Directive 2010/40/EU Implementation Report 2025 Norway

March 2025

Report prepared by

Norwegian Public Roads Administration (NPRA)

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1.   INTRODUCTION

1.1.   General overview of the national activities and projects

The ITS Directive adopted in 2010 has been included in the EEA (European Economic Area) agreement and is applied as a framework legislation for ITS in Norway.

In 2015, the Norwegian Parliament adopted an ITS Act based on a proposal from the Ministry of Transport. This act is used for transposition of ITS legislation (the Delegated Acts) into Norwegian law. The act does not exclude regulations based on national policy and priorities and will provide the legal authority to ensure national coordination of ITS applications and services within the road sector and covering the interfaces to other modes of transport.

Norway already has a legal framework enabling testing of vehicles and transport services with automated driving. Several tests have already taken place, several are ongoing and there are more to come.

By adopting these acts, Norway has the basic legal foundation for deploying ITS services in place. This is also the case for testing and piloting C-ITS and automated driving. There is still a need to have guidelines and regulations related to the connected vehicle data and define ownership and rules for privacy and security as well as securing openness and availability for both public and private data. There is also a need to define responsibility, ownership and business models for hybrid communication supporting C-ITS. Norway has a clear intention to participate in European work on harmonisation and legislation in these areas.

The NPRA corporate strategy focuses on achieving an efficient, environmentally friendly, and safe transport system, which is crucial for societal welfare and economic growth. This strategy is closely aligned with the National Transport Plan (NTP), a white paper submitted to the Parliament, which outlines the government's long-term transport policy and goals. The NTP serves as a framework for the coprorate strategy, ensuring that the NPRAs efforts contribute to the national objectives. The strategy outlines top goals with corresponding indicators to ensure success by 2030. These goals include reducing internal costs, improving travel predictability and traffic flow, realizing savings from investments and operations, increasing digitalization, reducing greenhouse gas emissions by 55%, and minimising traffic fatalities and serious injuries to a maximum of 350 by 2030.

The strategic direction, "Digital First," aims to transform the NPRA into a fully digital organisation. This involves creating a digital value chain for road projects, facilitating digital communication with vehicles, and developing digital customer services to improve the travel experience. The strategy also highlights three priority areas: traffic safety, predictable mobility, and sustainability, which are essential for fulfilling the agency's societal mission. These priorities are in line with the overarching goals of the NTP, which seeks to establish a transport system that is efficient, environmentally friendly, and safe by 2050.

Norway recognises that ITS and new technology will play an increasingly prominent role in the transport system. ITS and the introduction of new technological solutions, including connected, cooperative, and automated mobility - CCAM, will contribute significantly to reaching the goals for traffic flow, traffic safety, environmental impact and accessibility. Economic incentives have been effective instruments for accelerating the shift towards fossil free transport technologies. In February 2025, 95 % of new private cars and 29 % of the private car fleet in Norway were electric, with zero emmission. Current focus is on vans and trucks.
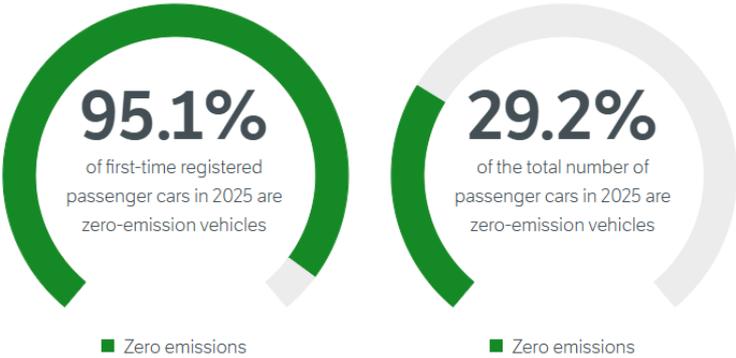
Figure 1 Percentages of zero-emission vehicles.
https://www.vegvesen.no/en/fag/fokusomrader/baerekraftig-mobilitet/zero-emission-targets/

The main responsibility for implementing the ITS Directive and the subsequent Delegated Acts lies with the Norwegian Public Roads Administration (NPRA) in close consultation with the Ministry of Transport. The NPRA participates in expert groups with regards to the Delegated Acts MMTIS, RTTI, SRTI and in the sub-expert group on cyber security. With regards to the Delegated Act (EU) 2017/1926, Multimodal Travel Information Services, and the National Access Point (NAP), the Norwegian Railway Directorate, the Norwegian Digitalisation Agency and the state-owned company Entur AS also have significant roles. The relevant activities and projects included in this report are managed by the NPRA, or the NPRA has a significant role.

Norway is actively working to align its national regulatory framework with the revision (EU) 2023/2661 of the ITS Directive, as well as the related regulations. The Norwegian authorities, led by the Ministry of Transport and the NPRA, are assessing necessary legal and operational adjustments to facilitate future implementation. This work is being carried out in parallel with the ongoing EEA incorporation process. Neither the revised ITS Directive nor (EU) 2024/490 on Multimodal Travel Information Services have been incorporated into the EEA Agreement yet, meaning they do not currently apply in Norway. The delegated regulation (EU) 2022/670 on Real-time Traffic Information Services was only recently included in the EEA Agreement and has not been put into force as a national regulation yet. However, no significant legal challenges are expected in incorporating or adapting the legislation.

The Ministry of Transport has designated the Norwegian Road Supervisory Authority (RSA) as the national body for RTTI and SRTI, ensuring that requirements are met. The formal assignment is based on the national ITS Act adopted in the Parliament December 2015. Assignment of a designated National Body for MMTIS is still pending.

While anticipating the inclusion of the RTTI delegated regulation (EU) 2022/670 into the EEA Agreement, a public consultation on the revised national RTTI regulation has been conducted, and the national regulation is now expected to be formally adopted soon. Efforts are being made to ensure that national legislation and digital infrastructure remain compatible with European developments, allowing for a seamless transition once the legal basis is established.

In order to enhance harmonisation of data sharing between different transport modes, the Ministry of Transport has initiated a cross-sector data collaboration in transport, involving authorities and agencies from all transport modes. The aim of the collaboration is to enhance data accessibility, sharing, and utilisation of data in the transport sector.

Figure 2 Strategy for automated transport. Photo: Jarle Wæhler / NPRA Graphics: Per Høj

The introduction of automated transport must be part of a comprehensive approach to the transport sector in Norway. Through dialogue and collaboration, the NPRA has developed a proposal for a national strategy for automated road transport. It should be implemented in a way that supports the achievement of societal and transport policy objectives. The national strategy for automated road transport aims to outline the long-term direction for the introduction of automated transport in Norway, to highlight areas where political clarification is needed, and serve as a foundation for actions and financial priorities. Effective collaboration between public authorities, the private sector, academia, and other stakeholders is essential. By fostering cooperation among actors with different roles and expertise, it will be easier to avoid negative consequences of automated road transport and realise its benefits, both for society and individuals.

At the international level, Norwegian authorities have participated actively in numerous European projects targeting a harmonised implementation of the actions covered by the ITS Directive.

The NPRA, the Norwegian Railway directorate, Entur and the Norwegian Road Supervisory Authority are partners in NAPCORE. Participating in the NAPCORE project offers stakeholders in European mobility data exchange a multifaceted advantage. Functioning as a coordination mechanism, NAPCORE enhances the interoperability of National Access Points (NAPs) across Europe, providing participants with the opportunity to actively contribute to the seamless exchange of mobility data. The project's focus on standardising mobility data practices, empowering NAPs, and supporting European-wide solutions positions stakeholders strategically in shaping a more efficient, integrated, and collaborative framework for managing mobility data on a continental scale. More information is available at https://napcore.eu/.

1.2.   General progress since 2023

The NPRA works actively to develop new ITS solutions in line with the National Transport Plan, EU regulations and guidelines. The NPRA's commitment to ITS contributes significantly to a vision of future mobility that is safe, efficient, green, seamless, service oriented and user friendly.

New regulation for road and traffic data

A new and more detailed national Regulation for road and traffic data under The Road Act has been developed in collaboration with all public road authorities and a Norwegian state-owned company responsible for planning, building, operating and maintaining selected road projects (Nye Veier AS) under the lead of NPRA. The regulation will come into force as of April 2025. It will secure data availability from road and road traffic, corresponding to type and function of the roads. The new regulation applies to all the municipalitites in addition to the county municipalities and Nye Veier, as well as the NPRA. An important measure is that it requires professional collaboration where all stakeholders must be represented. It complements the regulations under the ITS Directive from the European Union which in Norway are transposed to national legislation by the ITS Act. While the EU regulations focus on data accessability the new national regulation focuses on what, how and by whom data shall be collected and on the systems to make the data available. In this respect the new national road data regulation will be an enhanced instrument to implement the EU regulations.

The regulation addresses many topics, data types and procedures. The picture below gives an overview of the content.
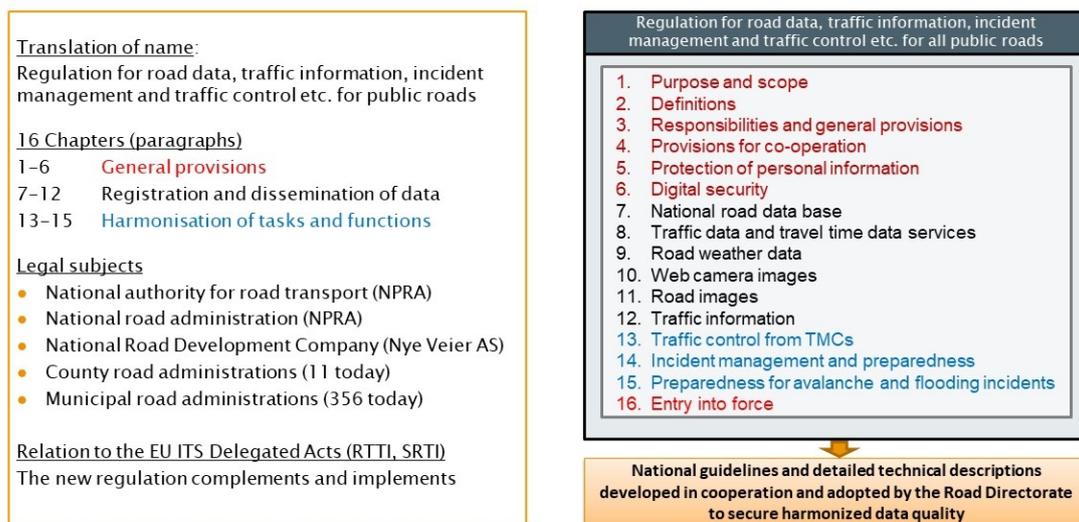
Figure 3 Overview of the content in the new regulation for road and transport data. Source: NPRA

ITS standardisation

Norway is active in standardisation work in CEN TC278 WG17 (ISO TC 204 WG 19), WG3 (Public Transport), WG8 (DATEX II) and WG7 (TN-ITS) in addition to standardisation of other relevant European standards (NeTEx, SIRI and Transmodel). This work is aligned with NAPCORE WG4.

SIITS project

The SIITS project, supported by the Norwegian Research Council, focusing on vulnerabilities in future integrated intelligent transport systems was concluded in 2023. Over a three-year period with a budget of approximately 31 million NOK, the project aimed to expedite the implementation of innovative mobility solutions by addressing challenges posed by rapidly evolving technologies in the transport sector. Led by Proactima, the consortium included experts in societal safety, risk management, technology, insurance, and legal domains. Together they worked on developing knowledge, methods, services, and tools to identify and manage risks in the construction and operation of these systems, with a focus on creating safer, more efficient, and environmentally friendly future transport systems. Reports from the SIITS project are available here: Rapporter - SIITS

Micromobility

With regulations at both national and local levels, micromobility has become an integrated part of the transportation system. The NPRA is working closely with relevant actors in the sector to promote micromobility as a sustainable transport alternative. Through a roadmap and action plan for micromobility regulation, efforts are being made to improve traffic safety, sustainability, and integration with other modes of transport.

1.3. Contact information

This report is prepared by the Norwegian Public Roads Administration (NPRA) on behalf of the Ministry of Transport.

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2. MAIN PROJECTS, ACTIVITIES AND INITIATIVES

Some activities and projects are of special significance for a lot of the NPRA ITS services and of relevance for all the priority areas. The most important ones are listed below.

The Norwegian National Road Database - NVDB

NVDB is the official database for road and transport infrastructure data in Norway. Managed by the Norwegian Public Roads Administration (Statens vegvesen), NVDB serves as a central

repository for detailed and structured information about the entire Norwegian road network, including both public and private roads.

NVDB contains comprehensive data on road geometry, surface type, traffic volumes, speed limits, tunnels, bridges, and other essential infrastructure elements. It also includes information on road ownership, maintenance responsibilities, and various regulations. The database is continuously updated with contributions from national, regional, and local authorities, as well as private road owners and contractors.

The main objective of NVDB is to support decision-making in relation to planning, operations and management of the road network by providing high-quality, standardised data to public authorities, businesses, and researchers. The data is used for road maintenance planning, traffic management, environmental analysis, and digital services such as navigation systems and intelligent transport solutions.

NVDB plays a crucial role in Norway's efforts to digitise transport infrastructure and enable data-driven policymaking. By ensuring open and structured access to road data, it facilitates the development of innovative mobility solutions, enhances road safety, and contributes to more efficient transport systems.

The information found in NVDB is essential baseline data for various processes:

- Basis for route planning and vehicle navigation
- Geolocation of linear road data
- National statistics reporting to Statistics Norway (SSB)
- Basis for high-level planning – National Transport Plan (NTP)
- Basis for emergency preparedness
- Basis for road lists containing weights and dimensions
- Deliveries in accordance with the ITS Directive
- Deliveries in accordance with the INSPIRE Transport Network
- Basis for R&D and accident analysis
- Basis for operations, maintenance, and management
- Basis for operational contracts
- Internal statistics
- Basis for national map data

To ensure these processes receive the necessary data from NVDB, the digital road network and domain-specific data in NVDB must always be as up to date as possible.

As a system, the NVDB consists of:

- A database where all data is stored
- A data catalog that defines how data is structured
- An indexed copy that simplifies access to the stored data
- NVDB API, both for reading and writing, enabling data retrieval from and input into NVDB
- Clients, domain-specific systems, and services that can connect to NVDB via the NVDB API

National traffic information service

The NPRA's national traffic information service has been in operation since the early 1990s. The service is based on NPRA' s five Traffic Management Centres (TMCs) as the coordinating actor.

Dynamic data on driving conditions, traffic, travel times, road works and incidents are either automatically collected from roadside units (traffic- and road weather stations, tolling road side units, cameras etc.) or reported to the TMCs by the police, contractors, media or road users. Information regarding incidents, road works, restrictions, closures and diversions are registered in the national traffic and incident management system (TMC system). Information is disseminated in DATEX II format via media and service providers to road users. On parts of the main road network, traffic safety related information is displayed on VMS boards. The number of VMS boards have increased during the last years.

DATEX II

The national DATEX II-node has been in operation since 2014 and is currently offering real time data from different NPRA source systems, including the TMC system, in DATEX II version 3.1 format. Per 2025 there are 600 registered external users of data from the DATEX II-node including international service providers and media.

National Access Point

Transportportal.no is the national access point for Norway, covering the Delegated Acts (EU) 886/2013, (EU) 2015/962 and (EU) 2017/1926.

The portal contains only metadata describing the sets of data and where to find them. The data sources are at the individual data owners. The metadata include links (URL) where to access the data.
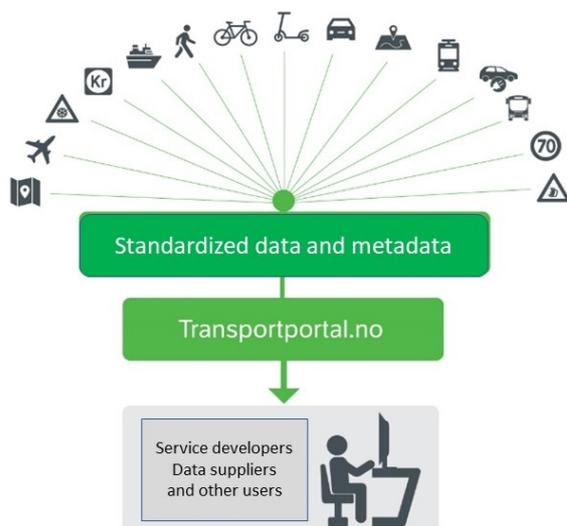
Figure 4: Illustration of metadata in the NAP Source: Cathrine Ruud/ NPRA

Since the 2023 report, the information pages on Transportportal.no has undergone a significant transition as they were moved from the NPRA's Content Management System (CMS) to the Norwegian Digitalisation Agency's platform. This migration was carried out to enhance the efficiency and digital capabilities of the pages while ensuring that ownership and responsibility remain with the NPRA. Despite this change, the public continues to receive the same high level of service and information continuity, as the core mission and management of the portal remain under the NPRA's oversight.

Until recently, only two private data providers have been visibly represented

in the National Access Point, as Entur AS supplies data on behalf of numerous public transport operators. However, the portal has now expanded its content with metadata from TomTom, marking an important step in increasing the diversity of data sources available. One of the key focus areas moving forward will be to follow the recommendations from NAPCORE and NAPCORE-X to ensure alignment with European best practices and regulatory developments. Work will begin on transitioning to MobilityDCAT-AP, a standardized metadata format designed to improve the interoperability and accessibility of transport data across Europe.

2.1. Priority area I. Information and mobility ITS services

2.1.1. Description of the main national activities and projects

Travel time information

Real time travel time registration based on DSRC (AutoPASS) chip detection has been implemented in and around the urban areas of Oslo, Bergen, Stavanger, Trondheim and Kristiansand, on the E18 between Oslo and Kristiansand and on the E6 between Oslo and the border to Sweden. The service covers a total length of 600 km of the main road network, with TEN-T accounting for 80%. Travel time data with 5-minutes resolution is available from the DATEX II-node

Map-based travel information and Traffic App

The web-based service vegvesen.no/trafikk offers map-based traffic information to road users. It provides real-time road information and warnings about incidents, including traffic flow, driving conditions, camera and weather, mountain passes, bridges, tunnels, ferries and more. It offers a route planner that helps users to find a legal route based on height and weight restrictions. A corresponding mobile phone app "Vegvesen trafikk" provides vehicle specific information and configurable push warnings. One of its key features is its focus on heavy vehicle drivers, e.g. providing information about 24-hour rest areas.
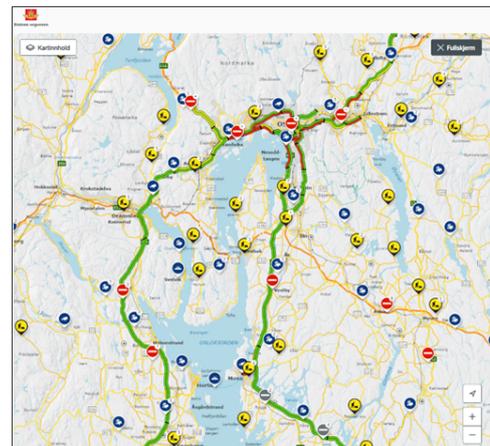
Photo 1: Map based travel information from the NPRA

Web camera service

The web camera service offers road-users a status of the current traffic and driving conditions from more than 800 cameras. Many of the cameras offer a video streaming service with image updates every second. The purpose of the web cameras is to provide useful information about traffic and driving conditions, as well as decision support for road maintenance and operational tasks. Locations and URLs for the web camera images are available from the DATEX II-node. Cameras that are part of the traffic control centres' systems for monitoring and control are not available in this publically available service.

Road weather data and prognoses

The road weather information system (Vegvær) provides information about weather and road conditions across the national and county road networks in the country. Vegvær primarily serves as decision support system for winter road maintenance, actively utilised by both internal and external users involved in winter maintenance operations. Vegvær also offers forecasts for road conditions up to 24 hours ahead, including road surface temperature and road conditions such as dry/no precipitation, wet, snow cover, snowdrift with weak/strong winds, and a risk/high risk of ice or frost.

Road weather data is available from the DATEX II-node. Inclusion of friction data from vehicles in traffic has been tested in the CEF-project Nordic Way.

Digital Road Network

Spatial data related to the road network (Elveg) is a cooperation between the Norwegian Mapping Authority (Kartverket) and the NPRA. The national road database NVDB offers APIs for relevant static data about the road infrastructure available in the NAP. The service facilitates frequent updating of datasets from the complete road network to ensure that operational ITS systems contain correct data.

Multimodal travel information data

Entur, a state-owned company, consolidates all public transport travel information in an accessible platform. They achieve this by collecting and processing data from both public and private public transport providers across the country. The data is made available in the national access point. The company is responsible for developing and maintaining a neutral, national travel planner, offering integrated solutions for travel planning, travel information, as well as sales, ticketing, and settlement systems for the public transport sector.

For a full list of data sets available in the Norwegian NAP related to MMTIS, see Annex I: Data types required in 1926/2017 available in transportportal.no today.

2.1.2.   Progress since 2023

Digital drivkraft

Digital Drivkraft is a digitalisation initiative in the NPRA aimed at modernising and further developing technology and processes in the national road database (NVDB). The program, running from 2022 to 2025, involves collaboration across divisions in the NPRA, municipalities, counties, Nye Veier, the Norwegian Mapping Authority, and external partners. It builds upon prior digitalisation efforts and plays a crucial role in achieving the overarching strategic goal: *Digital First*. The program is organized into three areas, each with associated projects:

  1. *Technology and Interfaces*

This area focuses on designing and implementing an innovative architecture for the NVDB core system. The new architecture replaces outdated technology, ensuring stable operations,

improved performance, and scalability. This robust solution enhances the system's ability to adapt to the evolving demands of digital road infrastructure, enabling a more reliable and flexible system for future development.

2. Service Orientation

This area addresses the current needs of internal and external users by conducting in-depth insight work to map the current state of data flow, processes, and functionalities. Findings from this analysis inform improvement initiatives. Current projects include:

- Training and competence development
- Data quality improvement
- Marketing to raise awareness

3. Future Customers and Needs

Launched in January 2024, this area focuses on preparing for future challenges in the road transport system, many of which are currently unknown. The goal is to identify the prerequisites needed to address these challenges. The work includes defining the area's mandate, structuring focus areas, and identifying relevant projects.

As the cornerstone of the program, the NVDB underpins all initiatives and serves as a critical enabler for a forward-looking digital road infrastructure.

Improved planning through risk assessment for the operation of convoys and closures of mountain passes

The NPRA has launched a service that enables travellers to plan mountain crossings more effectively by checking the likelihood of convoy driving and road closures up to a week in advance. This functionality provides users with greater predictability and allows them to adjust their travel plans based on weather and traffic conditions.

Photo 2: Challenging weather conditions on Norwegian roads. Source: Presis vegdrift / NPRA

By combining historical data on convoy driving and road closures with past weather patterns and current forecasts, a percentage-based likelihood of convoy driving or road closures is presented for various mountain passes and weather-exposed routes. This allows travellers to better assess the risks associated with their planned journeys.

The service is available via the Vegvesen Traffic App and at vegvesen.no/trafikk, where users can also find updated traffic reports and live webcam images from key locations. In the app, users can activate alerts for specific mountain passes, tunnels, and bridges, further enhancing safety and travel efficiency.

This solution highlights how technology and data can improve traffic safety and the overall travel experience, particularly during challenging weather conditions.

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

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

The Norwegian National Access Point, Transportportal.no, was launched 1st December 2019. Transportportal.no contains most of the requirements set out in level 1 of the regulation.

Experts from both the NPRA and the Norwegian Railway Directorate (NRD) have been attending the meetings on the revision of the regulation. The NPRA, NRD and Entur work continuously to improve data quality and types of data. For example, there is ongoing work concerning regulation of and format for micro mobility, and shared mobility is in progress of being included on the NAP. This will have impact on the availability and quality of these data.

Please see Annex I for a list of the datatypes required in the Delegated Regulation available in Transportportal.no today.

A public transport database is the foundation for a countrywide, competitively neutral information system with travel planning for all types of scheduled public transport. Prerequisites are that all service providers should have equal access to the database. In principle, data from the database shall be offered free of charge.

- A national multimodal travel planner was launched in November 2017. Real time data was included in 2019.
- Public transport data is open and available at the national access point.
- The NPRA and the NRD participates in the expert meetings regarding the Delegated Regulation EU/2017/1926 and in in NAPCORE
- Norway participates in the development of NeTEx and SIRI profiles.
- The NPRA has started work concerning regulation and legislation of micro mobility, NRD has started work to regulate their data delivery and Entur has started implementing the data.
- Support for data about shared mobility has been added by Entur, and work is in progress to establish national profiles and regulate the gathering of data in Norway.

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:

Public Road network in Norway.

Linking of travel information services:

All travel information services are included in the national travel planner, both on the data level and API level. Paths between transport services are calculated using Open Street Map for outdoor links, and using measured times for indoor links. The travel planner then combines these to create end-to-end travel proposals. The national travel planning engine is mandated to be competition neutral.

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

Since no national body has been appointed yet for the MMTIS regulation, this has not been done for these data. A national body is expected to be appointed in 2025.

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

See chapter 2 for description of the NAP.

Additional information (e.g. have mobilityDCAT-AP or other metadata catalogues been implemented?):

Mobility DCAT-AP has not yet been implemented, but we plan to do so.

2.1.4. *Reporting obligation under Delegated Regulation (EU) 2022/670 on the provision of EU-wide real-time traffic information services (priority action b)*

The revised delegated regulation on real time traffic information services (EU) 2022/670 was included in the EEA Agreement 14 March 2025, but has not yet been implemented in Norwegian law. Preparations for incorporation into national law is however well underway. NPRA is also participating in harmonization activities in NAPCORE and RTTI Task force in order to be prepared for national implementation.

Progress made in terms of the accessibility, exchange and reuse of the data types set out in the Annex:

The main progress regarding accessibility, exchange and reuse of the RTTI data types is the new national regulation for road and traffic data, mandating cooperation between NPRA, regional and local road authorities and operators on use of the national road database NVDB and DATEX II node. This cooperation is assumed to meet RTTI requirements for road authorities and road operators at a reasonable cost, leaving harmonization of metadata, data format, quality control and technical issues of interfacing with the NAP to the common national systems.

As part of the preparations for incorporation of (EU) 2022/670, holders of data about electrical vehicle charging, alternative and traditional fuels have been engaged and made aware of the new RTTI requirements. A change of ownership and major upgrade to the NOBIL system for

alternative fuel data is being evaluated in order to meet requirements in both RTTI and AFIR (EU) 2023/1804. The five regional tolling operators have also been made aware about the new requirements in (EU) 2022/670.

Regarding RTTI data available through the NAP, there have been few changes since 2023.

Static RTTI data types for the entire road network is accessible through the NVDB API in national formats. The road network can also be downloaded in the national SOSI format through the Elveg distribution. The content of NVDB is easily accessible for the public through the web page vegkart.no, including filtering and categorisation as well as CSV and SOSI format download options. INSPIRE Transport network Road is not accessible through the NAP, but can be accessed from the Geonorge portal provided by the Norwegian Mapping Authority.

Dynamic RTTI road and traffic data are available free of charge from the national DATEX II-node operated by NPRA. Currently, there are four publications are available:

- Traffic information (Situation) covering road closures and diversions, incidents, road works and driving conditions, as provided by the Traffic Management Centres.
- Road weather data (MeasuredWeatherData), as provided by the Vegvær system.
- Measured travel times (TravelTimeData) as provided by the AutoPass travel time system.
- Web camera sites (CCTVSiteTable) as provided by the web camera system.

Predictive information about the probability of convoy driving and road closures has been established and made available to the public for mountain passes and other weather exposed road stretches. The predictive information is available through the web page vegvesen.no/trafikk and the "Vegvesen trafikk" mobile phone app. It is not available through the DATEX II-node yet.

In addition to this, historical hourly traffic volumes from connected traffic registration points is shared through an API at trafikkdata.no. Data for bicycling and periodic traffic registrations is also included. Volume numbers can be categorised on vehicle length class, travel direction and lane. They are published a few hours delayed and are still not available to the public in real-time and DATEX II format. Speed data from point registrations is also not made available yet.

Real-time status about availability of charging points for electrical vehicles has been added to the NOBIL database, operated by the state-owned company Enova. Data is received from operators and service providers through the OCPI protocol. NOBIL also contains static information about biogas and hydrogen filling stations, in addition to charging points. Data is available under a Creative Commons license for registered users through the NOBIL API.

Geographical scope of the data accessible via the National Access Point, changes to the primary road network and to the 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:

RTTI data publications in the National Access Point transportportal.no in general cover all public roads in Norway, as long as it is present in the national road database NVDB or published through the DATEX II node. Data about local (municipal) roads is however less detailed and comprehensive in NVDB than data about the state and regional-level roads. Dynamic data about municipal roads is generally only availible for some of the largest cities.

No list or map of the primary road network has been reported to the Commission yet.

All data items from NPRA are classified to have "best effort" quality. Quality requirements beyond best effort have not been defined yet. NPRA is following the activities in NAPCORE and RTTI Task force regarding the TISA 5-star quality standard.

There has been an effort to monitor and improve the quality of data on speed limits in NVDB, considering e.g. the requirements for Intelligent Speed Assistance (ISA) in (EU) 2021/1958. A quality dashboard has been developed, with automatic consistency checks between traffic signs and speed limits encoded on stretches. NVDB speed limit content have been checked manually against road images for a limited part of the network. A data quality dashboard for road width information in NVDB has also been developed, containing information on data completeness and deviation from the common basemap at the Norwegian Mapping Authority (FKB).

Results of the assessment of compliance referred to in Article 12 with the requirements set out in Articles 3 to 11:

The Ministry of Transport and Communications has designated the Norwegian Road Supervisory Authority (RSA) as the national body for ensuring that requirements in (EU) 2015/962 are met. The formal assignment is based on the national ITS Act adopted in the Parliament December 2015.

The Norwegian Road Supervisory Authority performed an assessment of NPRA according to (EU) 2015/962 article 11 in 2024. They requested and received a declaration of compliance (using the template "EU-EIP and TISA, version 1.0 – 09 February 2018") and a description of services offered, including quality information and conditions for use of data. They deemed NPRA to be compliant to the requirements of (EU) 2015/962 articles 3-10.

No assessement of compliance to (EU) 2022/670 has been performed, as the Delegated Regulation was only recently adopted into the EEA agreement.

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

No relevant changes have been made to the national access point transportportal.no regarding RTTI data since the previous report in 2023. The publication of metadata from TomTom so far only includes safety-related traffic information (SRTI), according to (EU) 886/2013.

Additional information (e.g. what data types are being provided? Have mobilityDCAT-AP or other metadata catalogues been implemented? Are quality requirements being checked?):

MobilityDCAT-AP has not been implemented in the Norwegian NAP yet. It uses DCAT-AP with a national extension DCAT-AP-NO. Work on MobilityDCAT-AP has started in 2025.

Metadata quality is checked automatically and made public for each of the datasets on transportportal.no.

2.2. Priority area II. Travel, transport and traffic management ITS services

2.2.1. Description of the main national activities and projects

Road traffic management centres (TMCs)

Traffic Management Centres (TMCs) serve as the hub for traffic incident management on national and regional road networks, as well as other road networks through specific agreements. Their main tasks include continuous monitoring using cameras and other installations to support traffic management, remote control of technical systems, and the dissemination of information regarding the status and incidents on the road network, in traffic, and its surroundings.

The TMCs prioritise tasks according to urgency. Immediate actions are taken to ensure safety, health, and environmental protection. Tasks related to maintaining traffic flow and protecting material assets are addressed as quickly as possible.

A state-of-the-art traffic and incident management system including an integrated operator interface was finalised in autumn 2021. In addition to increased traffic safety and efficiency of rescue services, the system development for the TMCs will enhance incident and emergency detection and lead to higher quality for data required under the regulations 886/2013 and 2022/670.

Photo 31 TMC in Bergen Source: Bård Asle Nordbø / NPRA

Traffic incident management

Traffic incident management is based on close cooperation between the TMCs and police and rescue services. The Traffic and Incident Management System mentioned above, will enhance management of incidents, road works, road closures and be the source for information about rerouting / diversions. Data is available from the DATEX II-node.

Variable speed limits

Variable speed limits are implemented as part of traffic management systems in tunnels, according to national guidelines. Variable speed limits are also more commonly used on parts of the TEN-T network and other national roads, mainly multi-lane roads with high traffic volumes. The purpose of the implementations is mainly for traffic management in relation to traffic incidents, road maintenance and adverse weather conditions. Variable speed limits are also used to improve air quality in specific zones during the winter season.

National Traffic Management

There is a drive and vision to move beyond reactive incident management, to proactively manage and optimise the capacity of the road network. Advancements in technology, communication and access to data allow for better decision support. There will be new opportunities for channelling information and signals more directly to road users and vehicles with the purpose of optimising decision making and the capacity of the road network. An initiative has recently commenced to look at how to transform today's landscape of systems and solutions that have been built for reactive traffic management to support a more proactive mindset.

See also chapters on the NVDB and Digital Drivkraft above.

2.3. Priority area III. Road safety and security ITS services

2.3.1. Description of the main national activities and projects

Automatic emergency call (eCall)

The Norwegian PSAP for the pan European eCall service in Norway is the Fire and Rescue service. Since April 2018, the PSAP infrastructure and organisation has been in operation. The Ministry of Justice and Public Security and the subordinate Directorate for Civil Protection and Emergency (DSB) are the responsible authorities for the Norwegian PSAP. The eCall alarms are routed to the PSAP operated by the call centre for the Fire and Emergency Services. In Norway there are three separate emergency numbers –police, health and fire –with their own separate emergency call centres.

Automatic speed enforcement

Automatic speed enforcement has been deployed in Norway since the mid 1980's. This has later been supplemented with average speed enforcement on road sections with higher speed related accident rates.

Automatic incident detection

AID is implemented in high volume road tunnels in combination with video monitoring. Testing of new technologies for AID is also on-going. AID is a mandatory requirement according to the security level, traffic volume and length of the tunnel explained in NPRA guidelines.

Security in cooperative systems

Automated and connected vehicles must communicate in real-time through secure communication channels. Public Key Infrastructure (PKI) serves as a framework for issuing, managing, and utilising digital certificates over data networks.

The NPRA has started a project to define and pilot a Norwegian framework for the issuance and management of ITS security certificates. This includes specifying the roles and

stakeholders directly involved in the development of laws and regulations governing the use and supervision of security certificates, ensuring coordination with international initiatives, and contributing to the standardisation and harmonisation of certificate usage. Furthermore, the project aims to establish coordination with other relevant stakeholders in Norway, facilitating collaboration and task distribution.

2.3.2. *Progress since 2023*

Data for Road Safety – DFRS

In 2024, the NPRA became a member of Data for Road Safety (DFRS), a European collaboration aimed at enhancing road safety through data exchange and Safety Related Traffic Information (SRTI). Membership followed an internal process with broad stakeholder engagement. The initiative aligns with the ITS Directive and the SRTI Delegated Regulation, ensuring free access to traffic safety-related information.

DFRS unites road authorities, road owners, service providers, and the automotive industry, coordinated by ERTICO. Members share data based on three core principles: data must be shared free of charge for safety purposes, all members must contribute, and shared data can only be used for generating SRTI, which remains free for end users. The primary focus is on vehicle-generated data to enhance the quality and coverage of existing traffic reports, which are currently published mainly by authorities. The NPRAs traffic reports, distributed through DATEX II publications, are part of this ecosystem and widely utilised by service providers and vehicle manufacturers.

The main objective for the NPRA is to improve traffic safety through accurate and timely information. DFRS data is expected to improve incident detection, event classification, and location accuracy. In the long term, automation and direct machine-to-machine communication could enhance operational efficiency. Initially, DFRS data will serve as a decision-support tool for traffic operators alongside existing sources, such as vehicle recovery data and real-time traffic flow monitoring. Experiences from other road authorities suggest that DFRS data allows for earlier incident detection by several minutes, an aspect to be further explored in 2025.

Key DFRS activities occur within the technical working group, focusing on data definitions, access, and value. These align with the NPRAs strategic goals for an efficient, environmentally friendly, and safe transport system. International collaboration, both among road authorities and private stakeholders, is crucial, as private actors significantly contribute to the ecosystem by providing vehicles and services. DFRS offers insight that supports informed decision-making, aligning with initiatives such as the ITS roadmap and the automated road transport action plan.

2.3.3. *112 eCall (priority action d - Delegated Regulation (EU) No 305/2013)*

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:

No known changes since the 2023 report.

<u>Additional information:</u>

Regulation (EU)2024/1084 amends Regulation (EU)305/2013 on Commission Delegated Regulation (EU) No 305/2013 of 26 November 2012 supplementing Directive 2010/40/EU of the European Parliament and of the Council with regard to the harmonised provision for an interoperable EU-wide eCall. Regulation 2024/1084 is not yet included in the EEA Agreement and needs to be implemented in Norwegian law. Preparations for incorporation into national law must be done in 2025.

There are also some concerns related to the phasing out of 2G network. It is important for road traffic safety and road network accessibility that the eCall system functions as intended. Even though the requirements for type approval of new cars and the requirements for eCall PSAPs are being updated to handle 4G and 5G based eCall, there will still be many vehicles on the road with 2G-based eCall in a couple of years. In Norway, the shutdown of the 2G network is planned for December 31, 2027. The Norwegian Parliament has asked the government to conduct an impact assessment to get an overview of which systems important for safety and preparedness that will not function after the 2G network is shut down.

2.3.4. *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)*

The NPRA's national traffic information service is based on open data available in DATEX II format in the national access point (ref introduction to Chapter 2). All SRTI data are available in the DATEX-node and hence in the national access point. Automatic flagging of SRTI-messages in the DATEX-node was deployed in 2018 and makes it possible for service providers to identify SRTI-messages in DATEX II-publications and to display SRTI-messages in navigation systems and map solutions.

The service covers all SRTI data elements with a best-effort quality level for the entire national road network, including TEN-T. The Norwegian traffic information service does not operate with different service levels according to road category. The ability to detect traffic safety-related incidents varies naturally with the degree of instrumentation, traffic volume and personnel on the roads. Therefore, the complete national road network can be considered as covered by the SRTI service.

<u>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:</u>

The NPRA will work continuously to improve the service and data quality for all eight SRTI data elements. This will require investments in more instrumentation along the roads, in enhanced reporting procedures and, in the future, data collection from vehicles and cooperative ITS (C-ITS). In general, progress and investment levels will depend on annual budgets. In addition, central databases and applications need to be upgraded. This will also create the best possible benefits from investments in instrumentation and new technology.

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

The RSA has performed an assessment of compliance on Delegated Regulation 886/2013 every year since 2016. The assessment has been based on the use of the standardised form for self-declaration developed by the follow-up expert group and for the last 2 years, by the NAPCORE project. Usually, the RSA also performs random inspections.

The result of the assessment of compliance in 2024_shows no deviations from the requirements. This has been the result of the assessment of compliance since 2020.

<u>Where relevant, a description of changes to the national access point</u>:

No changes since the 2023 report.

<u>Additional information (e.g. sources of data used for the provision of safety-related traffic information)</u>:

The TMCs are the main sources of data used in the SRTI service. Data is either automatically collected from roadside units or reported to the TMCs by the police, contractors, media or road users. The provision of SRTI data from the TMC is prioritised over the provision of less urgent data types. See also the introduction to the National Traffic Information Service in chapter 2 and chapter 2.2.1 Road Traffic Management Centres (TMC).

2.3.5.   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)

Norway has not officially started a service for the Delegated Regulation 885/2013. The government aims to establish a substantial number of new rest areas in the coming years. When data collection is reliable and complete, Norway will reconsider starting the information service based on the ITS Directive priority action e). For an overview of rest areas as of February 2024, see Annex II. The National Plan for Rest Areas is available here: National Plan for Rest Areas revised 2024.

However, a preliminary map-based service showing the location of rest areas for HGV, available facilities (static information) and their parking capacity is available here.

<u>Number of different parking places and parking spaces on their territory</u>:

Number of 24-hour rest stops: 55

Number of 24-hour rest stop spaces: 1115

<u>Percentage of parking places registered in the information service</u>:

No official 885/2013 service in Norway.

<u>Percentage of parking places providing dynamic information on the availability of parking spaces and the priority zones:</u>

As of march 2025, approximately 22% of the parking places (12 out of the 55) has webcameras used for picture analyses.

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

No official 885/2013 service in Norway.

2.4. Priority area IV. ITS services for cooperative, connected and automated mobility

2.4.1. Description of the main national activities and projects

National Strategy for Automated Road Transport

The national strategy for automated road transport aims to outline the long-term direction for the introduction of automated transport in Norway, to highlight areas where political clarification is needed, and serve as a foundation for actions and financial priorities. Effective collaboration between public authorities, the private sector, academia, and other stakeholders is essential. By fostering cooperation among actors with different roles and expertise, it will be easier to avoid negative consequences of automated road transport and realise its benefits, both for society and individuals.

Three fundamental principles for introducing automated road transport in Norway has been proposed. The principles are meant to help when making choices about how to introduce automated transport, to achieve our goals, but also manage risk and uncertainty.

1. Authorities must take a proactive role and ensure good framework conditions for automated road transport.
2. Public services must be developed to exploit the potential of automated road transport.
3. Automated road transport must be managed through cross-sector collaboration, with road authorities in the front seat.

Management of electronic traffic regulations (METR)

The Ministry of Transport has assigned the task of planning and preparing for Connected, Cooperative and Automated Mobility to the NPRA. Digitising traffic rules and regulations will in this respect be an important building block for the preparation of the digital road of the future where automated vehicles can manoeuvre safely on the roads. Providing machine-readable traffic rules and regulations will in a shorter term also benefit vehicles with Advanced Driving Assistance Systems.

In 2022, the NPRA initiated a project which has the following main goal for phase 1 (2022-2027):

Figure 5 Illustration of METR

Develop a METR concept covering the public road network in Norway, harmonised with EC regulations and international standardisation work. The concept comprises a trusted value network; from authorities to end users and the implementation of a METR operations and management organisation.

The scope of the METR project includes international cooperation to develop and maintain a methodology, specifications, and standards for transforming traffic rules and traffic regulations into a machine-readable format. It also involves creating a legal framework for agreements between stakeholders, developing and operating the METR system, and ensuring interoperability and data availability for future transport.

Security in cooperative systems

The NPRAs work on security in cooperative systems is relevant also relevant for the work on cooperative, connected and automated mobility, see chapter 2.3.1

Jammer test

Jammertest is an annual event held in Andøya, Norway, and is likely the world's largest open PNT/GNSS resilience test. Participants from both the public and private sectors assess the robustness of their PNT systems against unintentional and intentional jamming and spoofing attacks.

The event takes place far above the Arctic Circle to minimize societal impact and interference with neighboring countries. Andøya's unique geography, with its towering mountains, enables high-power signal transmissions without major disruptions to civil infrastructure.

Jammertest is organized in collaboration with the NPRA, Norwegian Communications Authority, Norwegian Defence Research Establishment, Norwegian Metrology Service, and Norwegian Space Agency. In 2024, the event gathered over 225 participants from 20 countries.
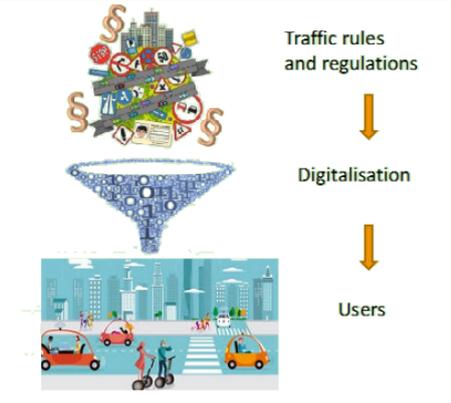
Throughout the week, satellite-based systems in vehicles, drones, airplanes, clocks, and ships were exposed to various interference scenarios. As GNSS services are critical for applications like autonomous driving, ensuring their resilience is essential. Jammertest provides a unique opportunity for authorities, car manufacturers, and technology suppliers worldwide to test and strengthen their systems against jamming (signal interference or blocking) and spoofing (false signal emission to mislead receivers).

Photo 4: 2 Jammer test participants at Bleik 2024 Photo: David Jensen

Nordic Way and C-Roads

In the area of C-ITS the NPRA has participated in the CEF funded *NordicWay* and *C-ROADS* Platform. The cloud-oriented NordicWay concept is relying on the use of existing cellular networks and stakeholder clouds to achieve cost-efficient C-ITS provision with the potential of covering most of the vehicle fleet already by 2030. The concept building on interchange nodes can via the federation of the interchange nodes be easily extended to cover Europe and the whole TEN-T network

The NordicWay partners have all the way been active in European harmonisation activities within C-Roads, and in the forefront especially with regards to hybrid communication solutions and evaluation.

NPRA is continuing their participation in C-Roads, phase 3 (2024 -) whereas Nordic Way was finalised in 2023. More information is available at www.nordicway.net and www.c-roads.eu

MODI

MODI is a European cross-border flagship initiative to accelerate the introduction of Connected, Cooperative and Automated Mobility (CCAM) solutions to significantly improve logistic chains. One of the main objectives of the NPRA in the MODI project is to gain an overview of the digital infrastructure required to support increased automation of road transport, and asses the maturity of automated vehicles.

2.4.2. Progress since 2023

Action Plan for Automated Road Transport

Based on the proposal for a national strategy for automated road transport in Norway, an internal action plan in the NPRA has been made to guide the work on automated road transport.

The action plan aims to bring together all work related to automated transport and highlight dependencies between different initiatives.

The NPRA will actively work on automated road transport, setting clear and ambitious short- and long-term goals. The action plan describes key deliverables that provide a comprehensive approach to integrating automated transport into the transport system.

In the short term, specific actions need to be taken to lay the foundation for automated road transport. The action plan details measures to be completed between 2024 and 2030. The plan aims to:

- Set direction and speed for automated road transport efforts
- Manage risks associated with the introduction of automated transport
- Consider the interdependencies between different measures
- Identify the need for new measures
- Provide a basis for resource prioritization

The action plan specifies completion timelines for each measure, considering dependencies between them. A step-by-step approach is necessary, especially for measures that involve initial mapping followed by decision-making on further actions. Effective organization across the NPRA is essential to uncover dependencies, follow up on measures, and ensure implementation. All units responsible for measures will have an interest in ensuring both their own and others' measures are completed as planned.

CCAM Association

The NPRA remains a member of the CCAM Association under the category "National transport authority, road authority, road operator". Since the last report, NPRA has participated in two general assemblies in addition to participating in plenary meetings and multi-cluster meetings arranged by the CCAM Association as digital webinars. NPRA is represented in all seven clusters in the partnership. NPRA is a key participant in the CCAM/Horizon Europe project MODI, which is led by ITS Norway. In addition to this activity, NPRA has reported "Additional CCAM activities" to the CCAM Association on its own activities that are not funded by the partnership. These activities amount to approximately EUR 3,75 million for 2023.

2.5.   Availability and accessibility via NAPs of data types listed in Annex III to Directive 2010/40/EU

Calculation principles:

* For static information: based on length divided by total length in kilometres. The total length is the length of the network on which underlying information exists, e.g. speed limits apply (almost) everywhere, but access conditions for tunnels apply only to (the length of) tunnel sections.

** For dynamic/temporary information: availability of data refers to the ability to make the data available and accessible in a machine-readable format on a certain percentage of the network, whenever the underlying information exists / appears, based on the length of the network with this capability divided by total length in kilometres.

2.5.1.   Data relating to the provision of EU-wide road traffic information and navigation services

Data type	Geographical coverage	% of geographical scope where data type is available		Comments
1. Data relating to the provision of EU-wide road traffic information and navigation services:				
1.1 Category: Static and dynamic traffic regulations, where applicable, concerning:				
1.1.1 Subcategory: - access conditions for tunnels - access conditions for bridges - speed limits - overtaking bans on heavy goods vehicles - weight/length/width/height restrictions	The trans-European *core* network for roads	access conditions for tunnels*	*100 %*	*Length of TEN-T core 235 km* *16 tunnels, total length 22 km* *2 tunnels with height restriction (less than 4,5 m), total*

				length 1.7 km
				All restrictions available in NVDB
		access conditions for bridges*	*100 %*	*119 bridges, total length 15 km*
				No bridges with restrictions (max weight less than 60 tons or max length less than 25.25 m)
				All restrictions available in NVDB
		speed limits*	*100 %*	*All speed limits available in NVDB*
		overtaking bans on heavy goods vehicles*	*100 %*	*Total length of HGV overtaking*

				bans 4.7 km
				All overtaking bans available in NVDB
		weight/length/width/height restrictions*	*100 %*	*Weight restrictions (less than 60 tons) 0 km*
				Length restrictions (less than 25.25 m) 0 km
				Width restrictions (less than 2.55 m) 0 km
				Height restrictions (less than 4.5 m) 2.6 km
				All restrictions

				available in NVDB
	The comprehensive trans-European network for roads, other motorways and sections of primary roads, where the total annual average daily traffic is more than 8 500 vehicles, and all roads in the cities at the centre of each Urban Node (if applicable limited to > 7 000 vehicles/day)	access conditions for tunnels*	*100 %*	*Length of TEN-T, motorways and primary roads 5 283 km* *382 tunnels, total length 471 km* *76 tunnels with height restriction (less than 4,5 m), total length 73 km* *All restrictions available in NVDB*
		access conditions for bridges*	*100 %*	*1678 bridges, total length 206 km* *81 with restrictions (max weight*

				less than 60 tons or max length less than 25.25 m), total length 3.6 km
				All restrictions available in NVDB
		speed limits*	*100 %*	*All speed limits available in NVDB*
		overtaking bans on heavy goods vehicles*	*100 %*	*Total length of HGV overtaking bans*
				36 km
				All overtaking bans available in NVDB
		weight/length/width/height restrictions*	*100 %*	*Weight restrictions (less than*

				60 tons)
				2 843 km
				Length restrictions (less than 25.25 m) 2 843 km
				Width restrictions (less than 2.55 m) 0 m
				Height restrictions (less than 4.5 m) 324 km
				All restrictions available in NVDB
Subcategory: - one-way streets	*Road infrastructure in the cities at the centre of each Urban Node*	one-way streets*	*N/A %*	*No urban nodes in Norway*
Subcategory: - freight delivery regulations	*Road infrastructure in the cities at the centre of each Urban Node*	freight delivery regulations*	*N/A %*	*No urban nodes in Norway*

Subcategory: - direction of travel on reversable lanes	The core and comprehensive trans-European network for roads, other motorways and sections of primary roads, where the total annual average daily traffic is more than 8 500 vehicles, and all roads in the cities at the centre of each Urban Node (if applicable limited to > 7 000 vehicles/day)	direction of travel on reversable lanes*	N/A %	No reversable lanes in Norway
Subcategory: - traffic circulations plans	The core and comprehensive trans-European network for roads, other motorways and sections of primary roads, where the total annual average daily traffic is more than 8 500 vehicles, and all roads in the cities at the centre of each Urban Node (if applicable limited to > 7 000 vehicles/day)	traffic circulations plans*	N/A %	No traffic circulation plans in Norway No urban nodes in Norway
Subcategory: - permanent access restrictions	The core and comprehensive trans-European network for roads, other motorways and sections of primary roads, where the total annual average daily traffic is more than 8 500 vehicles, and all roads in the cities at the centre of each Urban Node (if applicable limited to > 7 000 vehicles/day)	permanent access restrictions*	N/A %	Unknown
Subcategory: - boundaries of restrictions, prohibitions or obligations with zonal validity, current access status and conditions for circulation in regulated traffic zones	The core and comprehensive trans-European network for roads, other motorways and sections of primary roads, where the total annual average daily traffic is more than 8 500 vehicles, and all roads in the cities at the centre of each Urban Node (if applicable limited to > 7 000 vehicles/day)	boundaries of restrictions, prohibitions or obligations with zonal validity, current access status and conditions for circulation in regulated traffic zones*	N/A %	Unknown
1.2 Types of data on the state of the network:				

Subcategory: - road closures - lane closures - roadworks	*The trans-European core network for roads*	road closures**	*100 %*	*DATEX II*
		lane closures**	*100 %*	*DATEX II*
		roadworks**	*100 %*	*DATEX II*
	The comprehensive trans-European network for roads	road closures**	*100 %*	*DATEX II*
		lane closures**	*100 %*	*DATEX II*
		roadworks**	*100 %*	*DATEX II*
Subcategory: - temporary traffic management measures	*The trans-European core and comprehensive network for roads*	temporary traffic management measures**	*100 %*	*DATEX II*

2.5.2. *Data relating to information and reservation services for safe and secure parking places for trucks and commercial vehicles*

Norway has no official service for safe and secure parking places for trucks and commercial vehicles

Data type	Geographical coverage	% of parking places for which data are available		Comments
2. Data relating to information and reservation services for safe and secure parking places for trucks and commercial vehicles:				
Category: static data	*The trans-European core network for roads*	static data related to the parking areas	*N/A*	

Subcategory: - static data related to the parking areas		information on safety and equipment of the parking area	*N/A*	
- information on safety and equipment of the parking area	*The comprehensive trans-European network for roads*	static data related to the parking areas	*N/A*	
		information on safety and equipment of the parking area	*N/A*	
Category: dynamic data *Subcategory:* - dynamic data on availability of parking places including whether a parking is: full, closed or number of free places which are available.	*The trans-European core and comprehensive network for roads*	dynamic data on availability of parking places including whether a parking is: full, closed or number of free places which are available.	*N/A*	

2.5.3.   *Data on detected road safety-related events or conditions relating to road safety-related minimum universal traffic information*

Dynamic data on SRTI events or conditions relating to SRTI are all available in the NPRA's DATEX node.

Data type	Geographical coverage	% of geographical scope where data type is available		Comments
3. Data on detected road safety-related events or conditions relating to road-safety-related minimum universal traffic information:				
Category: dynamic data		temporary slippery road**	*100 %*	

Subcategory: - temporary slippery road - animal, people, obstacles, debris on the road - unprotected accident area - short-term roadworks - wrong-way driver - unmanaged blockage of a road	*The core and comprehensive trans-European network for roads and other motorways not included in that network*	animal, people, obstacles, debris on the road**	*100 %*	
		unprotected accident area**	*100 %*	
		short-term road works**	*100 %*	
		wrong-way driver**	*100 %*	
		unmanaged blockage of a road**	*100 %*	
Subcategory: -reduced visibility - exceptional weather conditions	*The core and comprehensive trans-European network for roads and other motorways not included in that network*	reduced visibility**	*100 %*	
		exceptional weather conditions**	*100 %*	

2.5.4. *Static multimodal traffic data for EU-wide multimodal travel information services*

*** Where possible, provide figures per scheduled transport mode, referred to in the Annex to Delegated Regulation (EU) 2017/1926 (such as air, rail including high-speed rail, conventional rail, light rail, cableways, long-distance coach, maritime including ferry, inland waterways, metro, tram, bus, trolley-bus)

Data type	Geographical coverage	% of nodes where data are available for the scheduled transport mode	Comments
4. Static multimodal traffic data for EU-wide multimodal travel information services:			

Category Location of identified access nodes for all scheduled modes, including information on accessibility of access nodes and paths within an interchange (such as existence of lifts, escalators)	*Urban nodes as defined in Article 3, point (p), of Regulation (EU) No 1315/2013 and listed in that Regulation, including those administered by the cities*	Location of identified access nodes for all scheduled modes, including information on accessibility of access nodes and paths within an interchange (such as existence of lifts, escalators)***	N/A	No urban nodes in Norway
	The entire transport network of the Union	Location of identified access nodes for all scheduled modes, including information on accessibility of access nodes and paths within an interchange (such as existence of lifts, escalators)***	Identified access nodes: 100%	

2.6. Availability of services listed in Annex IV to Directive 2010/40/EU

2.6.1. Road safety-related minimum universal traffic information services

Service	Geographical coverage	% geographical scope covered
Road safety-related minimum universal traffic information (SRTI) service	The *core and comprehensive* trans-European network for roads	100%

2.7. Other initiatives / highlights

2.7.1. Description of other national initiatives / highlights and projects not covered in priority areas 1 to 4:

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

Below are a few selected national initiatives on the ITS area and their status in 2025.

Cross-sectoral data collaboration

The cross-sectoral data collaboration in Norway is an initiative designed to improve data sharing and utilization within the transport sector. Funded by the Ministry of Transport, the collaboration includes key stakeholders such as Entur AS, Avinor, Bane NOR, and the NPRA. The primary goal is to enhance services and decision-making across the sector, providing better outcomes for citizens, transport businesses, and policymakers.

This collaboration is divided into three core workstreams: technical solutions for data sharing, value cases that demonstrate the practical benefits of data sharing, and addressing legal challenges related to data use and governance. The work focuses on building a culture of data sharing and encouraging the use of common standards and practices across the sector.

In 2025, the initiative will continue to focus on concrete use cases for data sharing, with an emphasis on developing solutions that are driven by the internal resources of the participating organizations. The collaboration will also place significant importance on the exchange of experiences, legal guidance, and best practices to create a sustainable model for data sharing and interoperability in Norway's transport sector.

ITS Norway

The organisation ITS Norway is actively involved in several projects aimed at advancing ITS and promoting sustainable mobility solutions. Through participation in various national and EU-funded initiatives, ITS Norway focuses on knowledge sharing among its members and fostering collaboration within the ITS community.

One notable project is NEMU (Nordic Ecosystem Mobility Unlimited), a collaboration among Nordic ITS organizations, including ITS Norway, ITS Finland, ITS Denmark, and ITS Iceland, along with partners such as Entur, Matkahuolto, and SFMCON. Funded by Nordic Innovation, NEMU aims to enhance Nordic connectivity by facilitating seamless multimodal mobility across borders, thereby supporting the EU's commuting and leisure travel markets.

Another significant initiative is the EU funded ORCHESTRA project, coordinated by ITS Norway in partnership with organizations like SINTEF, TU Delft, and the NPRA. This project focuses on developing and implementing innovative ITS solutions to improve transport efficiency and safety across Europe.

Through these and other projects, ITS Norway contributes to the development of intelligent transport systems, promoting sustainable and efficient mobility solutions across the Nordic region and Europe.

3. KEY PERFORMANCE INDICATORS (KPIS)

3.1. Deployment KPIs

3.1.1. Information-gathering infrastructures / equipment (road KPI)

Table 1: KPI for travel time information gathering infrastructure

Type of road network	Road network with travel time information gathering infrastructure	Total length of road network in km	KPI
TEN-T	472 km	4 805 km	9,8
Other national roads	131 km	5 276 km	2,5

Table 2: KPI for fixed traffic monitoring information gathering infrastructure

Tupe of road network	Road network with fixed traffic monitoring information gathering infrastructure	Total length of road network in km	KPI
TEN-T	2130 km	4 805 km	44,3
Other national roads	2542 km	5 276 km	48,2

Table 3: Number of operative weather stations (autumn 2024)

Type of road network	Number
TEN-T	138
Other national roads	131

Table 4: Number of cameras in the NVDB

Areas of use	TEN-T	Other national roads
Monitoring, traffic	438	215
Weather and road conditions	448	441
Not registered	452	374

Table 5: KPI for traffic monitoring based on cameras

Type of road network	Road network with traffic monitoring based on cameras	Total length of road network in km	KPI
TEN-T	758 km	4 805 km	15,8
Other national roads	435 km	5 276 km	8,2

3.1.2. *Incident detection (road KPI)*

Table 6: KPI for automatic incident detection

Type of road network	Road network with automatic incident detection	Total length of road network	KPI
TEN-T	139 km	4 805 km	2,9
Other national roads	71 km	5 276 km	1,3

The KPI for the TEN-T road network was 3.1 in 2023 and is estimated to be 2.9 for 2024, as shown in the table above. The reason for the decrease in the indicator is that in 2023, tunnels not registered with AID in NVDB were included. Now, the calculation is based solely on data exported from the NVDB, without manual corrections of the data foundation using other sources (e.g., the traffic management systems at the TMCs).

3.1.3. *Traffic management and traffic control measures (road KPI)*

Table 7: KPI for road network equipped with variable speed limits

Type of road network	Road network equipped with variable speed limits	Total length of road network	KPI
TEN-T	472 km	4 805 km	9,8
Other national roads	158 km	5 276 km	3,0

3.1.4. *Cooperative-ITS services and applications (road KPI)*

KPI for cooperative-ITS services and applications = 0. No services exist.

3.1.5. Real-time traffic information (road KPI)

The indicator "road traffic information" is an aggregate KPI for all traffic information on incidents, accidents, traffic flow, and driving conditions distributed by the TMCs. This information is shared across multiple distribution channels, and the data is also available in DATEX II. The information covers the entire road network, and the KPI will therefore remain at 100 for both the TEN-T network and other national roads.

Table 8: KPI for real time road traffic information

Type of road network	Road network with road traffic information	Total length of road network in km	KPI
TEN-T	4 805 km	4 805 km	100
Other national roads	5 276 km	5 276 km	100

The indicator "real time travel time information services" is currently identical to the KPI for travel time information gathering infrastructure in section 3.1.1. Real time travel time information is available through DATEX II.

Table 9: KPI for real time travel time information services

Type of road network	Road network with real time travel time information services	Total length of road network in km	KPI
TEN-T	472 km	4 805 km	9,8
Other national roads	131 km	5 276 km	2,5

3.1.6. Dynamic travel information (multimodal KPI)

KPI for coverage of scheduled lines with dynamic real-time information (all modes): 85,7

This KPI is calculated based on Netex schedule timetables from all operators across Norway. We calculate how many of the scheduled lines send dynamic real-time information.
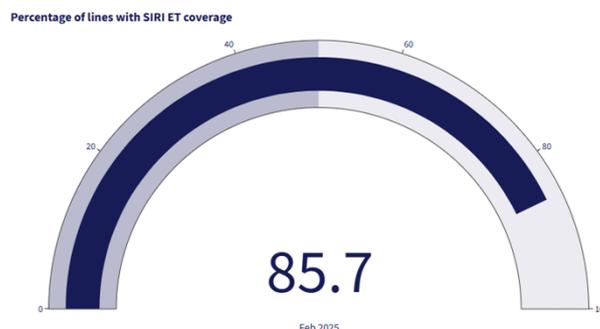

Figure 6 Illustration from Entur

KPI for an overall quality score for dynamic real-time data (SIRI-ET): 7.6 out of 10

This KPI is calculated based on an enhancement of Enturs quality-data.entur.no score. They calculate the X values they want to include in a score they can follow over time to improve national dynamic data. In the future it might be possible to calculate coverage of on demand services, but this is not possible today.

Overall data quality score SIRI ET - Norway

7.6

Feb 2025

Figure 7 Illustration from Entur

The multimodal KPIs are also available here: https://data-quality.entur.no/

3.1.7. *Freight information (multimodal if possible or road KPI)*

Table 10: KPI for HGV truck parking areas

Type of road network	Number of HGV truck parking places	Number of places in National Plan for HGV parking	KPI
TEN-T	43	69	62,3
Other national roads	12	25	48,0

3.1.8. *eCalls (road KPI)*

eCall alarms are received by the 110 emergency centers. The Directorate for Civil Protection and Emergency Planning (DSB) is responsible for managing eCall statistics. False alarms are not recorded in the statistics, so the data does not fully cover the requirements outlined in the guidance document. However, the figures still provide a good overview of the scope of eCall alarms.

Table 11: Statistics for eCalls in Norway

	2021	2022	2023
Automatically triggered	2486	3727	3667
Manually triggered	5509	6986	9306
No data (MSD)	430	1563	794
Total number of eCalls	8425	12276	13767

Source: The Norwegian Directorate for Civil Protection and Emergency Planning

3.2. Benefit KPIs

The NPRA is working on a wide range of measures contributing to improved traffic flow, fewer fatalities and serious injuries, and reduced emissions from road transport. Isolating the effects of individual ITS measures on these target areas as a basis for calculating specific indicators is highly challenging.

Until 2020, Norway reported on all three Benefits KPIs using a methodology developed by the working group for evaluating ITS measures in the NEXT-ITS project. By 2023, the project had ended, and the methodology was no longer maintained. It was therefore decided to report "Not available" for all three categories of Benefits KPIs, and we continue to do so. There is no requirement to report on ITS Benefits KPIs in 2025.

3.2.1. Change in travel time (road KPI)

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

There is not sufficient basis to establish such an indicator for Norway today.

3.2.2. Change in the number of road crashes resulting in deaths or injuries (road KPI)

If possible, a distinction can be made between crashes resulting in deaths, serious injuries or slight injuries.

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

Traffic safety efforts on multiple fronts are important and highly prioritized, but isolating the safety benefits of ITS measures from other improvements in road infrastructure and the vehicle fleet is highly challenging.

A comprehensive evaluation framework for implemented ITS measures is required to responding to this indicator. Therefore, we are postponing reporting on this KPI until 2028. However, below we show the general development in the number of people killed or injured in Norwegian road traffic.

Figure 8 Number of people killed or injured in Norwegian road traffic Source: NPRA
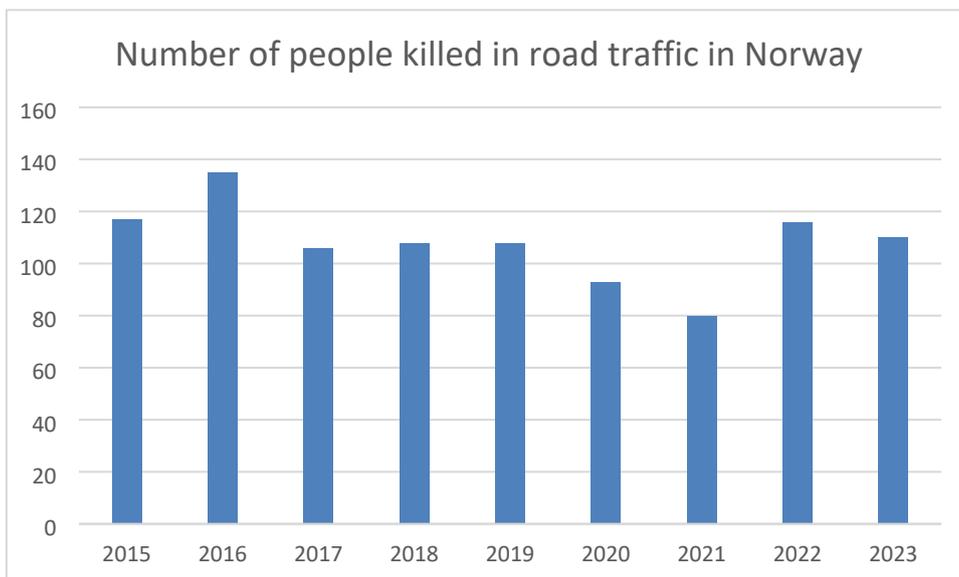

Figure 9 Number of people killed in Norwegian road traffic Source: NPRA

3.2.3. *Change in traffic-CO2 emissions (road KPI)*

Norway reported this indicator as "Not available" in 2017 and 2023. In the 2020 report, the methodology from NEXT-ITS was used to estimate the impact of ITS on changes in CO2 emissions from road traffic.

For CO2 emissions, the situation is also that many other measures and factors influence emission levels from road traffic. In particular, the continuous development of the vehicle fleet contributes to lower emissions.

Statistics Norway (SSB) provides data on emissions in Norway, and emission from road traffic are among the largest contributors, with a share of 17 % , of the total emission of 46,7

mill. ton CO_2. Since 2015 the emmision of CO_2 from road transport has been reduced from 10,3 mill ton CO_2 to 8,0 mill tonn in 2023., mainly due to the increased share of transport work performed by electric vehicles and the use of biofuels.

3.3. Financial KPIs

Norway has consistently reported both the annual public investment in road ITS and the annual public operating & maintenance costs of road ITS indicators as "Not available" in all progress reports since their introduction. The reason for this is that relevant financial data cannot be directly extracted from the financial monitoring systems used by the NPRA.

Assessments indicate that ITS related costs are not recorded as separate budget items, as expenditures often serve multiple purposes beyond ITS. Without a dedicated classification of ITS investments and operating costs in financial systems, isolating these figures remains a challenge.

Given these challenges, the preferred approach was to further investigate whether a viable data source could be identified within existing financial systems, but we did not succeed in finding one. Until such data can be reliably extracted, these indicators remain unavailable for reporting.

In our investigation of the financial KPIs, the Road Directorate engaged with the Transport and Society Division (ToS) in the NPRA to gather information on ITS investments, operations, and costs. The ToS Division is responsible for strategic transport planning, traffic management, road user services, amongst other things. They play a key role in the implementation and management of ITS solutions in Norway.

In our work to obtain relevant financial data, we collected figures from two key departments within ToS that primarily cover ITS-related activities called Traffic Management and Emergency Preparedness (*Trafikkstyring og beredskap*) and Transport Development (*Transportutvikling*). While other departments within the NPRA work with ITS in their operations as well, it is challenging to separate their ITS-related costs. Therefore, our analysis primarily focused on these two departments, as they represent some of the core ITS activities within the division.

In the calculations for 2024 salary costs, other operating expenses, and investments related to ITS has been included.

	Norwegian kroner	Approximate equivalent in Euros as of February 2025
Total ITS costs	603,1 million NOK	58,8 million Euros
ITS Investments	37,9 million NOK	3,3 million Euros
ITS operation and maintenance	565,2 million NOK	48,5 million Euros
ITS Investments in percentage of Total ITS costs	6,2%	

Since the necessary data cannot be extracted from the financial monitoring system of the NPRA, we have requested input from the E18 West Corridor project, one of Norway's largest infrastructure projects, to obtain a rough estimate of ITS investments as a basis for an approximate indicator.

According to input from the project manager, the following experiences have been noted:

- For projects on major roads and in urban areas, ITS investments are estimated to account for 0.8–1.5% of the total budget. This applies to projects such as the West Corridor, but even for this project, a more precise figure is not available.
- For projects on rural and secondary roads (e.g., National Road 36 in Seljord), ITS costs are close to zero. In some cases, investments are made in specific elements such as weather stations, but otherwise, there is little or no ITS infrastructure.

Based on this input, an ITS investment KPI for TEN-T roads in Norway would likely be in the range of 1%, although it would depend on which projects are surveyed.

It has to be noted, however, that the limited specificity and variability in ITS investment levels in Norway suggest that **this estimate has a very restricted analytical value.**

ANNEX I: DATATYPES REQUIRED IN (EU) 1926/2017 AVAILABLE IN TRANSPORTPORTAL.NO TODAY

Scheduled timetables

- Air

- rail including high speed rail

- light rail

- long-distance coach

- maritime including ferry

- metro, tram, bus, trolley-bus

Demand-responsive

- Shuttle bus, shuttle ferry, taxi, car-share, car-pool, car-hire, bike-share, bike-hire (partially)

Personal

- Car, motorcycle, cycle

The types of the static travel data

Service level I- 1.12.2019

Location search (origin/destination)

- Address identifiers (building number, street name, postcode)

- Topographic places (city, town, village, suburb, administrative unit)

- Points of interest (related to transport information) to which people may wish to travel

Trip plans

- Operational Calendar, mapping day types to calendar dates

Location search (access nodes)

- Identified access nodes (public transport stops incl. bus, tram and metro, railway stations, airport terminals, ferry terminals, taxi ranks) (partially)

- Geometry/map layout structure of access nodes (all scheduled modes) (partially)

Trip plan computation – scheduled modes transport

- Network topology and routes /lines (topology) (partially)

- Transport operators

- Timetables

- Planned interchanges between guaranteed scheduled services (partially)

- Hours of operation

- Accessibility of access nodes, and paths within an interchange (such as existence of lifts, escalators) (partially)

Trip plan computation – road transport

- Road network

- Cycle network (segregated cycle lanes, on-road shared with vehicles, on-path shared with pedestrians) (partially)

- Pedestrian network and accessibility facilities

Service level II-1.12.2020

Location search (demand responsive modes)

- Park & Ride stops(partially)

- Bike sharing stations

Service level III-1.12.2021

Information service (all modes)

- How to book car sharing, taxis, cycle hire etc. (incl. retail channels, fulfilment methods, payment methods) (partially)

Trip plans

- Detailed cycle network attributes (surface quality, side-by-side cycling, shared surface, on/off road, scenic route, 'walk only', turn or access restrictions (e.g., against flow of traffic) (partially)

Types of the dynamic travel and traffic data

Service level I- 1.12.2019

Passing times, trip plans and auxiliary information

- Disruptions (all modes, partially)

- Real-time status information – delays, cancellations, guaranteed connections monitoring (all modes)

Service level II- 1.12.2020

Passing times, trip plans and auxiliary information

- Estimated departure and arrival times of services

Availability check

- Estimated departure and arrival times of services (partially)

- Car parking spaces available (on and off-street), parking tariffs, road toll tariffs (partially)

ANNEX II: REST AREAS ESTABLISHED ALONG THE NATIONAL ROADS IN **N**ORWAY AS OF **J**ANUARY **2025**

Eastern Norway

- E6 Svinesundparken, Halden, Østfold, 77 available spaces

- E6 Fugleåsen, Ski, Nordre Follo, 150 available spaces

- E6 Ormlia, Eidsvoll, Akershus, 47 available spaces

- E6 Minnesund Circle K, Eidsvoll, Akershus, 26 available spaces

- E6 Rudshøgda, Ringsaker, Innlandet, 20 available spaces

- E6 Biri travpark, Gjøvik, Innlandet, 30 available spaces

- E6 Vinstra vegpark, Nord-Fron, Innlandet, 58 available spaces included 18 spaces for short-term parking

- E6 Bekkemoen, Dovre, Innlandet, 6 available spaces

- E18 Ørje, Marker, Østfold, 10 available spaces

- E18 Kjellstad sørgående, Lier, Buskerud, 15 available spaces

- E16 Mjøsvang, Vang i Valdres, Innlandet, 15 available spaces

- Rv. 2 Kongsvinger (Roverud), Innlandet, 25 available places

- Rv. 3 Myklagard, Løten, Innlandet, 20 available spaces

- Rv. 3 Koppang Shell, Stor-Elvdal, Innlandet, 13 available spaces

- Rv. 3 Alvdal, Innlandet, 20 available spaces

- Rv 7 Gol sambruksstasjon, Gol, Buskerud, 21 available spaces

Western Norway

- E16 Dale Shell, Vaksdal, Vestland, 10 available spaces

- E16 Steinklepp, Lærdal, Vestland, 10 available spaces

- E39 Vikeså Esso, Bjerkreim, Rogaland, 15 available spaces

- E39 Søylandskiosken, Gjesdal, Rogaland, 9 available spaces

- E39 Heiane, Stord, Vestland, 9 available spaces

- E39 Bergen travpark, Bergen, Vestland, 25 available spaces

- E39 Skei Cirkle K, Sunnfjord, Vestland, 16 available spaces

- E134 Liamyrane Best, Røldal, Ullensvang, Vestland, 7 available places

- E134 Kyrping Best, Etne, Vestland, 10 available spaces

- E39/Rv. 15 Nordfjordeid Uno X, Stad, Vestland, 10 available spaces

Southern Norway

- E134 Høydalsmo, Tokke, Vestfold og Telemark, 12 available spaces
- E134 Edland, Vinje, Vestfold og Telemark, 10 available spaces
- E18 Furulund Kro & Motel, Sandefjord, Vestfold, 40 available spaces
- E18 Langrønningen Circle K, Bamble, Vestfold, 25 available spaces
- E18 Grenstøl St1, Tvedestrand, Agder, 30 available spaces
- E18 Vertikalen, Lillesand, Agder, 18 available spaces
- E18 Lillesand YX, Agder, 25 available spaces
- E18 Lillesand Circle K, Agder, 10 available spaces
- E39 Lonelier St1, Kristiansand, Agder, 25 available spaces
- E39 Livold Circle K, Lindesnes, Agder, 10 available spaces

Central Norway
- E6 Oppdalsporten, Oppdal, Trøndelag, 15 available spaces
- E6/E39 Klett Circle K, Trondheim, Trøndelag, 22 available spaces
- E6 Stav Gjestegård, Malvik, Trøndelag, 25 available spaces
- E6 Gråmyra YX, Levanger, Trøndelag, 10 available spaces
- E6 Brekkvasselv Best, Namsskogan, Trøndelag, 8 available spaces
- E6 Snåsakroa, Trøndelag, 10 available spaces
- E39 Digerneset, Skodje, Møre og Romsdal, 15 available spaces
- Rv. 70 Håsøran, Sunndalsøra, Sunndal, Møre og Romsdal, 12 available spaces
- Rv. 70 Kristiansund, Møre og Romsdal, 19 available spaces

Northern Norway
- E6 Mosjøen, Vefsn, Nordland, 8 available spaces
- E6 Mo i Rana, Nordland, 14 available spaces
- E6 Storjord, Saltdal, Nordland, 10 available spaces
- E6 Fauske, Nordland, 12 available spaces
- E6 Innhavet, Hamarøy, Nordland, 5 available spaces
- Rv. 80 Bodø havn, Nordland, 9 available spaces
- E6 Buktamoen, Målselv, Troms, 12 available spaces
- E6 Storslett Circle K, Nordreisa, Troms og Finnmark, 10 available spaces
- E6 Talvik Shell, Alta, Troms og Finnmark, 10 available spaces
- E6/E75 Tana bru, Troms og Finnmark, 10 available spaces