have not registered yet.
- Some of the datasets uploaded are just links to websites, not machine readable data.
- The PTOs publish their static data on the NAP, but publishing of the pricing information can be improved.
- There are a lot of organizations that have not submitted their declarations of compliance yet.

The results of the controls of 2023 are not yet available.

CONCLUSION

The Belgian National Access Point for Multimodal Travel Information Services is operational since February 2020 and was extended to the Belgian National Access Point for Intelligent Transport Systems in April 2022. The NAP MMTIS (and the NAP ITS) is continuously growing, but efforts are still needed to keep further engaging stakeholders to register their datasets on the NAP and to stimulate the reuse of the data on the NAP.

In the near future, a huge effort will be needed to implement the results of NAPCORE on the Belgian NAP ITS and to stimulate all cities and municipalities to register their datasets/services on the NAP.

2.1.4 Reporting obligation under Delegated Regulation (EU) 2015/962 on the provision of EU-wide real-time traffic information services (priority action b)

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

Progress made in terms of the accessibility, exchange and re-use of the road and traffic data types set out in the Annex:

Public data concerning RTTI are available on the Belgian ITS NAP : www.transportdata.be

- **Brussels**

In Brussels, the real time traffic information is available to end users on a website (<https://mobilite-mobiliteit.brussels/>) and an Open Data platform (<http://opendatastore.brussels/>).

- **Flanders**

Real-time traffic information is currently available in DATEX II format (open data). This information is also available through www.transportdata.be and <https://opendata.vlaanderen.be>

There is also the Mobilidata program in which C-ITS services towards road users are deployed, including RTTI messages.

- **Wallonia**

Road and traffic data provided by the road authority are available in DATEX format through the DATEX2 node implemented in the traffic centre, PEREX.

Access to the datasets and describing metadata are given on the Belgian National Access Point (NAP): www.transportdata.be

Basic services are provided by the Walloon traffic centre: especially, website trafiroutes.wallonie.be; traffic information on VMS, C-ITS alerts.

Service providers can receive the data on a non-discriminatory basis, for free and re-use them, provided they sign an agreement.

Geographical scope and the road and traffic data content of real-time traffic information services and their quality, including the criteria used to define this quality and the means used to monitor it:

- **Brussels**

RTTI covers the regional roads in the Brussels Capital Region and is provided for congestion, obstacles, accidents, road works and closures. This content is 24/7 monitored by operators in the traffic control room and visually qualified by them through traffic cameras.

- **Flanders**

RTTI covers the entire motorway network in Flanders (core, comprehensive TEN-T, as well as the motorways not included in this network) and some primary roads like N16, N31, N44, N19g.

Quality control is one of the tasks of the operators in the Traffic Centre. New detections of traffic events are presented to them, the operators check the probability and then validate or reject the event.

- *Wallonia*

The available data relate to the core and comprehensive trans-European road network, as well as the motorways not included in this network.

Information is provided on: level of service; road works; incidents; special events; moving hazards, traffic restrictions, obstruction hazards.

Validation is made by the operators at the traffic centre based on the different information sources available.

Service providers using the data have the contractual obligation to report as soon as possible any defects, deficiencies or errors in the information made available. The road operator addresses the issues mentioned within the shortest possible time according to the means at its disposal.

Results of the assessment of compliance referred to in Article 11 with the requirements set out in Articles 3 to 10:

Based on a call for tenders, an independent control body, responsible for verifying the compliance with the requirements set out in Articles 3 to 10 by the road authorities, road operators, digital map producers and service providers, has been appointed.

The control body has started the assessments of compliance from July 2022. It has checked the effective registration of the stakeholders, the submission of a declaration of compliance and also randomly the conformity of datasets, the content of the declarations of compliance as well as the correctness of data re-use.

The report of the control body indicates that the biggest issue is that some of the *datasets* uploaded are just links to websites and not to machine readable data. Some organizations even just registered an organization and then a *dataset* with a link to their main website and just added their main contact details. It also points out some issues regarding licensing, which could make re-use problematic.

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

The national access point for Real-time Traffic Information Services (RTTI) is operational from mid-April 2022.

In fact, the NAP MMTIS, which has been implemented in February 2020, has been developed and extended to a single portal functioning as the National Access Points required for delegated acts relating to RTTI, SRTI, SSTP and MMTIS and has become the single ITS National Access Point for Belgium: <https://www.transportdata.be/en/>

A cooperation agreement has been concluded with the National Geographic Institute (NGI) defining the conditions of collaboration with the ITS Steering Committee for the development and management of Belgium's national access point for Intelligent Transport Systems (NAP ITS).

Where relevant, a description of changes to the priority zones:

NA

Additional information (e.g. which data types are being provided? Have metadata catalogues been implemented? Are quality requirements being checked?):

On 30 June 2023, 9 data sets related to the delegated act RTTI are available on the Belgian ITS NAP "transportdata.be": 7 from public sector (Road Administrations) and 2 from a private organisation.

The NAP ITS consists of a continuously evolving metadata catalogue equipped with extensive search facilities that enable the data users to find relevant datasets and services. The contact details in the metadata of the datasets and services facilitate communication between the data providers and data users. Everyone can consult the metadata catalogue, either manually or through machine-reading.

2.1.5 Reporting obligation under Delegated Regulation (EU) No 886/2013 on data and procedures for the provision, where possible, of road safety-related minimum universal traffic information free of charge to users (priority action c)

(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:

- **Brussels**

The safety related traffic information is available to end users on a website (<https://mobiliteit.brussels/>) and an Open Data platform (<https://datastore.brussels/>).

The information is also available to end users on RDS-TMC free service.

- **Flanders**

The SRTI is available to end users on a website: www.verkeerscentrum.be and a RDS-TMC free service on Radio 2 (Flemish public broadcasting radio). A DATEX II information link is available for SRTI data by the Traffic Management Centre. A RDS-TMC service is also running.

Furthermore, the SRTI is available on our own open data portal <http://opendata.mow.vlaanderen.be/> and via the NAP www.transportdata.be.

- **Wallonia**

A service covering the motorways is currently provided through “PEREX” RDS-TMC service, transmitted for free by the public broadcaster RTBF.

A C-ITS service, called C-Roads Wallonia, has been implemented in November 2021 in partnership with the service provider Coyote and is currently available to their customers (375.000 users in Wallonia representing the Coyote community). Safety related information is labelled as PEREX announcement.

Data collected by the road operator for this purpose are available in DATEX format through the DATEX2 node implemented in the traffic centre, PEREX. Access to the datasets and describing metadata are given on the Belgian National Access Point (NAP): www.transportdata.be

Results of the assessment of compliance with the requirements set out in Articles 3 to 8 of Delegated Regulation (EU) No 886/2013:

Based on a call for tenders, the company ANYWAYS has been appointed as an independent control body, responsible for verifying the compliance with the requirements set out in Articles 3 to 8 by road operators, service providers and broadcasters dedicated to traffic information.

The control body has started the assessments of compliance from July 2022. It has checked the effective registration of the stakeholders, the submission of a declaration of compliance and also randomly the conformity of datasets and the content of the declarations of compliance.

2 organizations have datasets registered for SRTI: Agentschap Wegen en Verkeer and SPW Mobilité et Infrastructures, i.e. Road Administrations in Flanders and in Wallonia.

SRTI stakeholders are also invited to submit a declaration of compliance following the model developed in the EU ITS platform and currently discussed in the frame of the NAPCORE project.

The control body recommends putting the focus on potential stakeholders, who have not registered yet.

Controls carried out concerned mainly the availability, exchange and re-use of data rather than the provision of the service.

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

The national access point for road safety-related minimum universal traffic information (SRTI) is operational from mid-April 2022.

In fact, the NAP MMTIS, implemented in February 2020, has been developed and extended to a single portal functioning as the National Access Points required for delegated acts relating to RTTI, SRTI, SSTP and MMTIS and has become the single National Access Point for Belgium:

<https://www.transportdata.be/en>

A cooperation agreement has been concluded with the National Geographic Institute (NGI) defining the conditions of collaboration with the ITS Steering Committee for the development and operation of Belgium's national access point for Intelligent Transport Systems (NAP ITS).

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

SRTI data and services are provided by the regional Road Authorities mainly based on the data collected by their traffic centres.

2.2 Priority area II. *Continuity of traffic and freight management ITS services*

2.2.1 Description of the national activities and projects

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

2.2.1.1 *Brussels*

Progress is being made in implementing Weigh in Motion (WIM) technology, with a designated site for the pilot project at Anderlecht R0/E19 km 54.55, in the direction of Halle. The finalization of specifications and the asphalt work on the right lane of the R0 site are in progress. Additionally, plans are being developed for a weighbridge, with discussions ongoing regarding a shared location, possibly in conjunction with the bus terminus.

2.2.1.2 *Flanders*

- Several projects to enhance traffic fluidity have been realised (see project Dynamic Traffic Management).
- Flanders concluded the POC with the aim to provide a dynamic information service about the parking occupancy rate of truck parking places on a pilot corridor on the TERN network in Flanders.
- With the [Flemish policy framework for urban logistics](#), the Flemish government seeks to lay the basis for a comprehensive horizontal and integrated policy for urban logistics. This policy framework focuses on Flanders and smooths the path to low carbon and economically affordable urban logistics.
- 5G Blueprint: project to test tele-operation on a 5G corridor in three test areas in Flanders and the Netherlands: the port area of Vlissingen, the border area near Zelzate and the port of Antwerp. This project started in September 2020.
- Within the Mobilidata program we've also selected use cases that are relevant for freight transport, such as prioritisation of a group of trucks. More details on the Mobilidata program via www.mobilidata.be/en.
- We facilitated the European Truck Platooning Community (EUTPC) for multi-brand truck platooning.
- VisuRIS: VisuRIS presents all fairway information on a map or in a chart, with information on up-to-date traffic on fairways (positions of various vessels with additional information on the route), water levels, information on the dimensions of the waterway, bridges and locks, ... You can also calculate your trip with an application that takes into account the average travel time on the waterway, operating times of bridges and locks etc.
- Weigh in motion (WIM): WIM-systems were installed at ten locations in Flanders. By using WIM, the interception efficiency of overloaded heavy goods vehicles has increased from 20% when intercepts were done on a visual basis to 83% using the WIM-system.

2.2.1.3 *Wallonia*

PEREX 4.0, the new centre for the management of infrastructure is in charge of all transport infrastructure in Wallonia. Originally, focused on the management of the road network, the activity of the centre now also encompasses the telecommunication networks and the control and surveillance of the condition of the rivers and waterways network and its hydraulic works (locks, dams, elevators, ...).

Functionalities for road traffic have been upgraded, which has required the implementation of a new traffic management aid system corresponding to new IT standards and to modern requirements. In as latter stage, the renewal of the equipment on the network is also foreseen and the densification of the coverage by counting loops and monitoring cameras has progressed significantly.

Truck traffic management is also a major challenge in Wallonia, which is situated at the heart of important transport flows. The aim is to have a good knowledge of the number of heavy goods vehicles and also of their characteristics and loads. This makes possible the deployment of appropriate measures, especially in cases of border closures or difficult winter conditions (heavy snowfall).

2.2.2 Progress since 2020

Description of the progress in the area since 2020:

2.2.2.1 Flanders

DATEX II information available for static truck parking data is also available through www.transportdata.be and <https://opendata.vlaanderen.be>.

Flanders completed the POC CEF project with the aim to provide a dynamic information service about the parking occupancy rate of truck parking places on a pilot corridor on the TERN network in Flanders.

2.2.2.2 Wallonia

The investments made over the last 3 years have mainly focused on the implementation of the new operating aid system. This must first integrate all the connections with the various information and equipment management systems and then develop new functionalities, particularly for the deployment of action plans.

For the equipment on the network, investments were meant to improve the coverage by counting loops and cameras. For other equipment, in particular weather stations and variable message signs, the working of existing equipment has been ensured through the conclusion of maintenance contracts.

For the management of heavy goods vehicle traffic, emphasis has been put on data collection and processing in order to allow overload control and optimal use of available parking capacity.

2.3 Priority area III. ITS road safety and security applications

2.3.1 Description of the national activities and projects

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

2.3.1.1 Brussels

Installation of fixed radar was continued; radar sections were implemented and new ANPR cameras have been installed. Since 2022, Brussels Mobility is also in the possession of a brand-new Command Car to manage dangerous traffic situations in case of events and anomalies on the road network.

2.3.1.2 Federal

Project “Digital tachograph”

- Operational environment:

Goods transport from 3.5 t upwards and passenger transport above 9 (8+1) seats

- Vision and impact of the project:

Implementation of the new generation of digital ‘smart’ tachograph, in accordance with EU Regulation n° 165/2014 on tachographs in road transport.

- Description :

Tachograph means the equipment intended for installation in road vehicles to display, record, print, store and output automatically or semi-automatically details of the movement, including the speed of such vehicles, and details of certain periods of activity of their drivers. The use of tachographs connected to a global navigation satellite system is an appropriate and cost-efficient means of recording automatically the position of a vehicle at certain points during the daily working period in order to support control officers during controls and should therefore be provided for. Experience has shown that, in order to ensure the effectiveness and efficiency of the tachograph system, certain technical elements and control procedures should be improved.

This Regulation introduces three main advantages:

O higher level of security against fraud;

O daily automatic registration of three locations based on GPS;

O remote enforcement whether the tachograph is well functioning and enabled and some basic infringements;

At the Belgian level, the Regulation is accompanied by two Royal Decrees, in order to prepare the introduction of smart tachographs from the 15th of June 2019 onwards. The second Royal Decree is in preparation and will consist of specifications for the certification of installers and accredited workshops.

- Roadmap

O Entry into force smart tachograph version 2 : 21 August 2023

O Retrofit for analog and digital tachographs : 1 January 2025

O Retrofit for smart tachograph version 1 : 21 August 2025

O Tachograph applicable for vehicles > 2,5 T in international transport: 1 July 2026

- Expected achievements:

O Strengthening the enforcement policies for heavy vehicles on the roads.

O Road transport system: interoperability of tachographs with other ITS applications by standardised interfaces.

2.3.1.3 Flanders

The implementation of speed limit enforcement is ongoing. The federal police is rolling out a national ANPR network on the main roads. This network – initially intended for police purposes – can also be used for average speed control.

Within the Mobilidata program we are deploying C-ITS applications that send information on safety related information services. The programme runs from 2019 until the end of 2024 but aims for a years-long operational phase afterwards, which allows the ecosystem to further develop and enrich.

We are involved in the European Data for Road safety ecosystem in which we explore sharing SRTI-data.

Other measures that have a strong impact on road safety are speed control, WIM, intelligent lighting which might increase visibility but also saves energy, tests with autonomous vehicles for which safety is an important KPI, etc.

2.3.1.4 Wallonia

Focus is still put on speed limit enforcement with the installation of fixed radars and the equipment of some sections with average speed control based on ANPR.

Another priority is the safety and security of trucks. Activities in this domain include the control of trucks in overload, that is an important topic for road safety reasons and for the safeguarding of the infrastructure. The goal is also to get to automatic fining by means of a reliable weigh in motion system. Work is also done about information on the availability of safe and secure parking spaces, for which solutions are searched for the calculation of a reliable occupancy rate.

The LUWA project (Public Private Partnership) aims at modernizing the lighting on the structuring network (motorways and main regional roads). The renewal of lighting and the implementation of intelligent systems with energy-saving devices, taking traffic conditions into account, improve the efficiency, reduce nuisances and contribute highly to road safety for drivers and for emergency services operating on the network.

2.3.2 Progress since 2020

Description of the progress in the area since 2020:

2.3.2.1 Brussels

In 2022, Doppler radars, also known as speed radars, saw a deployment of 28 units, with an additional 20 requests for 2023. Meanwhile, Gatso radars have become operational at 90 locations. Innovations are also underway, with tests being conducted on new technologies that don't rely on loops, such as the Anderlechtsepoort project. Furthermore, the integration of 4G connectivity is in the pipeline. Vitronic, another system without loops, is set for testing and incorporation in upcoming specifications. Additionally, plans are in motion to equip five new Gatso radar sites in response to requests for their installation.

The expansion of Automatic Number Plate Recognition (ANPR) infrastructure is well underway. New ANPR cameras are set to be added on the Leuvense steenweg, and preparations have been made for cameras both before and after the Suzan Daniel Bridge. There is also a dedicated focus on monitoring ANPR cameras for initiatives like the Low Emission Zone (LEZ) and Goodmove plan on Elsene steenweg and Leuvense steenweg.

Lastly, significant enhancements have been introduced to the new Command Car, deployed in the Brussels Region. These include the integration of modems for drones, improved Wi-Fi antennas to bolster bandwidth, and the establishment of 4G Pepwave communication with MANBRU, thereby enhancing their capabilities.

2.3.2.2 Flanders

There were several implementations of average speed control on the TERN. Flanders expanded the number of average speed control installations on the main road network.

Weigh in motion has been implemented. We now have 10 WIM systems in place: 2 on the E40, 2 on the E17, 2 on the E313 and installations on the N16, R0, E34 and N19g.

We've expended the trajectory control systems for speed limit enforcement and continued to digitalise our speed camera's.

System to measure slippery roads: we have an IT application in place that registers the meteorological conditions and the conditions of the road surface (black ice ...). In addition to other data sources, it supports the management of the winter service.

We've signed the MoU on - and participated in the PoC regarding exchange of safety-related vehicle data (European data task force (DTF), which evolved into the Data for Road Safety (DFRS) project).

2.3.2.3 Wallonia

At the end of 2022, 510 permanent control points for speed limits are installed on the regional roads, including 29 average speed control devices.

The improvement of weigh in motion allows a considerable increase in the ability to identify overloads. The aim is to achieve automated enforcement, i.e. without interception of vehicles. The reliability rate is now satisfactory (> 99%) on the test station, therefore the automatic control will be extended to the other 4 existing stations.

For the calculation of the occupancy rate of truck parking spaces, however, major difficulties have been experienced in relation with the quality of the data collected. The installation of detection equipment started on 4 truck parking areas but the collected data did not provide the expected level of quality, which prevented the extension of the installation to the 58 car parks areas.

The upgrade of lighting on the structuring road network (motorways and main regional roads) will be achieved end 2023. In addition, new features have been implemented, such as remote control, detection of wrong-way driving, adaptation to traffic and weather conditions.

Mid-2021, a new app (“Edwige”) has also been launched for drivers getting in a difficult situation on the motorway network, especially broken-down vehicle. This service replaces the orange emergency telephones along the network.

2.3.3 112 eCall (priority action d)

Information on any changes regarding the national eCall PSAPs Infrastructure and the authorities that are competent for assessing the conformity of the operations of the eCall PSAPs:

The "eCall 2.0" project involves integrating all types of eCall (call and MSD) directly into the dispatching software of our PSAP (via the PSAP-Client) without the operator having to consult another system.

In Belgium we have 2 kind of PSAPs with software and operators dedicated:

- 101 : Police
- 112/10 : Fire rescue/ emergency medical assistance

Already done in 2023 :

- Test & Validation of the « eCall 2.0 » Integration in PSAP.
- Rollout of the new PSAP client software in Production for both emergency disciplines (101 & 112/100)

Ongoing in 2023 :

- Technical preparation of background software/server upgrades in Production
- eCall 2.0 Briefing to Psap-client users
- Preparation eCall 2.0 integration PSAP client Go Live strategy for public eCalls.
- Install, configure VNP access for one TPSP private eCalls (Bosch)

- O Test & Validate VNP access and integration with eCall 2.0 in PSAP client for one TPSP private eCalls (Bosch)

- O Rollout to Prod environment.

Planning in 2023- 2024 :

- Go live public eCall 2.0 integration PSAP client : oct - dec 2023.
- Go live private eCall 2.0 integration PSAP client : ASAP after public eCall (end 2023 – start 2024)

2.3.4 Reporting obligation under Delegated Regulation (EU) No 885/2013 on the provision of information services for safe and secure parking places for trucks and commercial vehicles (priority action e)

Number of different parking places and parking spaces on their territory:

	PARKING PLACES (NB)	REGISTERED	PARKING SPACES (NB)
WALLONIA	107	100 %	3.395
FLANDERS	72	100%	2.645

Percentage of parking places registered in the information service:

See table above.

Percentage of parking places providing dynamic information on the availability of parking spaces and the priority zones:

- Flanders

No dynamic information on availability of parking spaces.

- Wallonia

Currently no dynamic information on availability of parking spaces.

Additional information: (e.g. has a national access point been set up to provide truck parking data? Does it include dynamic data? What is the source of data (public / private)? Is data published on the European Access Point for Truck Parking hosted by DG MOVE? If not, is there any intention to do it in the future?)

- Flanders:

Static truck parking data is available on the website of the EU Open data Portal: <https://data.europa.eu/euodp/en/data/dataset/etpa>. In addition, the static information of truck parking is available in DATEX II format on the Flemish access point and registered on the Belgian National Access Point.

There is no dynamic information on availability of parking spaces. The pilot project (CEF 2014-BE-TM-0694-S Safe and Secure Infrastructure in Flanders) to test real-time occupancy information of truck parking places along a corridor on the E17 between Kalken and the border including 5 rest areas (in the direction of France) was completed. However, the trial proved that on highway rest and service areas it was not possible to reliably measure the occupancy of truck parking areas, mainly due to their open nature and the lack of effective technical solutions. As a result, the Flemish region does not provide for a dynamic information service in digital machine-readable format for safe and secure parking places for trucks and commercial vehicles on the trans-European road network (TERN).

- Wallonia:

Data is provided by the Road Administration (Service Public de Wallonie) on behalf of SOFICO, manager of the structuring road network.

It is available on the Belgian ITS NAP, www.transportdata.be and also published on the European Access Point for Truck Parking hosted by DG MOVE.

Currently no dynamic data are provided.

2.4 Priority area IV. *Linking the vehicle with the transport infrastructure*

2.4.1 Description of the national activities and projects

Description of the relevant initiatives, their objective, timescale, milestones, resources, lead stakeholder(s) and status: in particular, provide information on the C-ITS deployment initiatives and their technical specifications.

2.4.1.1 *Federal*

Project “Testing of automated vehicles on public roads”:

- Operational environment: Legal Framework

- Related co-operation activities with other public entities and stakeholders: The regional authorities, the private sector by means of its federations of OEM’s (Febiac), other technological industries (Agoria) and insurance companies (Assuralia), as well as the umbrella organisation ITS Belgium and Vias institute which conducts research projects.

- Description: On the one hand, the procedure for testing projects was finalized in September 2016, marking the start of the operational phase in treatment of requests for testing. In March 2018 a legal framework which allows to grant exemptions on the traffic rules to allow testing of driverless vehicles on public roads has been approved. From May 2018 onwards, tests of autonomous vehicles can be made possible, however a test operator being in remote control is still required.

On the other hand, legislation has to be adapted to allow this kind of vehicles on our roads. By its contribution in international institutions (UN-ECE and EU), Belgium is a well-recognized partner in supporting the transition towards highly automated vehicles. A first step thereto is accomplished by the adoption of the resolution on the deployment of highly and fully automated vehicles in road traffic by the Global Forum for Road Traffic Safety (UN-ECE, September 2018 session). This was followed by a resolution on safety considerations for activities other than driving undertaken by drivers when automated driving systems issuing transition demands exercise dynamic control (18/11/2022) and the entry into force on 14 July 2022 of an amendment of the international convention on road traffic which allows the use in the territory of a contracting party of vehicles with automated driving systems without a driver; Under the condition of domestic technical regulations and legislation governing the operation of these automated driving systems. This amendment makes it possible that, if a country chooses to do so, it can allow the use, under domestic legislation, of fully autonomous vehicles (even beyond testing projects). In September 2019 the Global Forum also decided to create a subgroup which will work on drafting a new convention, protocol,... aimed at highly and fully automated vehicles. The work of this group is ongoing.

The Code of Practice is available on the website www.mobiliteit.belgium.be (section road transport / ITS).

- Expected achievements: A vision paper on automated vehicles is in preparation (federal minister of mobility, regional ministers of mobility and stakeholders).

2.4.1.2 Flanders

- Flanders participates in / contributes to a number of relevant European funded C-ITS projects:
 - C-Roads platform (ends December 2023)
 - C-Roads pilot project in Flanders (ended)
 - CONCORDA
- Flanders has participated in multiple automated vehicle projects: among others in the city of Mechelen (start 2022), the city of Londerzeel (start 2022) and Terhills (started in 2023).
- 5G Blueprint Horizon 2020 project.
- With the Mobilidata program (2019-2024) the Flemish government wants to provide all road users with real or near-real time relevant mobility information. The program aims at co-creation with private partners and is based on a digital infrastructure, smart traffic lights and high quality, sustainable data sources.
 - Main targets are traffic safety, traffic throughput and sustainability for every road user.
 - This Flemish program is partially co-funded by the EU (CEF 2019-BE-TM-0258-W Mobilidata and CEF 21-EU-TG-MERIDIAN)
 - More details on the Mobilidata program via www.mobilidata.be/en.

2.4.1.3 Wallonia

Wallonia intends to be involved in the developments related to cooperative mobility. It is member of the C-Roads platform as an observer.

At the level of the road traffic centre, the goal is to communicate to users in their vehicles several use cases (accident, obstacle, works,) according to their position on the network. From 08/2017 to 12/2021, a pilot project has been implemented, which is still operational.

C-ITS is also implemented by the regional transport operator in order to implement C-ITS priority to public transport thanks to C-ITS compatible traffic controllers for traffic lights.

2.4.2 Progress since 2020

Description of the progress in the area since 2020:

2.4.2.1 Flanders

In Flanders we are deploying C-ITS services through the Mobilidata program (2019-2024). The program aims to roll out 31 defined C-ITS use cases, as well as the roll-out of hundreds of intelligent traffic light controllers. For the 31 use cases the cellular network is used.

More details on the Mobilidata program as well as the current status are available at www.mobilidata.be/en.

2.4.2.2 Wallonia

The pilot-project which has been implemented in the frame of Action 2016-BE-TM-0289-S “C-Roads Belgium / Wallonia” is based on the 4 G technology and works with a cellular-based application. A partnership has been concluded with service provider, Coyote. The service is available for the motorway network since Autumn 2021.

Additionally, a limited wifi-G5 pilot-service, consisting in the implementation of 6 roadside units was deployed on a section of the A602 motorway in Liege. This made possible the participation of the C-Roads Wallonia pilot to the cross-border tests organized by the C-Roads platform in March 2021.

TEC, which is the public transport operator for Wallonia, is currently developing a project of request for priority of passage at crossroads.

The project consists in the development of a generic automated tool to manage priority requests at intersections based on vehicle approach curves:

- In real time: the transmission of priority requests to traffic lights controllers at intersections and exploitation of messages in return on the status of the processing of requests;
- In delayed time: analysis of the results of public transport crossing at traffic light intersections, adaptation of public transport approach curves to manage for optimization purposes the submission of requests for priority.

It is based on the building of approach curves of vehicles, using geolocation of public transport vehicles: vehicles transmit the server every 4" and every second in the future. It makes use of a real-time communication tool to traffic lights.

On-going:

- 2023: Developments and first tests on simulator,
- end 2023: First full-scale tests on some pilot intersections: end 2023,
- 2024: Gradual increase in the number of test intersections and deployment.

2.5 Other initiatives / highlights

2.5.1 Description of other national initiatives / highlights and projects not covered in priority areas 1-4:

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

Participation to CEF co-funded European projects

The harmonised deployment of ITS across the TEN-T and its Core Network Corridors to improve their sustainability is the main mission of the CEF co-funded ITS Corridors (Arc Atlantique, etc.).

This is why Belgium, through its regional entities, has been involved in the ITS corridor “Arc Atlantique” and in the EU ITS platform “EU EIP”.

Belgium, especially the Federal State, Flanders and the National Geographic Institute are involved in the NAPCORE (National Access Point Coordination Organisation for Europe) program support action project launched as coordination mechanism to improve interoperability of the National Access Points as backbone of European mobility data exchange. A mirror group including the other Belgian entities has also been established at a Belgian level to provide inputs and to discuss the outputs.

C-Roads Platform: although the Flanders pilot project ended, Flanders as well as Wallonia continue to participate in the C-Roads Platform until at least end 2023 (project end).

2.5.2 Progress since 2020

Description of the progress in the area since 2020:

The EU EIP platform was active in the period 2016 – 2021. As a knowledge management centre, the EU ITS Platform (EU EIP) allows the creation of tools and processes that are indispensable for our different road authorities and road operators to make ITS operational and harmonised at the European level. The EU EIP enables the stakeholders concerned to meet and thus to create multi-stakeholder collaborations in the ITS community.

Belgium is therefore pleased to have contributed to the main achievements of the EU EIP:

- the European Reference Handbook for harmonized ITS Core Service Deployment in Europe,
- an improved mechanism for Cross Corridor Cooperation,
- KPIs for ITS deployment and benefits,
- the ITS toolkit and the evaluation library,
- the community building on National Access Points (NAP),
- Innovation timelines and deployment roadmaps,
- information services quality frameworks and assessment methods,
- physical and digital infrastructure attributes for automated driving
- good practices how to automate road operator’s own ITS
- integrating C-ITS into road operators’ day-to-day business.

The overall results of the EU EIP are relevant to all ITS priority areas I to IV (and, in doing so, are also relevant to sections 2.1 to 2.4) and also contribute to the knowledge of ITS corridor-related KPIs.

More information is available on www.its-platform.eu

Arc Atlantique, which also ended in December 2021, has been managed as a partnership between 7 National Road Authorities (Belgium, France, the Netherlands, Portugal, Spain, Ireland and the UK) as well as 25 Road Operators and is designed to improve the efficiency of this corridor (see <https://arcatlantique.its-platform.eu/>).

As a continuation, Flanders is involved in the Meridian ITS corridor project. Meridian is managed as a partnership between 6 member states (Belgium-Flanders, Germany, Ireland, Italy, Latvia and the Netherlands) with in total 25 partners and affiliated entities.

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 Deployment KPIs

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):

	WALLONIA	FLANDERS	BRUSSELS
CORE NETWORK	345	470	6
EQUIPPED	345	470	6
COMPREHENSIVE NETWORK	565	468	6
EQUIPPED	475	427	6
OTHER MOTORWAYS	54	81	7
EQUIPPED	27	48	7

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

	WALLONIA	FLANDERS	BRUSSELS
KPI CORE NETWORK	100	100	100
KPI COMPREHENSIVE NETWORK	84	91	100
KPI OTHER MOTORWAYS	50	59	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):

	WALLONIA	FLANDERS	BRUSSELS
CORE NETWORK	345	470	6
EQUIPPED	345	470	6
COMPREHENSIVE NETWORK	565	468	6
EQUIPPED	475	427	6
OTHER MOTORWAYS	54	81	7
EQUIPPED	27	48	7

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

	WALLONIA	FLANDERS	BRUSSELS
KPI CORE NETWORK	100	100	100
KPI COMPREHENSIVE NETWORK	84	91	100
KPI OTHER MOTORWAYS	50	59	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):

	WALLONIA (F/M)*	FLANDERS	BRUSSELS
CORE NETWORK	345	470	6
EQUIPPED	0/129	340	0
COMPREHENSIVE NETWORK	565	468	6
EQUIPPED	75.5/130.5	230	0
OTHER MOTORWAYS	54	81	7
EQUIPPED	0	37	0

* F/M = Fixed/Mobile equipment

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

	WALLONIA	FLANDERS	BRUSSELS
KPI CORE NETWORK	37	72	0
KPI COMPREHENSIVE NETWORK	30	49	0
KPI OTHER MOTORWAYS	0	46	0

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):

	WALLONIA*	FLANDERS**	BRUSSELS
CORE NETWORK	345	470	6
EQUIPPED	345	0	0
COMPREHENSIVE NETWORK	565	468	6
EQUIPPED	565	0	0
OTHER MOTORWAYS	54	81	7
EQUIPPED	54	0	0

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

	WALLONIA*	FLANDERS**	BRUSSELS
KPI CORE NETWORK	100	0	0
KPI COMPREHENSIVE NETWORK	100	0	0
KPI OTHER MOTORWAYS	100	0	0

* Cellular-based service in partnership with private service provider Coyote.

** C-ITS services will be realised in Flanders through the Mobilidata program. At the moment there is no roll-out through WIFI-p stations. There will be a roll-out through the cellular network.

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):

	WALLONIA	FLANDERS	BRUSSELS
CORE NETWORK	345	470	6
COVERED	345	470	6
COMPREHENSIVE NETWORK	565	468	6
COVERED	565	468	6
OTHER MOTORWAYS	54	81	7
COVERED	54	81	7

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

	WALLONIA	FLANDERS	BRUSSELS
KPI CORE NETWORK	100	100	100
KPI COMPREHENSIVE NETWORK	100	100	100
KPI OTHER MOTORWAYS	100	100	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

- $KPI = (\text{number of transport nodes with provision of dynamic travel information services} / \text{total number of same transport nodes}) \times 100$

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):

	WALLONIA*	FLANDERS	BRUSSELS
CORE NETWORK (ROADS)	345	470	6
COVERED	345	470	0
COMPREHENSIVE NETWORK (ROADS)	565	468	6
COVERED	475	468	0
OTHER MOTORWAYS (ROADS)	54	81	7
COVERED	54	81	0

* static information only

- Number of freight nodes (e.g. ports, logistics platforms) covered by freight information services & Total number of the same freight nodes:
- $KPI = (\text{kilometres of road network type with provision of freight information services} / \text{total kilometres of same road network type}) \times 100$

	WALLONIA	FLANDERS	BRUSSELS
KPI CORE NETWORK	100	100	0
KPI COMPREHENSIVE NETWORK	84	100	0
KPI OTHER MOTORWAYS	100	100	0

- $KPI = (\text{number of freight nodes with provision of freight information services} / \text{total number of same freight nodes}) \times 100$

3.1.8 112 eCalls (road KPI)

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

3.2 Benefits KPIs

The provision of benefits KPI for ITS turns out to be tricky, as it is difficult to isolate the effects of ITS implementation from other factors, like other measures for improvement of the infrastructure or even external elements. This is particularly true for the period under consideration (2020 – 2022), where the COVID-19 pandemic strongly influenced road traffic.

3.2.1 Change in travel time (road KPI)

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

$KPI = ((\text{travel time before ITS implementation or improvement} - \text{travel time after ITS implementation or improvement}) / \text{travel time before ITS implementation or improvement}) \times 100$

No systematic data available in relation to ITS implementations.

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:

ITS implementation is only one single measure (out of an extensive bundle of measures) in order to maximise safety on Belgian motorways. A direct correlation to ITS implementation cannot be given in a meaningful way.

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.

$KPI = ((\text{traffic CO}_2 \text{ emissions before ITS implementation or improvement} - \text{traffic CO}_2 \text{ emissions after implementation or improvement}) / \text{traffic CO}_2 \text{ emissions before ITS implementation or improvement}) \times 100$

ITS implementation is only one single measure (out of an extensive bundle of measures) in order to reduce the negative impact of road transportation. Therefore, no change in CO₂ emissions can be correlated to ITS implementations in a meaningful way.

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):

FLANDERS	3.19 %	Road ITS investments compared to total transport infrastructure investment, average over 2020-2021-2022.
WALLONIA	3 %	Part of ITS investments compared to total of investments for the structuring road network in 2022

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

No consolidated data available.