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End-User Manual for the National Access Point for Information Services for Multimodal Travel

Project: “Upgrading the capacity of the GIS-based electronic platform ‘Single Information Point’ and building development functionalities for the establishment of a National Access Point for multimodal travel information services”

Contracting Authority: Ministry of Transport and Communications

Contractor: “NAP” Consortium with participating partners – “ESRI Bulgaria” Ltd and “Theoremus” SC



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ПРОГРАМА
ТРАНСПОРТНА СВЪРЗАНОСТ

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Change log

Version	Description
0.1	Initial version, document structure
0.2	Review and updated version



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Version	Description



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Glossary

Abbreviation	Description
RIA	Road Infrastructure Agency
BDZ	Bulgarian National Railways
GIS	Geographic Information System
SIP	Single Information Point
EU	European Union
QES	Qualified Electronic Signature
MTC	Ministry of Transport and Communications
NRIC	National Railway Infrastructure Company
NAP	National Access Point
NRN	National Road Network
UMC	Urban Mobility Center
API	Application Programming Interface
CSV	Comma-separated values
DATEX	European Standard (CEN/EN 16157) for the exchange of information related to road transport
GTFS	General Transit Feed Specification
GTFS-RT	General Transit Feed Specification Realtime
HTTP	Hypertext Transfer Protocol
ID	Identifier
JSON	JavaScript Object Notation
KB	Kilobyte



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Abbreviation	Description
MB	Megabyte
NAPCORE	National Access Point Coordination Organisation for Europe
NeTEx	Network Timetable Exchange
REST	Representational State Transfer
SIRI	Service Interface for Real-time Information
URL	Uniform Resource Locator
WCAG	Web Content Accessibility Guidelines
XML	eXtensible Markup Language
XSD	XML Schema Definition



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1 Access to NAP

1.1 Portal Web Address

The National Access Point (NAP) is accessible via a web portal at: [Portal URL will be indicated when switching to a production environment]

Access to the portal is free for all users free of charge, and no prior registration is required to view publicly available information.

1.2 Supported browsers and devices

The Portal supports working operation with the following recent web browsers:

- Google Chrome;
- Mozilla Firefox;
- Microsoft Edge;
- Safari.

The platform is developed with a **responsive design** and is optimized for use on:

- desktop computers and laptops;
- tablets;
- mobile devices.



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The functionality and presentation of the content automatically adjust according to the screen size and resolution.

1.3 Language versions

The Portal is available in two languages:

- Bulgarian language (BG);
- English language (EN).
- The interface automatically switches to the selected language.

1.4 Switch between languages:

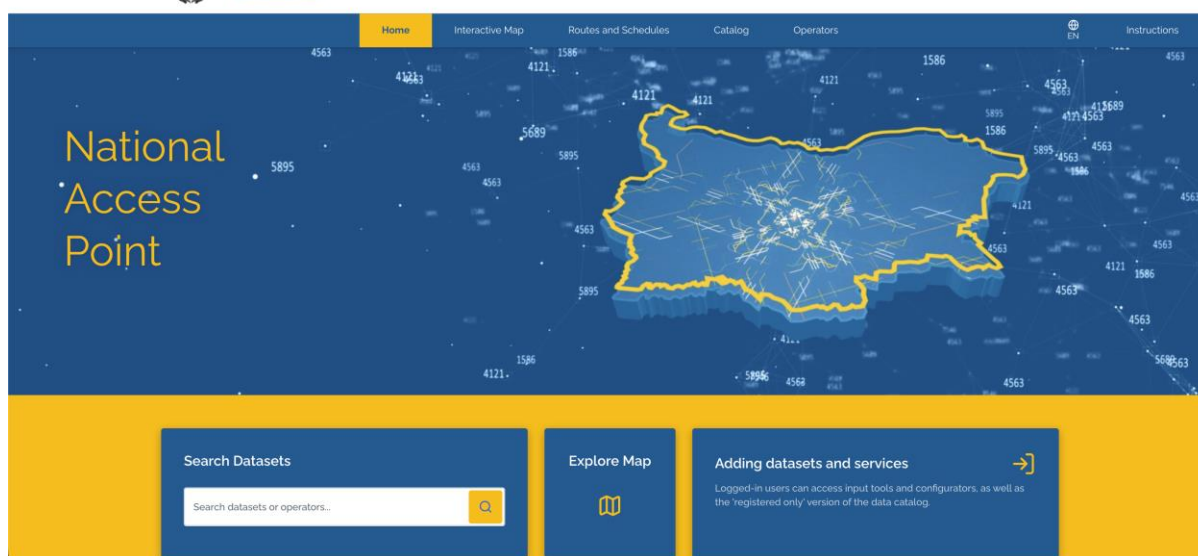
- Locate the “*Language selection*” button in the upper-right corner of the screen.
- Choose your preferred language from the dropdown menu.
- The interface will automatically switch to the selected language.



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and Communications



1.5 Accessibility for people with disabilities (WCAG 2.0)

The portal is developed in accordance with the core web accessibility principles of and complies with the requirements of WCAG 2.0 (Web Content Accessibility Guidelines), including:

- clearly structured content and logical navigation;
- sufficient color contrast between text and background;
- ability to use via a keyboard;
- legible fonts and scalable interface;
- use of semantic elements and descriptive labels for key functionalities.

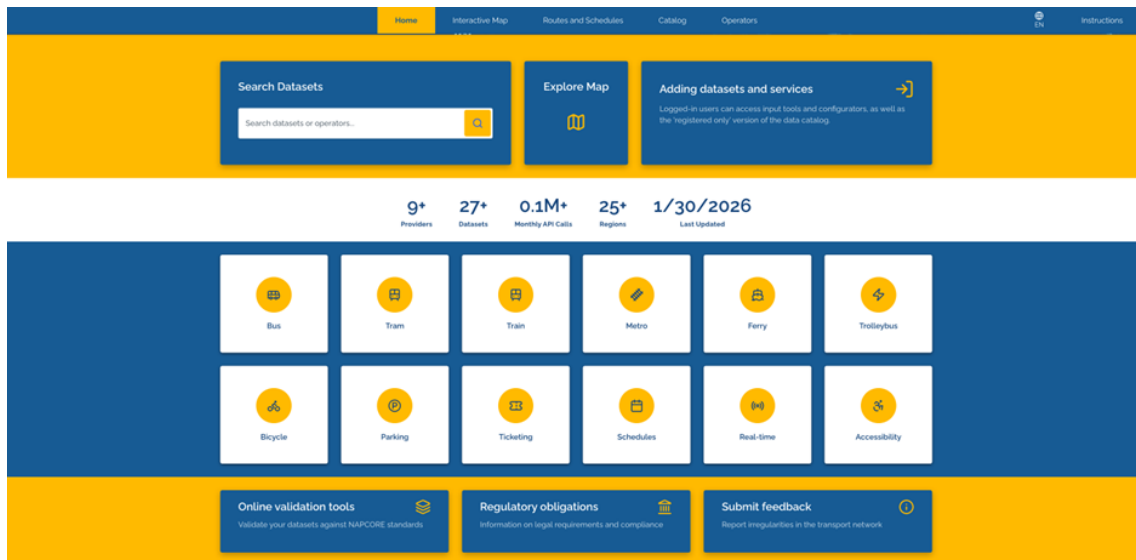
These measures are intended to ensure equal access to information for all users, including individuals with visual, motor, or other functional impairments.

2 Information and Documentation Review

Unregistered users have access to:



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Homepage:

- Platform statistics (number of active providers, available datasets, covered regions);
- Keyword search for datasets;
- Quick access to the interactive map;
- Categories of transport data (Bus, Tram, Train, Metro, Ferry, Trolleybus, Bicycle, Parking, Ticketing, Timetables, Real-time, Accessibility).

Navigation section:

- Platform information
- Description of the available data
- Instructions for users, developers and operators

3 Dataset Search

1. Open NAP Home page and find **"Search datasets and services"** field positioned in the center of the page.

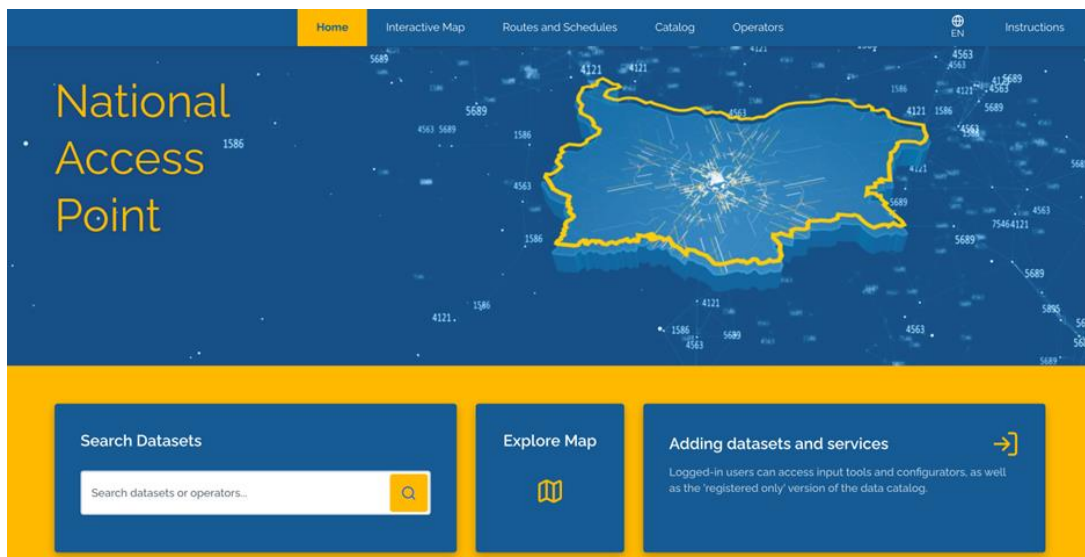


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Enter a key word, for example:

- Name of an Operator (ex. „BDZ”),
- Region or settlement (town, village)
- Data type or service.



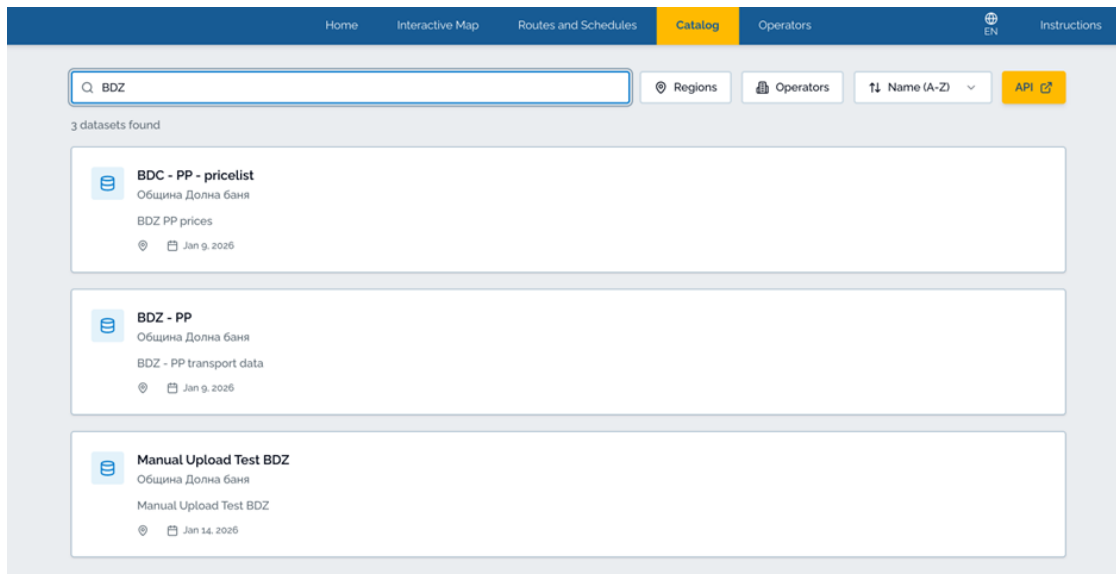
Start your search by:

- clicking **Enter**, or
- click on the Search icon (magnifier).

The system automatically redirects to the “Catalog” section, where all available results matching the entered keyword are displayed.



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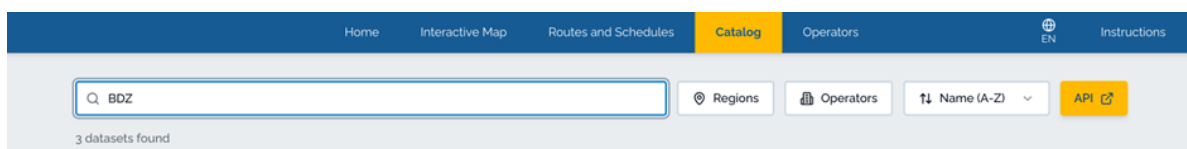
4 Working with the Data Catalog

4.1 Access to the Catalog

The catalog can be accessed from:

- the “*Catalog*” menu in the navigation bar;
- the “*Browse Catalog*” button on the homepage;
- the Search option from the homepage

4.2 Catalog Interface



The catalogue contains the following elements:



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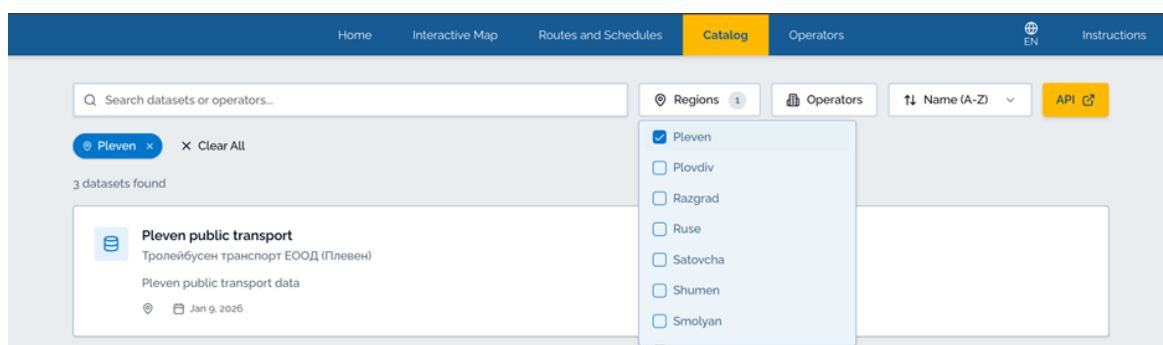


Search field:

- Allows searching by dataset name, provider, or description;
- Searches are performed in real time as you type.

Filter by region:

- Location icon button;
- Opens a list of available regions;
- Allows selection of multiple regions simultaneously;
- Selected regions are displayed as tags below the filters.



Filter by Operators:

- Organisation icon button;
- Opens a list of available operators;
- Allows selection of multiple operators simultaneously;
- Selected operators are displayed as tags below the filters.
- Ability to select multiple operators at the same time

Sorting:

- Name (A-Z) - alphabetical sorting
- Name (Z-A) - reverse alphabetical sorting



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- Date (Latest) – first most recently updated
- Date (Oldest) - first the most recently updated

API Button:

- Direct link to the Swagger API documentation

Result counter:

- Displays the number of datasets found.

4.3 Searching for data in the Catalog

Step 1: Enter Search criteria

1. Enter a keyword in the Search field.
2. The search covers: dataset name, provider name, and description.

Step 2: Apply filters (optional)

1. Click on the *"Regions" button* to filter by geographic range.
2. Highlight one or more regions from the list
3. Click on the *"Operators" button* to filter by supplier.
4. Highlight one or more operators from the list.

Step 3: Sort the results (optional)

1. Click on the *"Sort" button*
2. Select the preferred sorting criteria

Step 4: Clear filters

- To remove an individual filter: click the "X" on the filter tag.



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- To remove all filters: click the *“Clear All” button*.

4.4 Dataset Map

Each dataset in the catalog is displayed as a map containing:

- Data type icon
- Dataset name
- Operator name
- Description (if available)
- Region
- Date of the last update made

Upon clicking on the map, a detailed dataset page opens.

4.5 Detailed Dataset Page

The screenshot shows a web interface for a dataset catalog. The top navigation bar includes links for Home, Interactive Map, Routes and Schedules, Catalog, Operators, and a language selector (EN) with an Instructions link. The main content area displays details for the 'BDZ - PP' dataset, which is associated with 'Община Долна баня' and 'BDZ - PP transport data'. It shows a location pin icon, a calendar icon for 'January 9, 2026', and an 'Active' status button. Below this, a 'Data Feeds' section shows a table with one feed: 'GTFS-STATIC'. The table has columns for 'Files', 'Total Size', and 'Last Update'. The data row shows '1' file, '124.68 KB' total size, and 'Jan 9' last update. A 'GTFS-STATIC' button and an 'Unknown' button are also visible.

Files	Total Size	Last Update
1	124.68 KB	Jan 9

Upon clicking on a specific dataset, a detailed dataset page opens, containing:

Header section:



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- Dataset name
- Operator name
- Description - Region (location icon is also available and displayed)
- Date of the last update made (calendar icon is also available and displayed);
- Status (Active/Inactive)

Data Feeds Section:

Data Feeds are grouped by format:

- GTFS STATIC - static timetable data;
- GTFS REALTIME - real-time data;
- SIRI - real-time information data;
- NeTEx - network schedules.

Each group can be either expanded or collapsed by clicking on its title.

Data Flow (Subset) Map:

Each Data Flow (Subset) contains:

- Format (GTFS-STATIC, GTFS-REALTIME, SIRI);
- Type (trip_updates, alerts, vehicle_positions, estimated_timetable, vehicle_monitoring);
- Category;
- Number of files (for static data);
- Total size (for static data);
- Date of the last update made.

5 Extacting Catalog Data



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5.1 Available formats for data extracting

NAP shall provide data in the following formats:

GTFS Static:

- ZIP data archive with static timetables;
- Includes files in TXT/CSV format;
- Includes: agency.txt, stops.txt, routes.txt, trips.txt, stop_times.txt, etc.

GTFS Realtime:

- Protocol Buffer (protobuf) format;
- Real-time data on vehicles' positions, travel updates, alerts/notifications.

SIRI:

- XML format;
- Standard for real-time information exchange.

NeTEx:

- XML format;
- European Standard for timetables exchange.

5.2 Static Data Download Procedure



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Step 1: Open the catalog and find the preferred dataset.

Step 2: Click on the dataset map.

Step 3: In the "Data Feeds" section, find the preferred format (e.g. GTFS STATIC).

Step 4: Expand the section if it is collapsed.

Step 5: For each dataset:

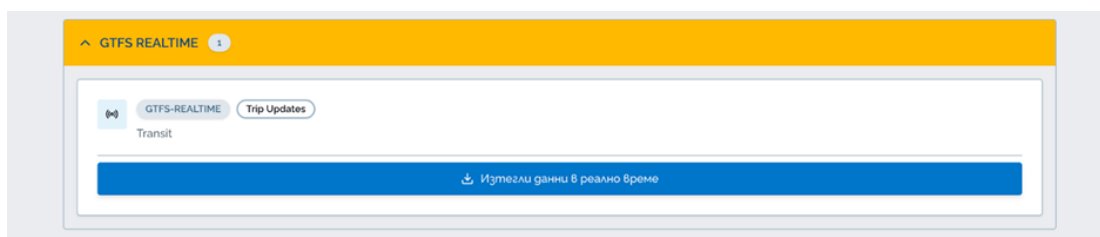
1. Click on the expand button (down arrow).
2. A list of available files is displayed.
3. For each file, the following is displayed: name, date of creation, size, type.
4. Click „Download” button next to the preferred file.

Step 6: The file downloads automatically to your computer.

5.3 Real-time Data Download Procedure



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For Data feeds in GTFS-REALTIME or SIRI format:

Step 1: Open the detailed dataset page

Step 2: Find GTFS REALTIME or SIRI section

Step 3: Click on the *"Download Real-Time Data"* button

Step 4: The system downloads a snapshot of the data

Note: Real-time data is constantly updated. The downloaded file contains the data as it has been at the time the download has been performed.

5.4 File information

For each available file the following information is displayed:

- **File name** – the original file name;
- **Date on which the file was created** – when the file was uploaded on the platform/system;
- **Size** – file size (in B, KB, MB or GB);
- **File type** – file extension.



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5.5 Data Access Protocols and Formats

5.5.1 Supported Formats

5.5.1.1 GTFS (General Transit Feed Specification):

Standard, developed by Google

- GTFS Static - static data (timetables, routes, stops);
- GTFS Realtime - dynamic data (positions, delays, alerts/notifications)

GTFS (General Transit Feed Specification):

GTFS, or Common Transit Flow Data Specification, is a public standard data format developed by Google that enables public transport agencies to share their schedules, geographic route data, and information about stops with app and information service developers. This format has become the *de facto* global standard worldwide for publishing public transport data.

GTFS is primarily divided into two components:

- **GTFS Static (static data):**
 - This dataset contains information that typically does not change frequently, such as fixed schedules, route definitions, and information about stops locations. The data is provided as a collection of text files in CSV (Comma-Separated Values) format, compressed into a ZIP archive.
 - **Key data components include:**
 - **Trips & Stop Times:** Vehicles scheduled arrival and departure times at each stop.
 - **Routes:** Description of the road, the vehicle is travelling on.
 - **Stops:** The geographical coordinates and names of boarding/disembarking points.
 - **Service:** Specification of the days of the week or specific dates on which a trip is valid.
- **GTFS Realtime (real-time data):**



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- This component extends the static data by providing real-time information that changes rapidly and therefore becomes essential for passengers to be informed during their trip.
- The data is usually typically transmitted in the Protocol Buffers format, which is efficient and fast to process.
- **The key types of real-time data are:**
 - **Vehicle Positions:** The current location of buses, trams, trains, and other vehicles, including their direction and their status (in motion or stopped);
 - **Trip Updates:** Information on schedule/timetable changes, such as delays, earlier arrivals, or canceled trips.
 - **Service Alerts:** Any information on unexpected changes in the service provision such as route diversions due to roadworks, incidents, poor weather conditions, or other unforeseen circumstances.

Importance and Application:

GTFS underpins many widely used journey planning applications, such as Google Maps as well as various local and national multimodal travel information systems. It enables developers to create innovative trip planning tools, provide real-time information, and integrate public transport data with other mobility services.

5.5.1.2 NeTEx (Network Timetable Exchange):

NeTEx is a European standard (CEN – European Committee for Standardization) developed specifically for the exchange of public transport-related data. It is part of the broader Transmodel framework (Reference Data Model for Public Transport), which serves as the foundation for data modeling in the public transport sector across Europe.

Key features:

- **XML-based format:** NeTEx uses Extensible Markup Language (XML) for data structuring. This provides for high compatibility, ease of processing, and data validation via XML schemas (XSD), which ensures



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integrity and reliability of information when exchanged between different systems and organizations.

- **Supports information on extended accessibility:** One of NeTEx major advantages is its capability of encoding detailed information related to transportation services and infrastructure accessibility. This includes data on:
 - Vehicles accessibility (ex., availability of ramps, wheelchair designated places);
 - Stops and stations accessibility (ex., availability of elevators, tactile pavement, visual and sound/audio announcements);
 - Special services for passengers with reduced mobility;
 - Specific travel requirements.
- **Covers a wide range of public transport data:** The NeTEx format is not limited only to timetables. It is designed to exchange comprehensive information, including:
 - Geographical data (stops/stopping points, routes, zones).
 - Network data (lines, routes, connections).
 - Information about schedules and fares (price zones, tickets, subscriptions).
 - Data for operators and vehicles.

Importance and application:

NeTEx is the primary format recommended for exchange of static and quasi-static data on public transport within the European Union. It is a key element in initiatives such as the National Access Point for Information Services for Multimodal Travel, as it provides for standardised and easy-to-aggregate data exchange between national and European systems, fostering the development of multimodal passenger information services.

5.5.1.3 SIRI (Service Interface for Real-time Information)

SIRI is a European Standard (CEN) developed for real time public transport information exchange. Like NeTEx, it is built on the Transmodel concept model, but focuses on the dynamic aspects of transport services.



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Key Features:

- **XML-based format:** The standard uses an XML structure for data exchange, allowing for flexibility and precision. Data is typically transmitted via request/response mechanisms or through subscription models (Publish/Subscribe).
- **Message types and services:** SIRI is modular and supports various functional interfaces, the most important of which include:
 - **Estimated Timetable (ET):** A predicted timetable reflecting delays, cancellations, or route changes in real time;
 - **Vehicle Monitoring (VM):** Information on the current location and status of vehicles;
 - **Stop Monitoring (SM):** Data on arriving and departing vehicles at a specific stop (e.g. electronic passenger information displays).
 - **General Message (GM):** Information messages to passengers about disruptions or special events.

Importance and Application:

SIRI is essential for the proper functioning of modern journey planning applications and Intelligent Transport Systems (ITS). It enables passengers to receive up-to-date information on transport movements, reducing uncertainty related to transfers and delays.

5.5.1.4 DATEX II (Data Exchange Specifications for Traffic Management)

DATEX II is the European standard for data exchange in the field of road traffic and Intelligent Transport Systems (ITS). It is designed to facilitate interoperability between traffic management centers, road operators, and information service providers.

Key features:



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- **European standard for road data:** Initially developed for the trans-European road network, DATEX II is now widely applied in urban environments for traffic and parking management.
- **Traffic and road event information:** The format provides for detailed description of:
 - **Road events:** Accidents, roadworks, road closures, and weather conditions;
 - **Traffic measurements:** Traffic flow intensity, vehicle speed, and lane occupancy;
 - **Parking management:** Availability of vacancies in parking lots and in short stay parking zones;
 - **Variable Message Signs (VMS):** Content displayed on electronic roadside information boards.

Importance and Application:

DATEX II is the backbone of road infrastructure digitalisation in Europe. It is mandatory for EU Member States for exchanging data through National Access Points and provides the basis for provision of services like dynamic navigation and in-vehicle safety systems (eCall, etc.).

5.5.1.5 REST API Interface

NAP provides a RESTful API for programmatic access (API-based) data access.

Key features:

- HTTP based interface;
- JSON response format;
- Does not require authentication for public data;

Main endpoints:

List of datasets:



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- Method: GET - Path: /api/catalog/datasets - Parameters: locale (en or en) -
Return: array of datasets

Dataset Details:

Method: GET - Path: /api/catalog/datasets/{id} - Parameters: locale - Return:
detailed information about the dataset

Data Flows (subsets):

- Method: GET - Path: /api/catalog/datasets/{id}/subsets - Parameters: locale -
Returns: list of data flows for the specific set

Data Flow Files:

- Method: GET - Path: /api/catalog/subsets/{id}/files - Parameters: format -
Return: list of available files

Download File:

- Method: GET - Path: /api/catalog/files/{id}/download - Returns: the download
file

Real-time data download:

- Method: GET - Path: /api/catalog/subsets/{id}/realtime-download - Returns:
real-time snapshot of the data

5.5.2 Reference to API documentation

The full API documentation is available through:

1. “API” catalog button;
2. Swagger interface with interactive documentation.



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3. Direct browser-based query testing

Swagger documentation contains:

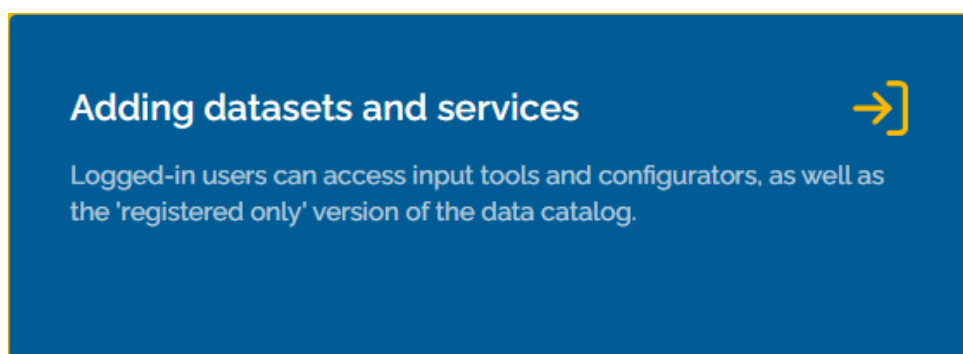
- List of all endpoints
- Parameters description
- Sample requests and answers
- Data schemas

6 Submitting a User Registration Request

To use the features related to adding and editing existing datasets, the user must be logged into the system with a user profile.

The system provides the functionality for registered users to log in, as well as to submit a user registration request to an organization that is already registered on the NAP platform.

The process is initiated from the portal's home page, where the user can add datasets and services via the button:

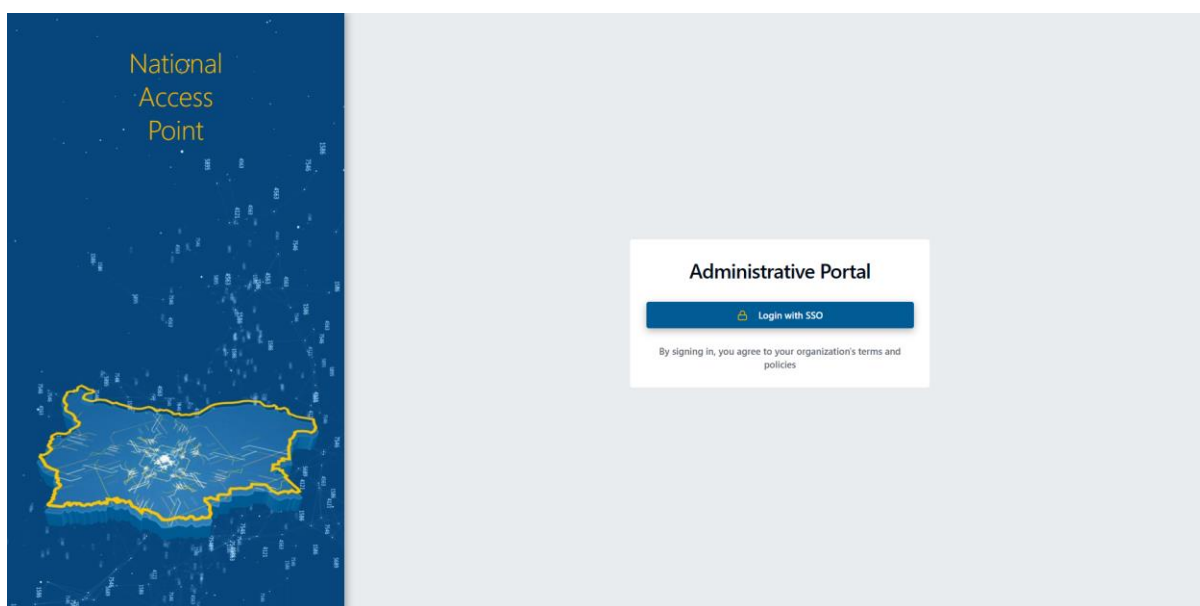




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Clicking the button opens a new page with the NAP administrative portal.



The button  loads an authentication page in the system, from which the user can:

- Log in to their user profile by entering a username and password;
- Log in to their user profile via e-Authentication;
- Submit a registration request with a username and password;
- Submit a registration request using a QES;



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Login

Username

Password

☐ Remember me

LOG IN

LOG IN WITH E-AUTHENTICATION

[Forgot password](#)

[Don't have an account?](#)

[Registration request with Qualified Electronic Signature](#)

[Registration request with username](#)

6.1 Submitting a registration request with a username and password

Clicking the “Registration Request with Username” button opens the user registration form for a username and password.

When registering with a username and password, the system guides the user through four steps for entering and confirming the required data, as follows:



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- Platform to which the user wishes to register - in this step, the user chooses to register with SIP or NAP, or with both platforms simultaneously.

If the user is already registered with SIP, in this step they can use their SIP registration data and supplement it with the necessary information to register with NAP, thereby expanding their access.

The screenshot shows a web interface for registration. At the top, the title 'Registration' is displayed. Below it is a progress bar with four steps: 'Registration selection' (active, with a person icon), 'Applicant and contact details' (with a person icon), 'Organization' (with a building icon), and 'User profile' (with a person icon). The main content area is titled 'Registration selection' and contains the instruction 'Select the platform(s) you wish to register for:'. Below this are two radio buttons: 'SIP' (unchecked) and 'NAP' (checked). A box below the radio buttons contains the text 'Already have an account in SIP?' with a blue icon of a person and a key. Below this box is the text 'If you already have a registration in SIP, you can log in here and expand your access.' and a blue 'Login' button with a right-pointing arrow. At the bottom of the form are two buttons: a grey 'BACK' button with a left-pointing arrow and a blue 'NEXT' button with a right-pointing arrow.

Fig. Registration form with username and password - “Select registration platform” step



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- Applicant and contact details - in this step, the user enters the following information: first name, last name, position, phone number, and contact email;

The screenshot shows a registration form titled "Registration". At the top, there is a progress bar with four steps: "Registration selection" (marked with a green checkmark), "Applicant and contact details" (the current step, marked with a blue person icon), "Organization" (marked with a grey building icon), and "User profile" (marked with a grey person icon). Below the progress bar, the section is titled "Applicant and contact details" with the instruction "Fill in your personal details." The form contains five input fields: "First name" and "Last name" (top row), "Position" (middle row), and "Phone" and "Email" (bottom row). Each field has a red asterisk indicating it is required. At the bottom left is a grey button labeled "< BACK" and at the bottom right is a blue button labeled "NEXT >".

Fig. Registration form with username and password - “Applicant and contact details” step

- Organization details - in this step, the user enters details about the organization they are registering with or indicates that they are a representative of another organization;



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Registration

✓
Registration
selection

✓
Applicant and
contact
details

Organization

User profile

Organization

Fill in your organization details. If you are a representative of another organization, you must provide details for both the main and the authorized organization.

Organization type:

☒ Organization in Bulgaria ☐ Foreign organization

Organization UIC *

CHECK

☐ The applicant is a representative of another organization

< BACK

NEXT >

Fig. Registration form with username and password - “Organization” step

- User profile - in this step, the user enters a username (the username may be identical to the first part of the email address) and a password. The username must be between 2 and 50 characters long. Only Latin letters, numbers, and the symbols “_”, “-”, and “@” are allowed.



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Registration

✓
Registration
selection

✓
Applicant and
contact
details

✓
Organization

User profile

User profile

Enter a username and check if it is available. The username must be between 2 and 50 characters long. Only Latin letters, digits, and symbols _ - @ are allowed.

Username *

CHECK

Enter a password that meets the following criteria:

- At least 6 characters;
- Contains lowercase and uppercase letters;
- Contains at least one digit;
- Contains at least one special character (<,>,#,&,\$,...)

Password *

Repeat password *

☐ I want to be registered as an administrator

< BACK

SUBMIT

Fig. Registration form with username and password – “User Profile” step

The registration request is sent to the system administrator by clicking the “Submit” button. The user’s profile becomes active after the request is approved by the system administrator.



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6.2 Submitting a registration request with a QES

Clicking the “Registration Request with QES” button opens the user registration form for QES.

When registering with a QES, the user goes through three steps in which they enter:

- The platform they wish to register with - in this step, the user chooses to register with SIP or NAP, or with both platforms simultaneously.

The screenshot shows a web form titled "Registration". Below the title, a paragraph states: "After submitting and approving a registration request using a qualified electronic signature (QES), access to the system will be granted solely and exclusively through the specified qualified electronic signature provided in the application." Below this text is a progress bar with three steps: "Registration selection" (active, with a blue circle icon), "Applicant and contact details" (with a grey person icon), and "Organization" (with a grey building icon). Below the progress bar, the section "Registration selection" is displayed, followed by the instruction "Select the platform(s) you wish to register for:". There are two radio button options: "SIP" (unselected) and "NAP" (selected, indicated by a blue checkmark in the box). At the bottom of the form, there are two buttons: "< BACK" on the left and "NEXT >" on the right.

Fig. Registration form with a QES - “Select registration platform” step



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- Applicant and contact details - in this step, the user's details (first name, last name) are filled in automatically after passing through the electronic identification system. The remaining details are entered manually.

Registration


Registration
selection


Applicant and
contact details


Organization

Applicant and contact details

Please fill in your personal details.

LOG IN WITH E-AUTHENTICATION

Name *

Position *

Phone *

Email address *

< BACK

NEXT >

Fig. Registration form with QES - “Applicant and contact details” step



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Electronic authentication system

State eGovernment Agency

Select eld provider

Select

QES on Smart card/USB stick

Login with QES

Fig. Electronic identification system



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Registration

✓
Registration
selection

Applicant and
contact details

Organization

Applicant and contact details

Please fill in your personal details.

LOG IN WITH E-AUTHENTICATION

You have successfully authenticated via e-Authentication!

Name *
Krasimira Koleva

Position *

Phone *

Email address *
@gmail.com

< BACK

NEXT >

Fig. Registration form with QES - “Applicant and contact details” step - successful authentication

- Organization details - in this step, the user enters details about the organization they are registering with or indicates that they are a representative of another organization;



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Registration

Registration selection

Applicant and contact details

Organization

Organization

Enter details about your organization. If you are a representative of another organization, you must provide details for both the primary and the authorized organization.

Organization type:

☒ Organization in Bulgaria ☐ Foreign organization

Organization identification number (UIC) *

☐ The applicant is a representative of another organization

Fig. QES Registration Form - “Organization” Step

The registration request is sent to the system administrator by clicking the “Submit” button. The user’s profile becomes active after the request is approved by the system administrator.

7 Reporting Incidents on the Transportation Network

The system provides a publicly accessible web form that allows anonymous users to report incidents or problems on the transportation network.

Reports regarding the transport network are submitted by clicking the “Submit a Feedback” button located on the home page of the National Access Point.

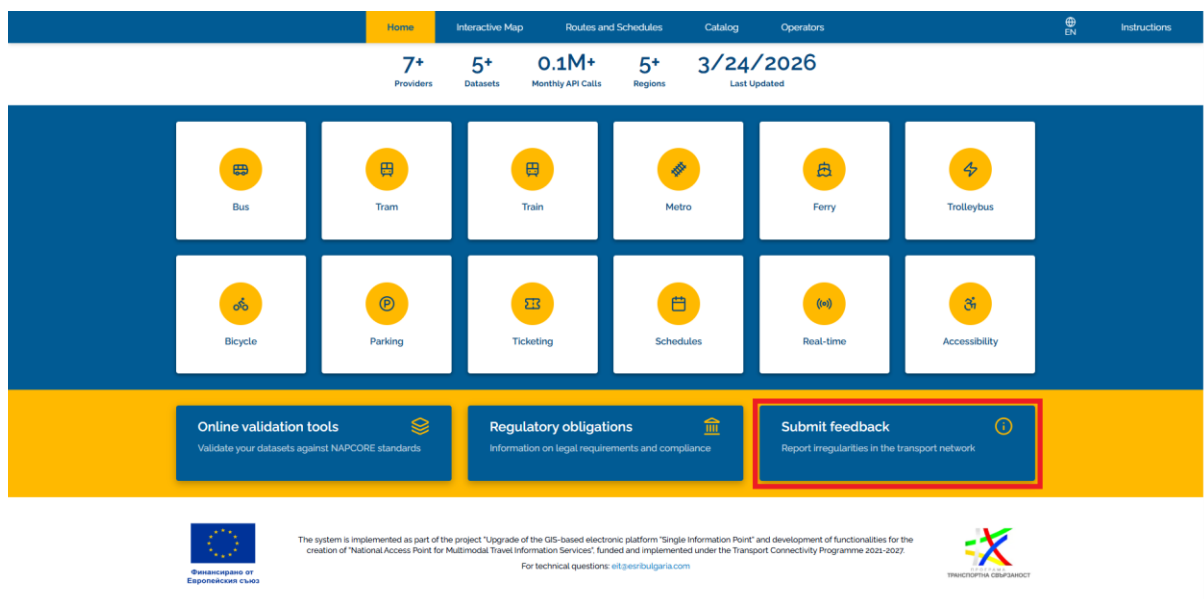


Fig. Interface of the home page of the National Access Point system, showing the location of the button for submitting a report regarding the transport network

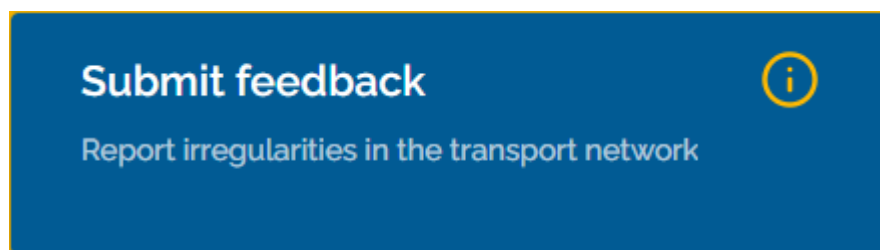


Fig. Button for submitting a report regarding the transportation network



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After clicking the button, the form for submitting a report regarding the transportation network loads; the electronic form is organized into several sections:

- Location section;
- Reporter section;
- Category section;
- Additional information section;
- Photo section;
- Submission section.

Location section. In this section, the submitter specifies the location of the report.



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ПРОГРАМА
ТРАНСПОРТНА СВЪРЗАНОСТ

English

Transport network event alerts



РЕПУБЛИКА БЪЛГАРИЯ
Министерство на транспорта
и съобщенията

Национална
точка за достъп

Reporting is carried out in strict compliance with the provisions of the Law on the Protection of Persons
Filing Reports or Publicly Disclosing Information about Violations.

Location*

Place a marker on the map

Find address or place

Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri ... Powered by Esri

Lat: 42.664900 Lon: 23.317600

Fig. Transport network report form interface - location step



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It is mandatory for the user to specify a location—otherwise, they will not be able to submit a report regarding issues on the transportation network. The user enters the location of the report by placing a marker on the map or by entering coordinates.

If the submitter specifies the location on the map, the coordinate fields are automatically filled in based on the specified location.

Based on the location data in the form, information about the district and municipality within which the report falls is automatically displayed.

Region

София-град

Municipality

Столична

Fig. Interface of the form for submitting a report on the transport network - with displayed information about the region and municipality

Reporter section. Information about the reporter is entered in this section.



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Sender

e-mail

Fig. Interface of the form for submitting a report on the transport network - “Reporter and Email” step

Filling in the reporter’s name and email is not mandatory; that is, the reporter may submit the report anonymously.

Category section. In this section, the submitter selects the categories to which their report belongs.

Filling out the next step, “Category,” is mandatory, as the user selects from several categories shown in the image below - 1) Road surface issues; 2) Problems with signs and traffic signals; 3) Problems with road infrastructure; 4) Traffic and movement problems; 5) Hazards caused by natural conditions; 6) Road obstacles; 7) Problems with the quality of transport services; 8) Other.



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Category*

☐ Road surface problems
☐ Problems with traffic signs and signals
☐ Road infrastructure problems
☐ Traffic problems
☐ Hazards caused by natural conditions
☐ Roadblocks
☐ Problems with the quality of transport service
☐ Other problems

Fig. Interface of the form for submitting a report on the transport network - “Category” step

Selecting a category opens the subcategories for that category. If the user wishes to submit a report in more than one category, they must submit separate reports, the number of which corresponds to the categories.

For “Road Surface Problems,” the subcategories are: 1) Potholes on the road; 2) Bumps on the road; 3) Poor quality repairs.



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Road surface problems

☐ Potholes on the road
☐ Bumps on the road
☐ Poor quality repair

Fig. Subcategory interface for the “Road Surface Problems” category

For “Problems with Traffic Signs and Signals,” the subcategories are: 1) Missing markings; 2) Incorrectly placed road sign; 3) Missing or damaged road sign; 4) Reduced visibility of signs (hidden by vegetation, fading).

Problems with traffic signs and signals

☐ Missing markings
☐ Incorrectly placed road sign
☐ Missing or damaged road sign
☐ Reduced visibility of signs (hidden by vegetation, fading)

Fig. Interface of the subcategories to the "Problems with Traffic Signs and Signals" category

For " Road Infrastructure Problems" the subcategories are: 1) Landslides/collapses affecting the roadway; 2) Damaged bridges, tunnels, viaducts; 3) Missing lighting; 4) Damaged guardrails; 5) Uncleaned ditches.



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Road infrastructure problems

☐ Landslides/collapses affecting the roadway

☐ Damaged bridges, tunnels, viaducts

☐ Missing lighting

☐ Damaged guardrails

☐ Uncleaned ditches

Subcategory interface for the “Road Infrastructure Problems” category

For “Traffic Problems,” the subcategories are: 1) Major traffic jams/difficulties; 2) Road closure; 3) Road traffic accident; 4) Dangerous goods incidents; 5) Lack of traffic regulation (traffic lights); 6) Improperly parked cars; 7) Frequent violations by drivers in a given area.



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Traffic problems

- ☐ Major traffic jams/difficulties
- ☐ Road closure
- ☐ Road traffic accident
- ☐ Dangerous goods incidents
- ☐ Lack of traffic regulation (traffic lights)
- ☐ Improperly parked cars
- ☐ Frequent violations by drivers in a given area

Fig. Interface of the subcategories to the “Traffic Problems” category

For “Hazards caused by natural conditions,” the subcategories are: 1) Fog and poor visibility; 2) Uncleaned pavement – snowdrifts and icy areas; 3) Fire on/ near vehicles or road infrastructure; 4) Flooded area.



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Hazards caused by natural conditions

☐ Fog and poor visibility
☐ Uncleaned pavement - snowdrifts and icy areas
☐ Fire on/near vehicles or road infrastructure
☐ Flooded area

Fig. Subcategory interface for the “Hazards caused by natural conditions” category

For “Roadblocks,” the subcategories are: 1) Animals on the road; 2) Fallen objects on the road (e.g., cargo, trees, rocks); 3) Open or missing manhole covers.

Roadblocks

☐ Animals on the road
☐ Fallen objects on the road (e.g. cargo, trees, rocks)
☐ Open or missing manhole covers

Fig. Interface of the subcategories to the “Road Obstacles” category

The form allows users to enter information about “Problems with the quality of the transport service” as free text.



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Problems with the quality of transport service

Write in free text

Fig. Interface to the “Problems with the quality of the transport service” category - the user enters free text

The form allows for the entry of “Other problems” as free text.

Other problems

Write in free text

Fig. Interface for the "Other" category - the user enters free text

Additional information section. In this section, the user enters a note or description of the location.



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Note

4096

Location description

Fig. Transport network incident reporting form interface - “Note and Location Description” step

In this section, the user indicates whether the incident being reported affects safety and whether the report is active at the time of submission.

Does it affect safety?*

☐ No

☐ Yes

☐ I'm not sure

Transport network report submission form interface - Report status



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The alert is active at the time of submission.

☐ No

☐ Yes

☐ I'm not sure

Photo section. In this section, the user can upload a photo or take one directly with the device's camera.

Attach a photo

Drop image here or select image

Transport Network Report Form Interface - Uploading a Photo

Submission section. Before submitting the report, the user enters a CAPTCHA security code and then submits the report by clicking the “Submit” button.

Security check!

Type the characters you see in the image.

BHOe



Transport network report submission form interface - submission section

8 Trip planning

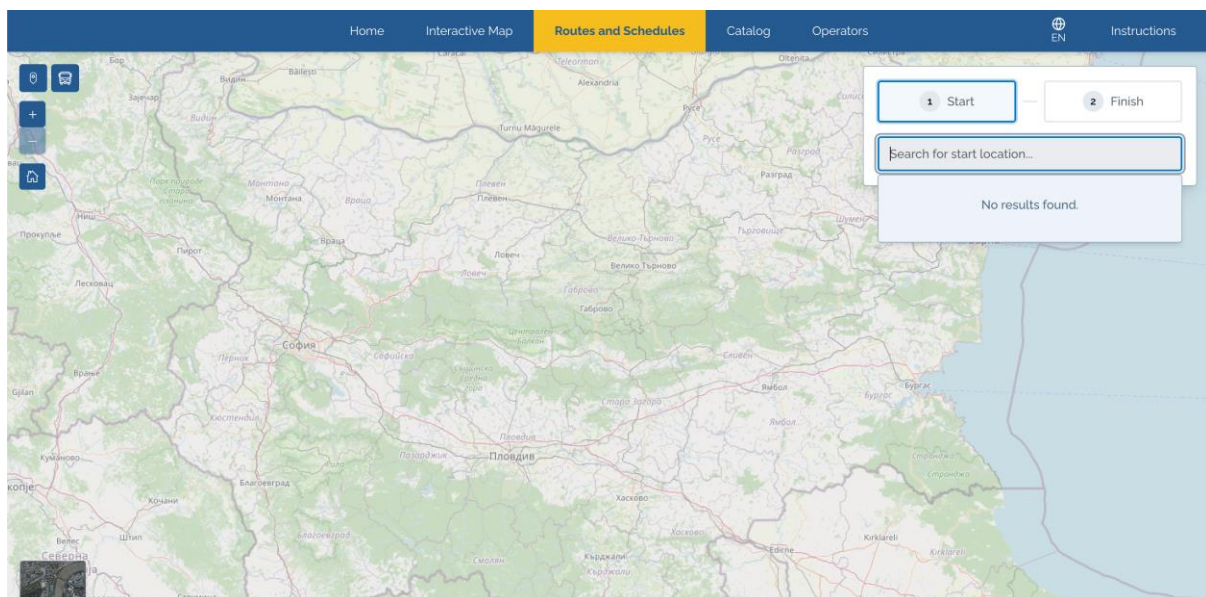


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8.1 Setting a route

1. Select “*Routes and timetables*” from the main menu.

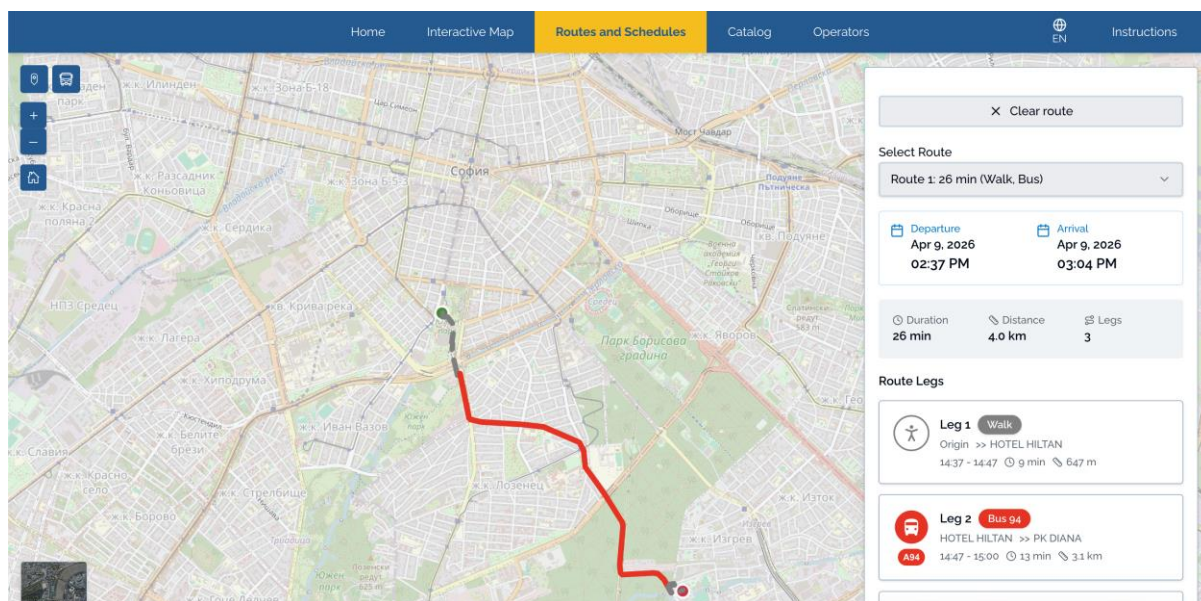


2. On “*Calculate route*” right pane, find the “*Start point*” field.
3. Set a starting point by clicking on the map to indicate a location.

Select the desired endpoint by clicking on the map and it’ll appear in the “*End point*” field.



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4. In „*Departure*“ section, select the route planning/sheduling method:

- **Leave now** – – the route is calculated set against the current moment;
- **Depart at** – the route is calculated for a specific date and time of departure;
- **Arrive by** – the route is calculated so that you arrive by the selected date and time.

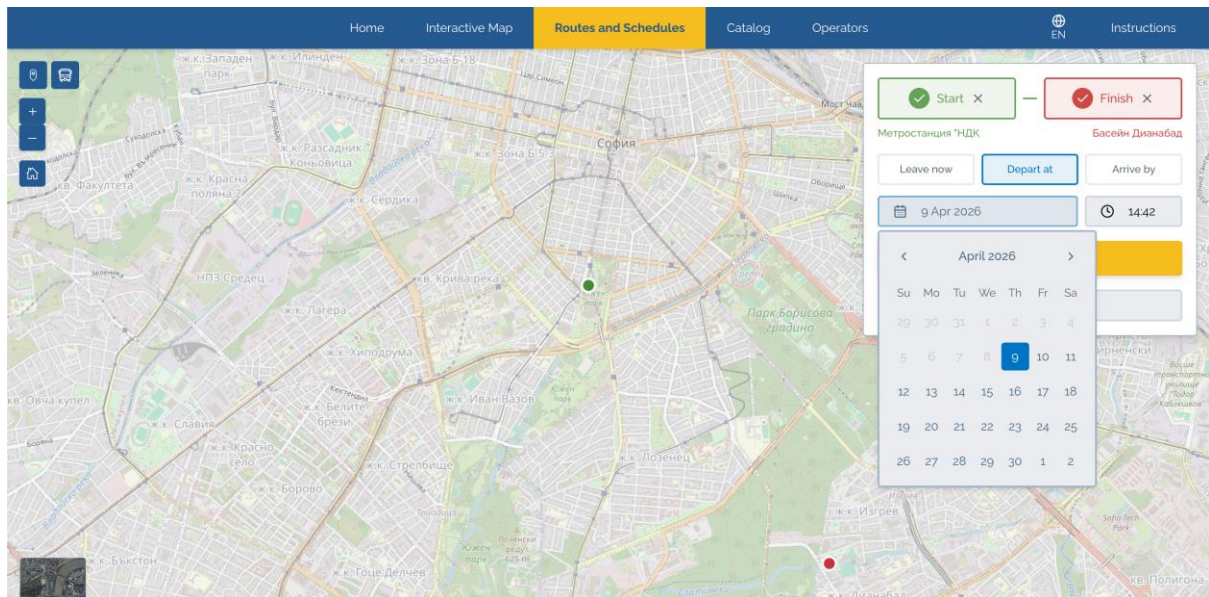
When either „*Depart at*“ or „*Arrive by*“ ***options are selected:***

- Select a date from the calendar;
- Select a time from the "*Select a time*" field;
- Confirm the selection via the "*Calculate route*" button.

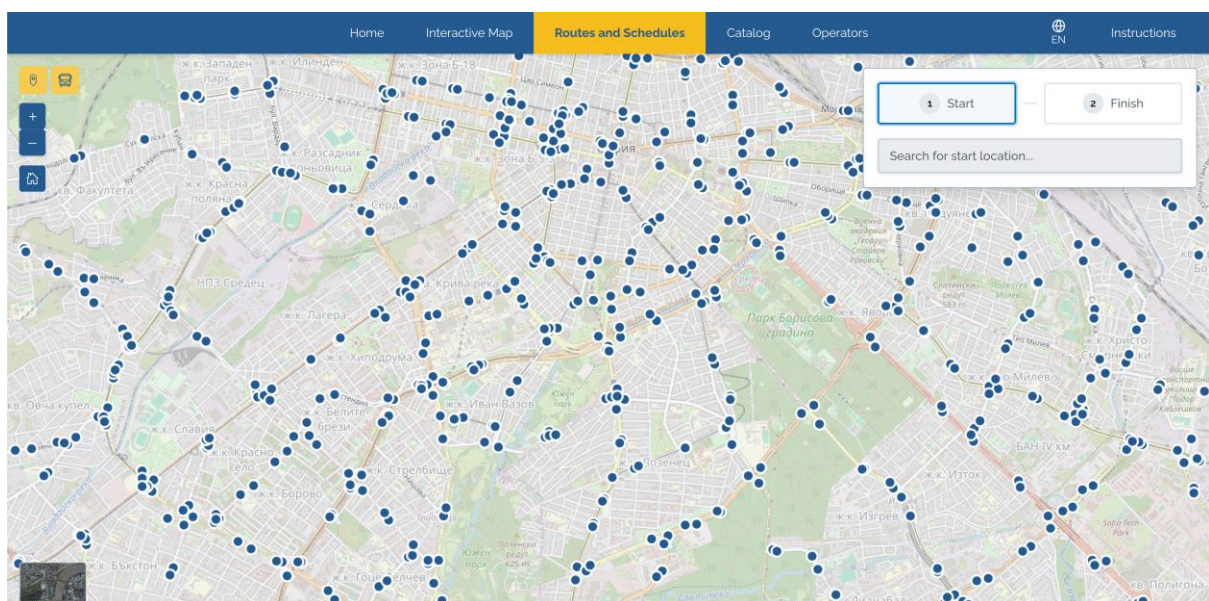
Once confirmed, the selected departure/arrival mode is displayed on the panel and is used in for the route calculation.



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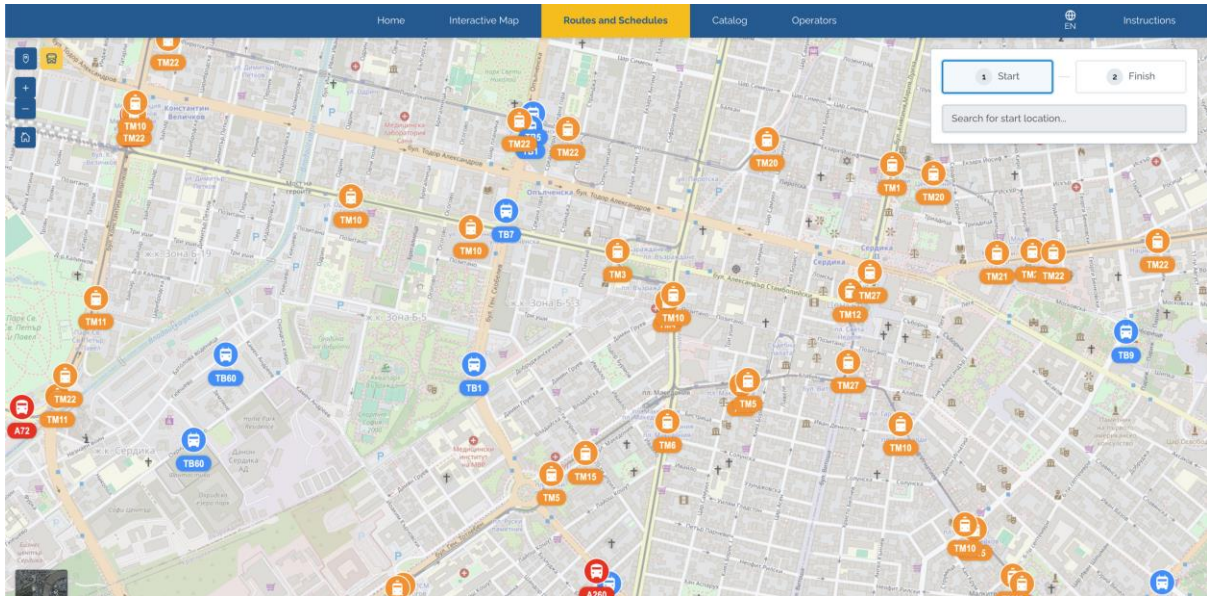


5. Optional: use „Stops“ and „Vehicle“ buttons, to display/hide stops and vehicles on the map in case you need further orientation.





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8.2 Route Calculation

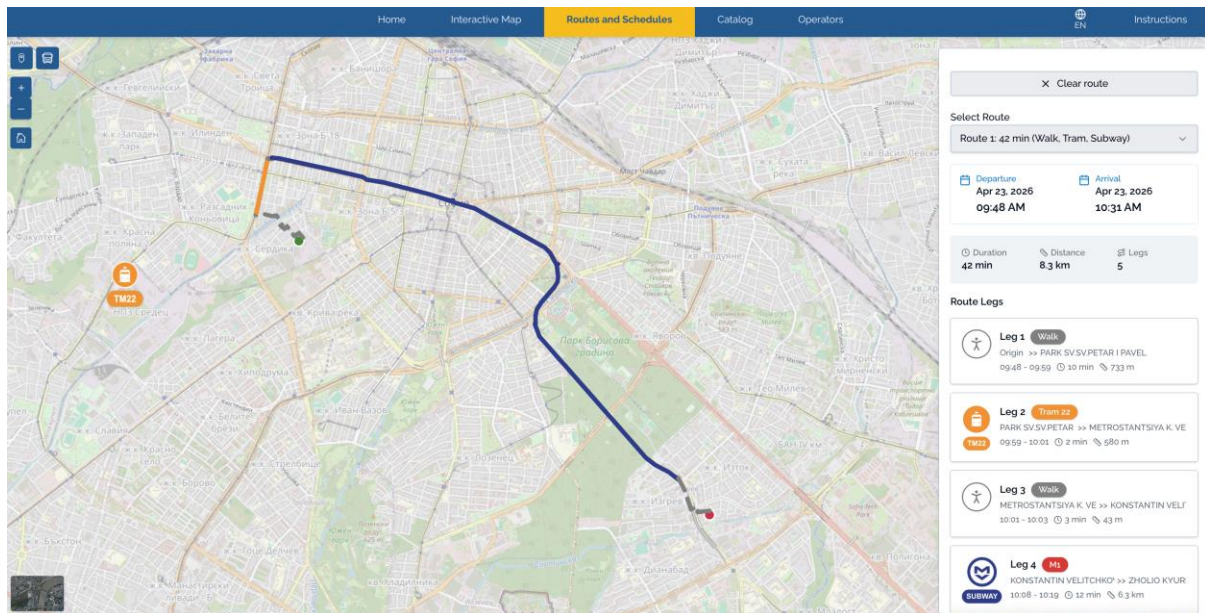
1. Make sure that these are set:
 - Starting point;
 - Endpoint;
 - Departure mode (optional).

Click „*Calculate route*“ button.

2. The system displays:
 - The route(s) on the map (each section of the route is indicated with a line);
 - The results in the right pane (total time, distance, number of route sections).
 - In case multiple routes, use „*Select route*“ drop-down menu to compare options.



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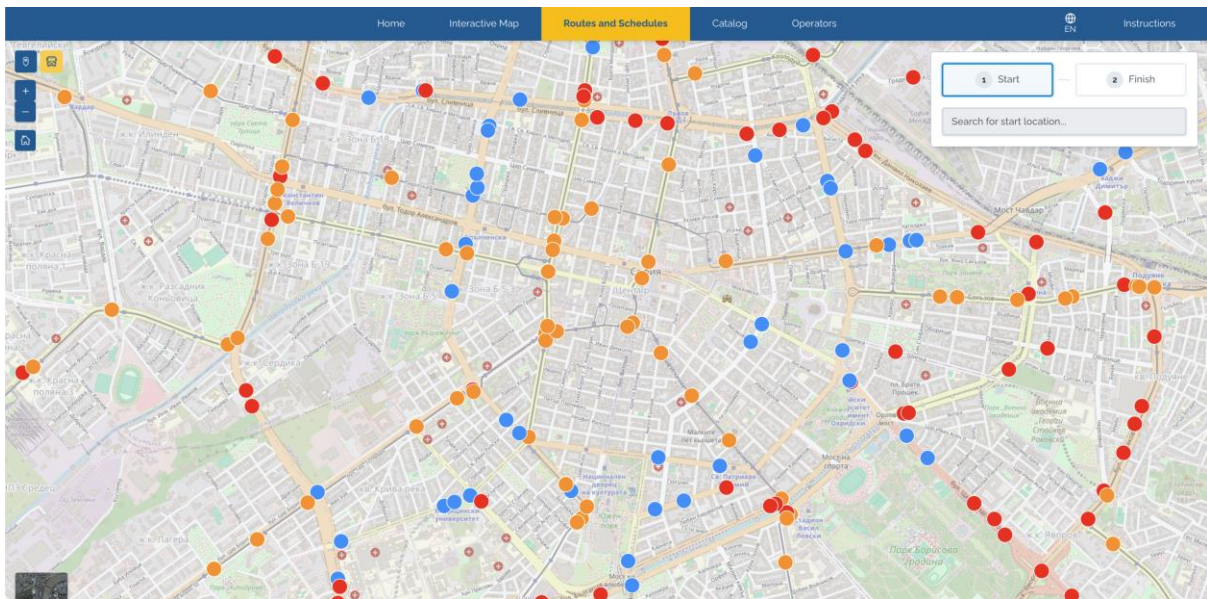


8.3 View Timetables

1. Activate “**Vehicles**” layer located in the upper side of the right pane.



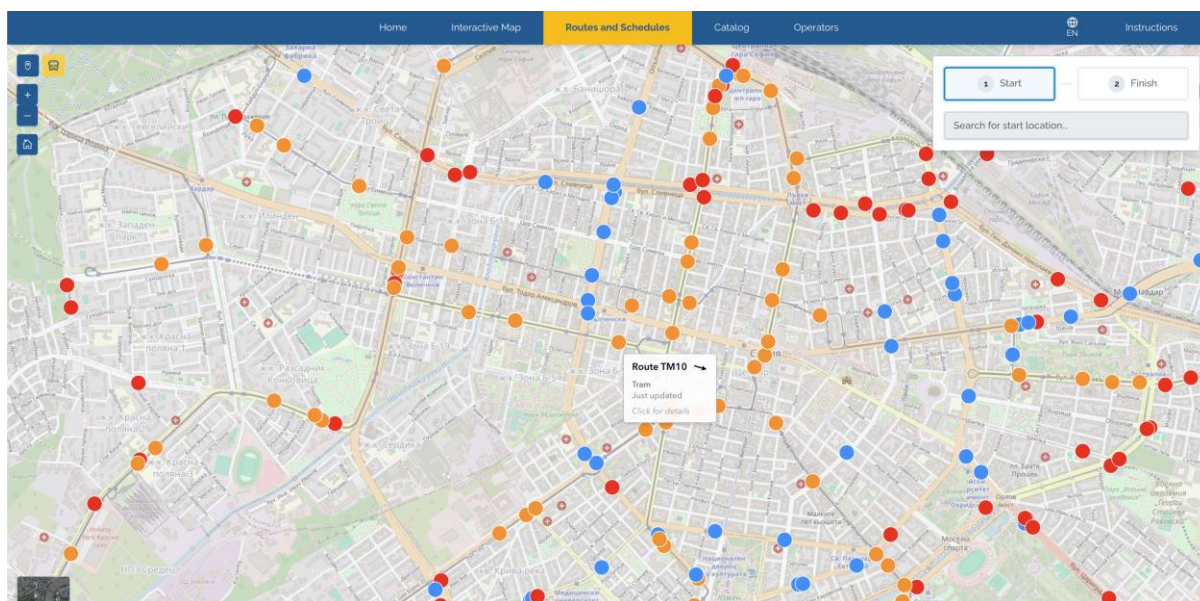
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Европейския съюз



2. Once the layer is activated, and in case data sender has ensured the necessary data, the real-time motion of vehicles of all modes is displayed on the map. The necessary data to be ensured by data sender is related to:
 - buses;
 - trams;
 - trolleybuses;
 - other modes of transport, if available.
3. Real-time data is visualized **only for data senders who share location and motion information.**
4. Each vehicle is indicated with a dot/icon which:
 - Shows vehicle's **direction of movement**;
 - Contains tag with line number and direction (when data is available).



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5. Click on a dot (a vehicle) with line number and direction tag.

Detailed information about the selected line is displayed on the screen, including:

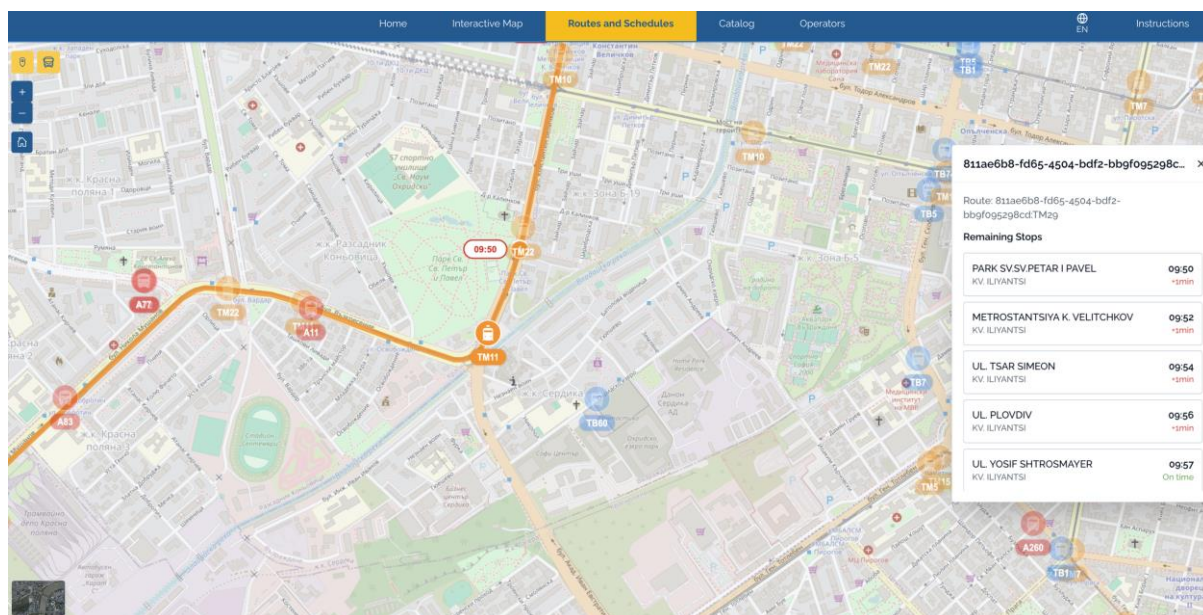
- Route identifier;
- Line number and direction;
- List of **upcoming stops** along the route

The following information is displayed for each stop:

- Stop name;
- Scheduled arrival time;
- deviation from the schedule (delay/earlier arrival), in case the data sender has provided such data.



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Arrival times are dynamically calculated and reflect the current (real-time) motion of the vehicle.

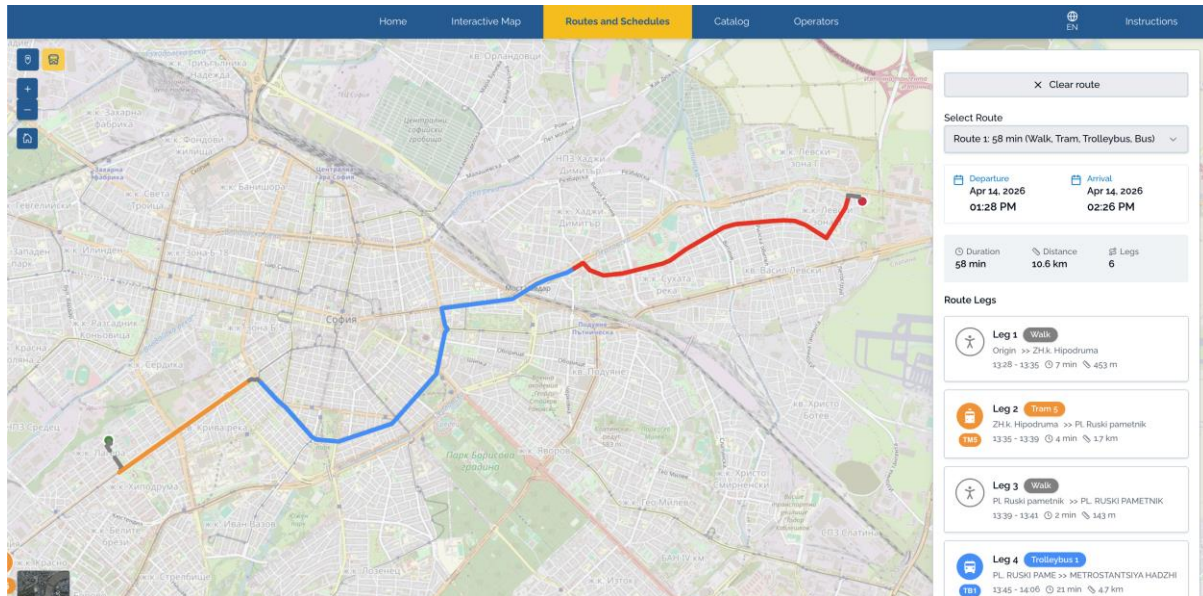
8.4 Information on connections between transport modes

Track the sequence of the transport modes in “Route Sections”. Changing a transport mode is a connection (transfer), and for each the following is indicated:

- the final stop of the previous route section
- the starting stop of the next route section
- pedestrian walking (if any) is also clearly indicated.



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Connections are displayed either with a different colour of the line and/or the line discontinues and a dotted line is visualized.

9 Using the GIS Portal (Map Section)

The "Map" section is an interactive module that displays geographic features and locations available in the system. It allows users to easily locate and view features situated in various geographic areas.

9.1 Map Interface

The map interface is intuitive and easy to use, providing quick access to key features.



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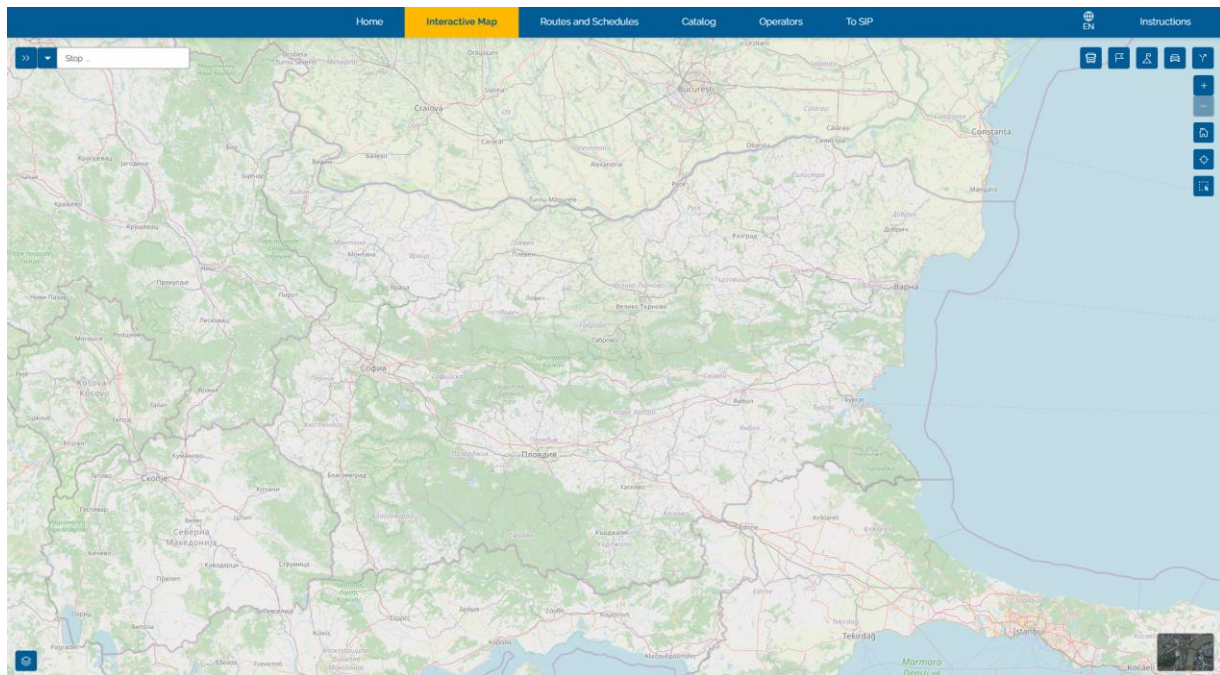


Fig. Interactive Map Interface

The interactive map interface features a set of buttons that facilitate navigation, searching, and viewing of objects:

- Search button:



- Search - located in the upper-left corner of the interface;

- Layer control button;



- Layers - located in the lower left part of the interface;

- Quick buttons, including data groups located in the upper right part of the interface, including:



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- Public transportation;



- Roadside facilities;



- Events;



- RIA;



- NRIC;

- Navigation buttons located in the upper right part of the interface (vertically), including:



- Zoom in;



- Zoom out;



- Initial view;

- Location button, located on the right side of the interface;



- My location;

- Button for selecting and choosing objects, located on the right side of the interface



- Select from map.

- Button for changing the base map, located in the lower right corner of the interface



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9.2 Map Navigation

The map allows interactive navigation and orientation through core functions for managing the view:

Zoom In and Zoom Out

The user can change the map's scale using the zoom in and zoom out buttons.



- Zooms in on the map, showing more details.



- Zooms out on the map, allowing a view of a larger geographic area.

Panning the Map

Panning allows you to view different areas of the map without changing the zoom level.

The map is panned by dragging the mouse: the user clicks the left mouse button on a selected area and, without releasing it, drags the mouse in the desired direction.

Initial map view

The user can return to the initial map view at any time by clicking the

“Initial View”

button



Zooming in on “My Location”

The user can click the "My Location" button



for quick orientation without manually moving or searching.



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The map zooms in on the user's current location.

9.3 Changing the Base Map

The app offers two base maps:

- OpenStreetMap



Fig. View of the interactive map with the OpenStreetMap base map

- Imagery



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Fig. View of the interactive map with the base map - Imagery

You can switch the base map using the toggle button located in the lower-right corner of the app.

When you press the button, the currently displayed base map is automatically replaced with the other one.

9.4 Controlling Data Visualization on the Interactive Map

A button for managing layers is located in the lower-left corner of the application .

Clicking the button opens a menu that allows you to control the information displayed on the map.

The layers menu is organized into groups that combine data of similar types.



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> Transport data	
> Events	
> Roadside facilities	
> Data from RIA	
> Data from NRIC	

Fig. Interface for managing data groups (layers)

Each group has a button for expanding and collapsing.

- > - button to expand a group of layers;
- ✓ - button to collapse a group of layers.

When expanded, all available layers in the group are displayed; when collapsed, only the group name is shown.



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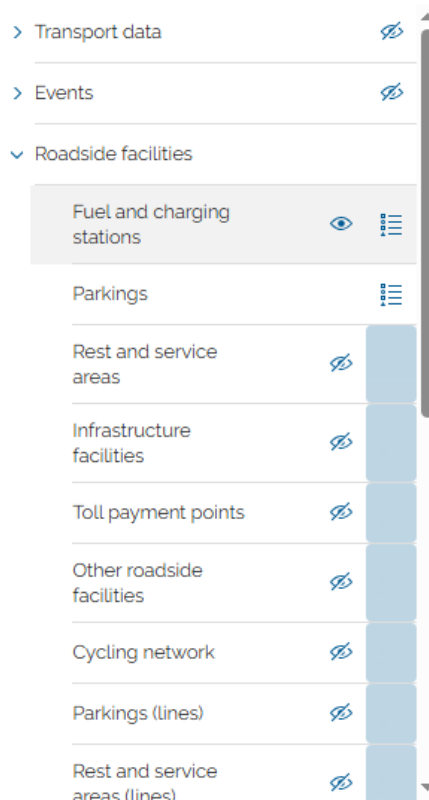


Fig. Interface with the expanded “Roadside facilities” data group

Turning Layers On/Off

Layers can be turned on and off in two ways:

- using the “Show”  button in the layers menu.

A “Show” button is located next to each layer group. When the button is clicked, all layers in the respective group are turned on and displayed on the map.

To turn off a layer, click the “Hide”  button.



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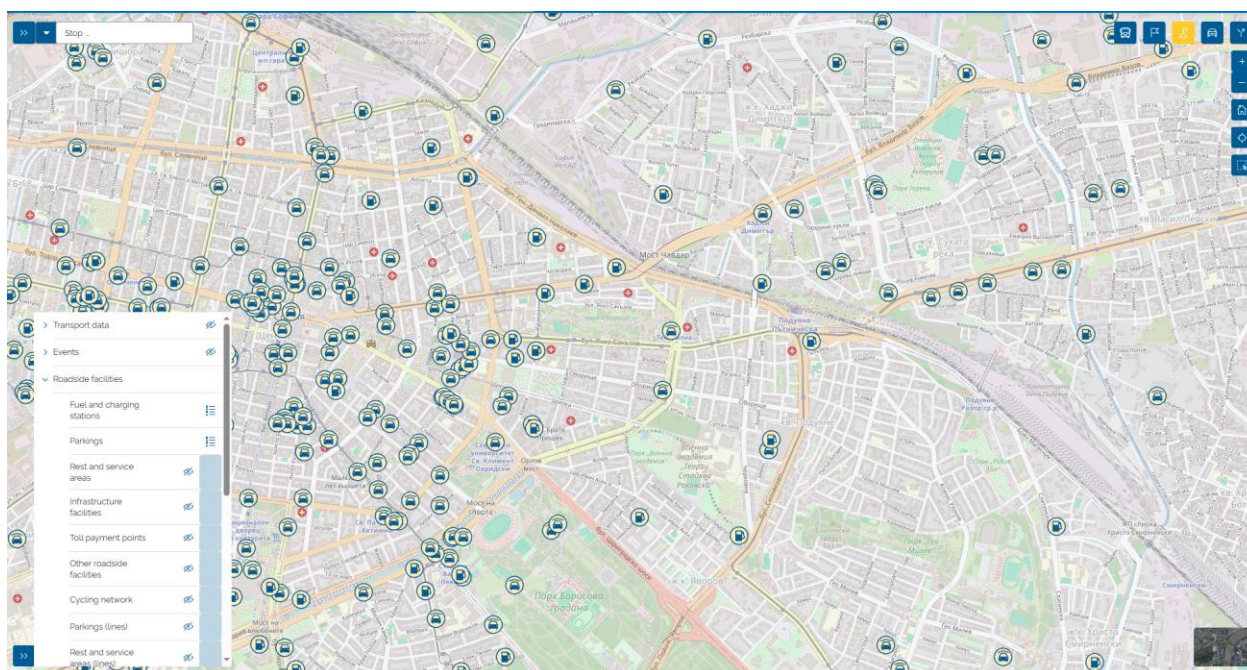


Fig. Display of the “Roadside facilities” group on the map

- via direct control from the map

Layers are grouped into separate categories that can be turned on and off directly from the map by clicking the corresponding button.



Fig. Buttons for turning layers on/off

The color of the buttons indicates whether a layer group is turned on or off. When the button is blue, the layer group is turned off; when it is yellow, the layer group is turned on.



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The system allows all or selected layers to be activated simultaneously.

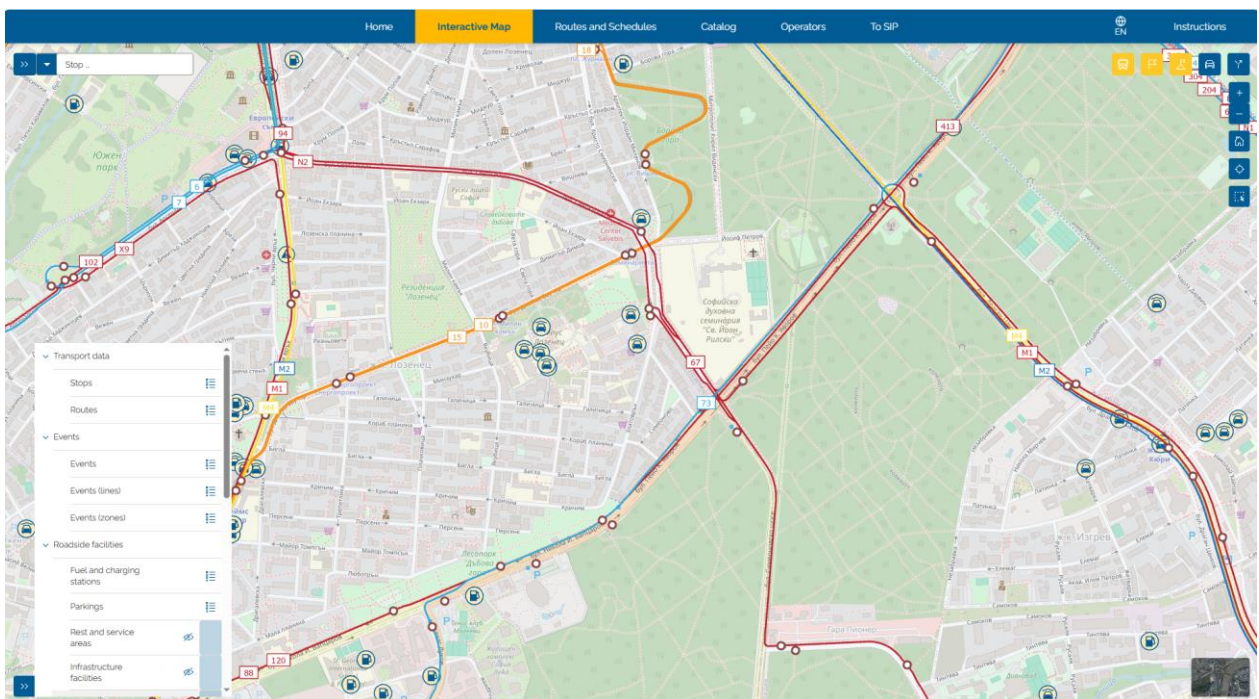


Fig. Visualization of a data group (Transport Data, Events, Roadside facilities) on a map

Legend

The system provides the functionality to view a legend that shows the symbols used on the map and their meanings.

To display a legend for a specific layer, the user clicks the "Layers" button and enables the visibility of the selected layer. Once enabled, the "Legend" button becomes visible.





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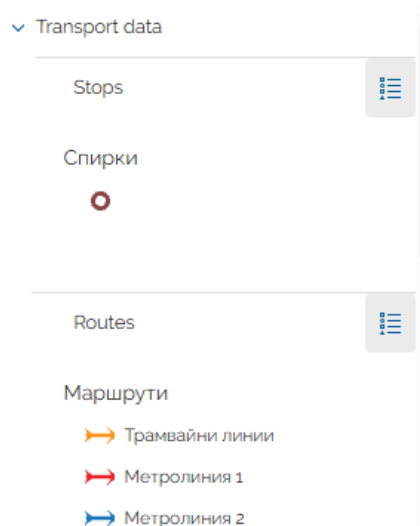


Fig. Legend Interface

9.5 Search

The system offers two types of search—attribute and spatial—which facilitate the discovery of objects.

The system allows users to search within different data groups.



Fig. Object Search Interface

To select a data group in which to perform the search, the user clicks the button , which opens a drop-down list of various search groups.



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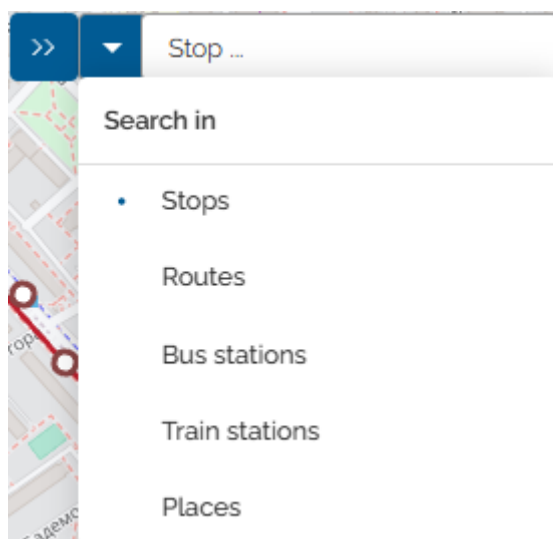


Fig. Data Group Search Interface

Search criteria are entered into the search field, and the system displays suggestions to facilitate selection.

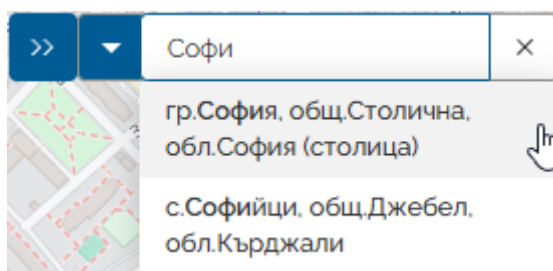


Fig. List of suggestions for searching by places

After selecting from the list of suggestions, the map zooms in on the selected object and displays a pop-up with detailed information.



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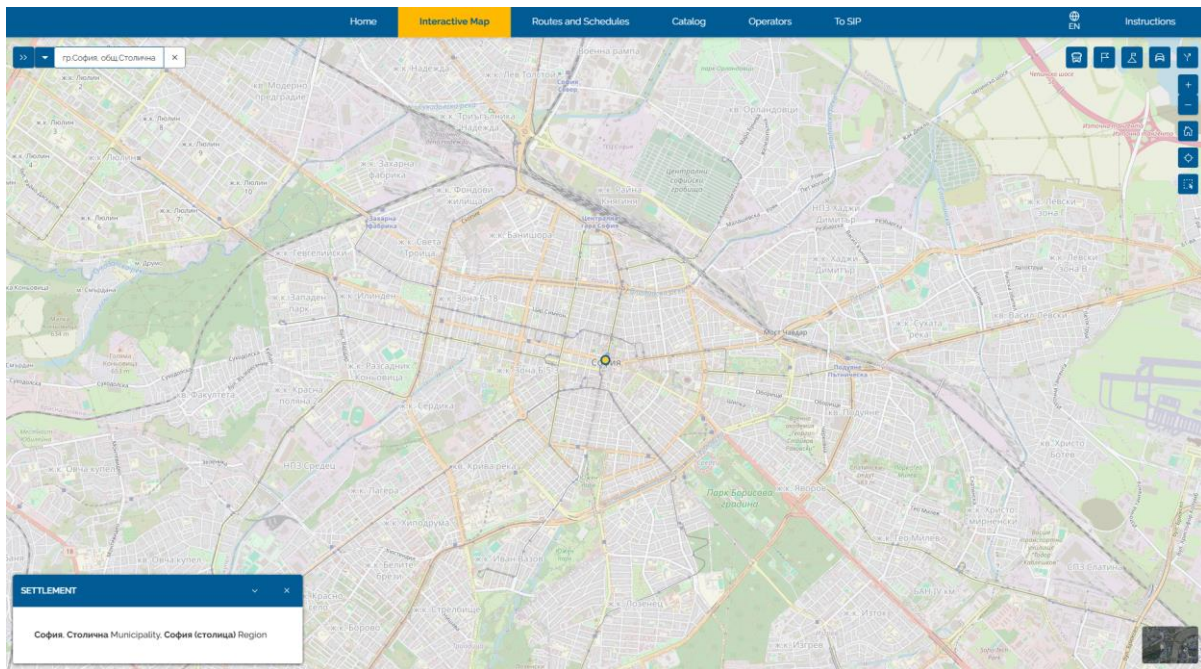


Fig. Search result interface for a settlement

Spatial

To perform a spatial search, the data layer must be visible on the map. For a spatial search (identification), the user should click the “Select from Map”



button, then draw a shape on the interactive map. Objects within the selected area are displayed in a pop-up window with information.



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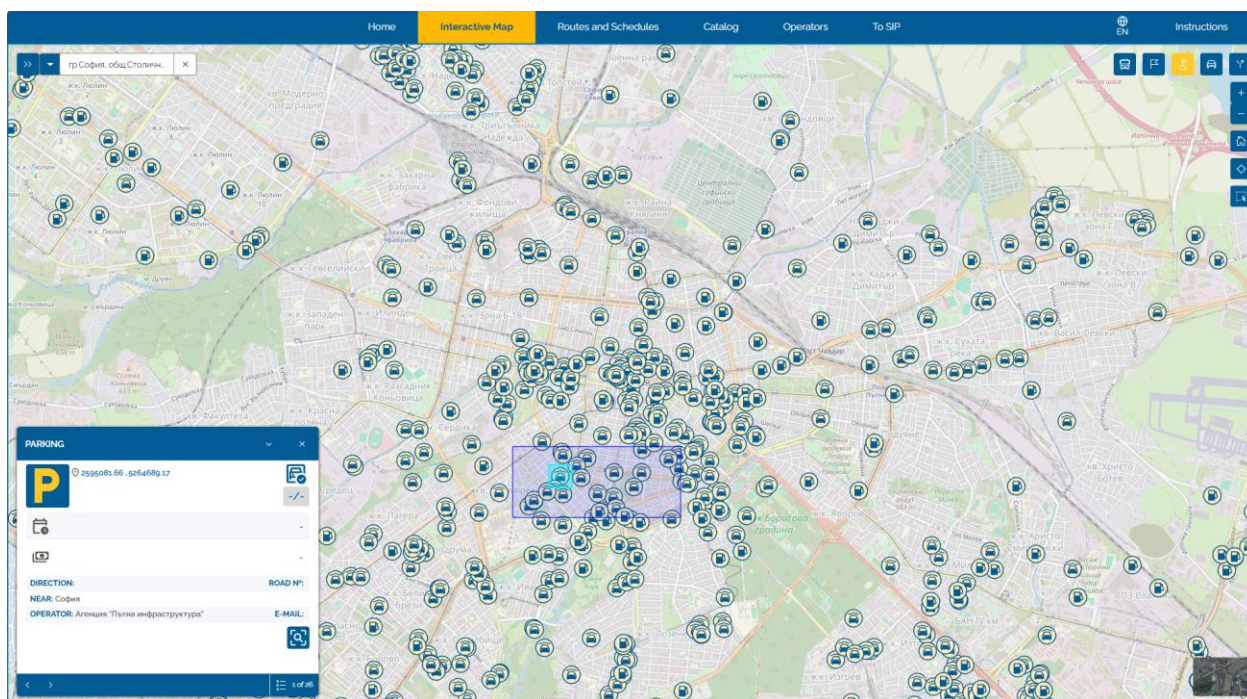


Fig. Search results via selection from the map

By pointing on the map (identification)

The system allows access to detailed information about a selected object on the map. The detailed information is displayed in a pop-up window.

9.6 Detailed Object Information

Pop-up windows provide quick and convenient access to information about objects displayed on the map. The pop-up window opens directly from the map after activating the selected layer and selecting a specific object.

Transportation Data

To view detailed data for objects in the group, they must be visible on the map. Visibility is controlled by:



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- clicking the “Layers”  button in the application interface and clicking the button to enable the layer’s visibility;
- clicking the button ;
- zooming in to a larger scale on the map, at which point the legend button is active and the objects are visible on the map.

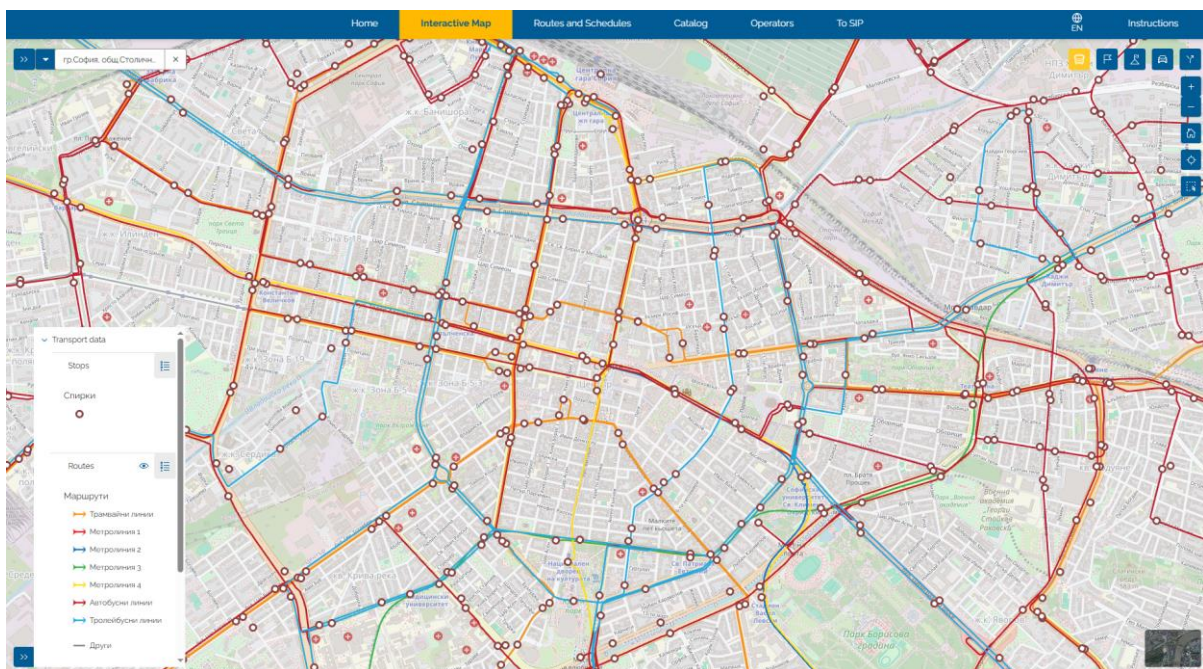


Fig. Visualization of the “Transport Data” data group

Once the layer is visible, the user selects an object (e.g., a stop) by clicking directly on the object on the map with the left mouse button. After selection, a pop-up window for the selected object opens automatically. The object is visually highlighted on the map to make it clearly distinguishable.



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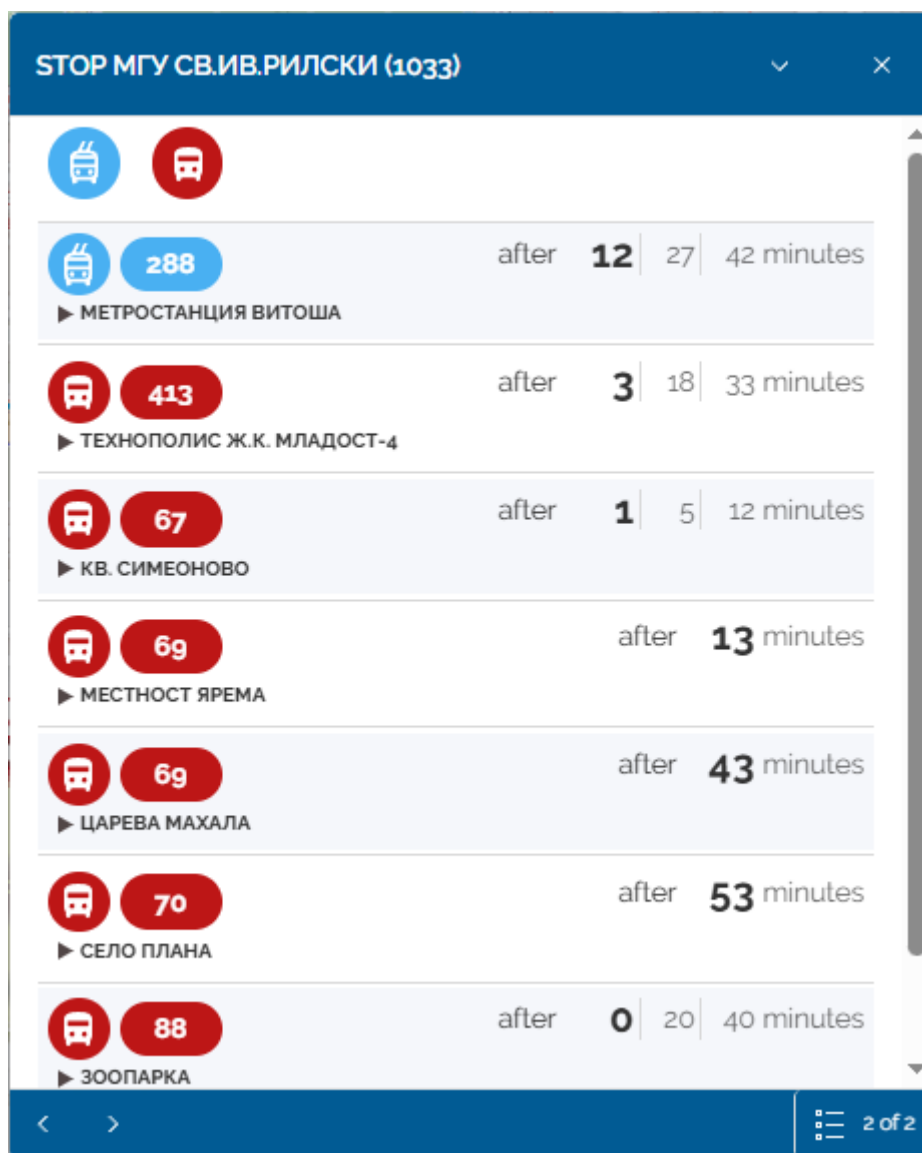


Fig. Pop-up interface for a stop

The pop-up window for transport data contains:

- Information about the selected object (e.g., type, modes of transport for the selected stop, time of next arrival of the transport vehicle(s));



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- Navigation buttons (scrolling) -  ;
- Button to mark on the map - ;
- List of objects  - opens a list of objects.

ROUTE 1

 1

Ж.К. ЛЕВСКИ Г - Ж.К. БОРОВО - Ж.К. ЛЕВСКИ Г

 STARTING STOP: СТАДИОН Г. АСПАРУХОВ

WEEKDAYS

HOLIDAYS

4

4:50

5

5:07

5:24

5:41

5:51

5:56

6

6:01

6:11

6:14

6:21

6:32

6:40

6:49

6:58

6:59

7

7:09

7:15

7:19

7:29

7:39

7:49

7:59

8

8:09

8:19

8:29

8:39

8:49

8:59

9

9:09

9:24

9:34

9:44

9:54

10

10:04

10:14

10:24

10:34

10:44

10:54

11

11:04

11:14

11:24

11:34

11:44

11:54

<

>

 3 of 9

Fig. Route Line Pop-up Interface



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Roadside facilities

To view detailed data for objects in the group, they must be visible on the map. Visibility is managed by:

- clicking the “Layers”  button in the application interface and clicking the button to enable the layer’s visibility;
- clicking the button ;
- zooming in to a larger map scale, at which point the legend button is active and the objects are visible on the map.

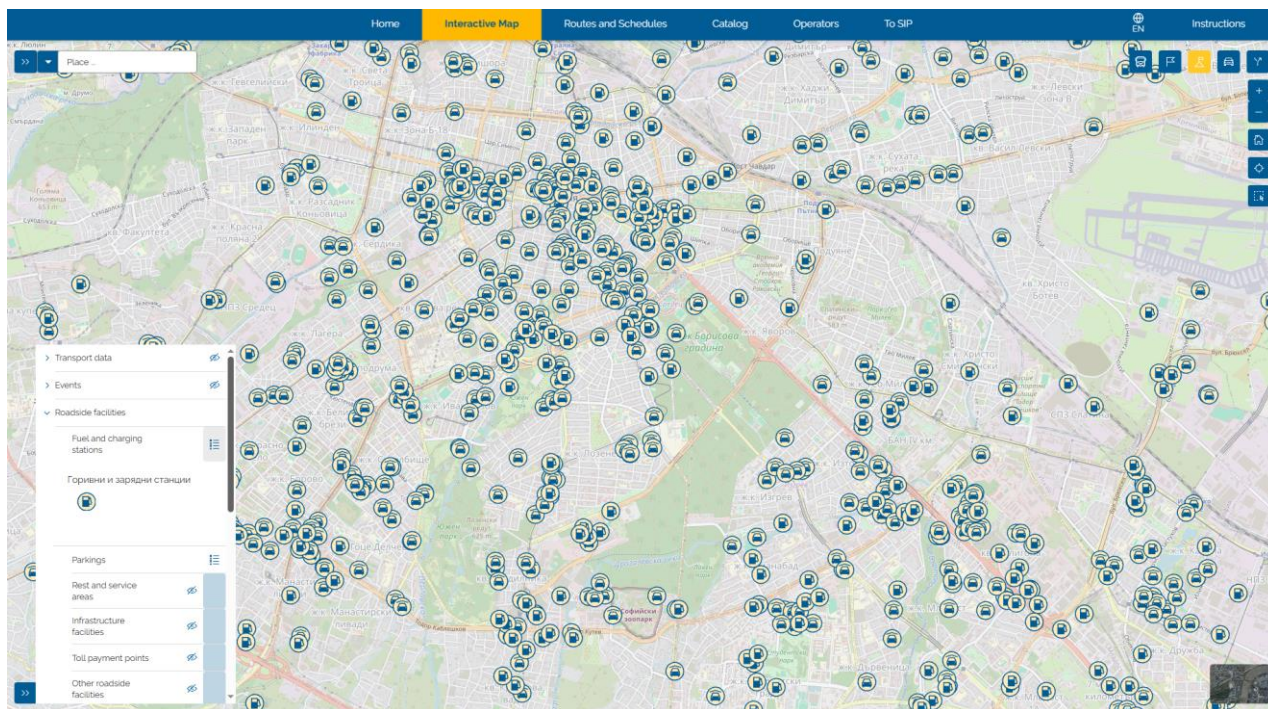


Fig. Visualization of data from the “Roadside facilities” group



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Once the layer is visible, the user selects a specific object (e.g., a parking lot) by clicking directly on the object on the map with the left mouse button. After selection, a pop-up window for the selected object opens automatically. The object is visually highlighted on the map to make it clearly distinguishable.

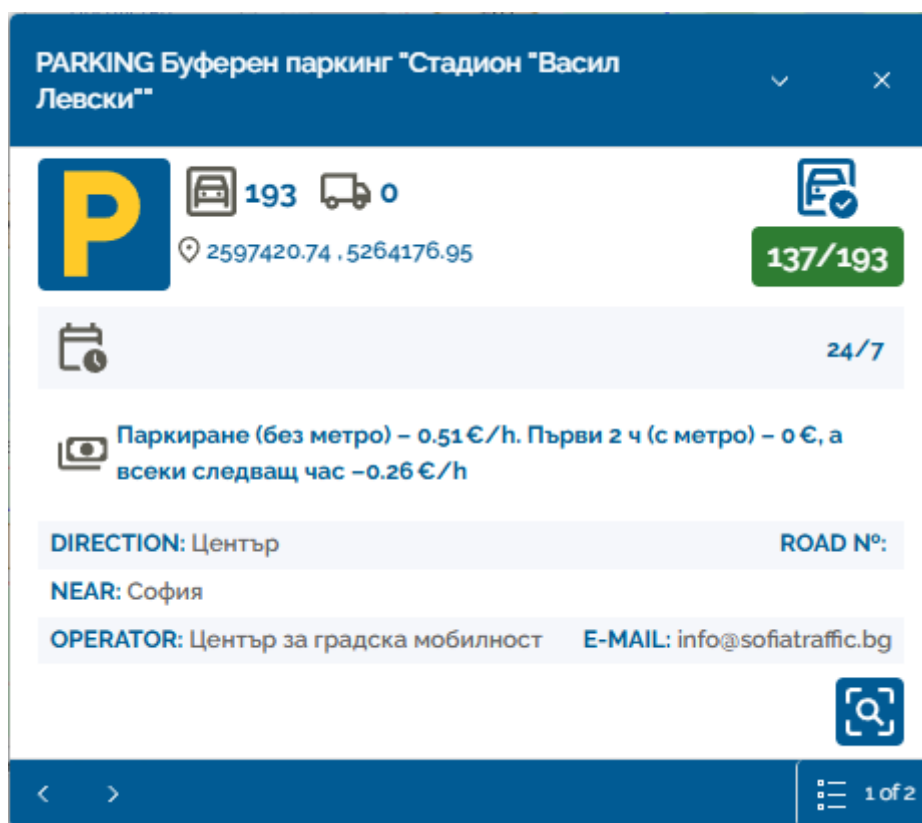


Fig. Parking Pop-up Interface

The pop-up window for a roadside object contains:

- Information about the selected object (e.g., location, operating hours, fee, operator, parking attendant);
- Navigation buttons (scrolling) -  ;



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- Button to mark on the map -  ;
- List of facilities  - opens a list of facilities.

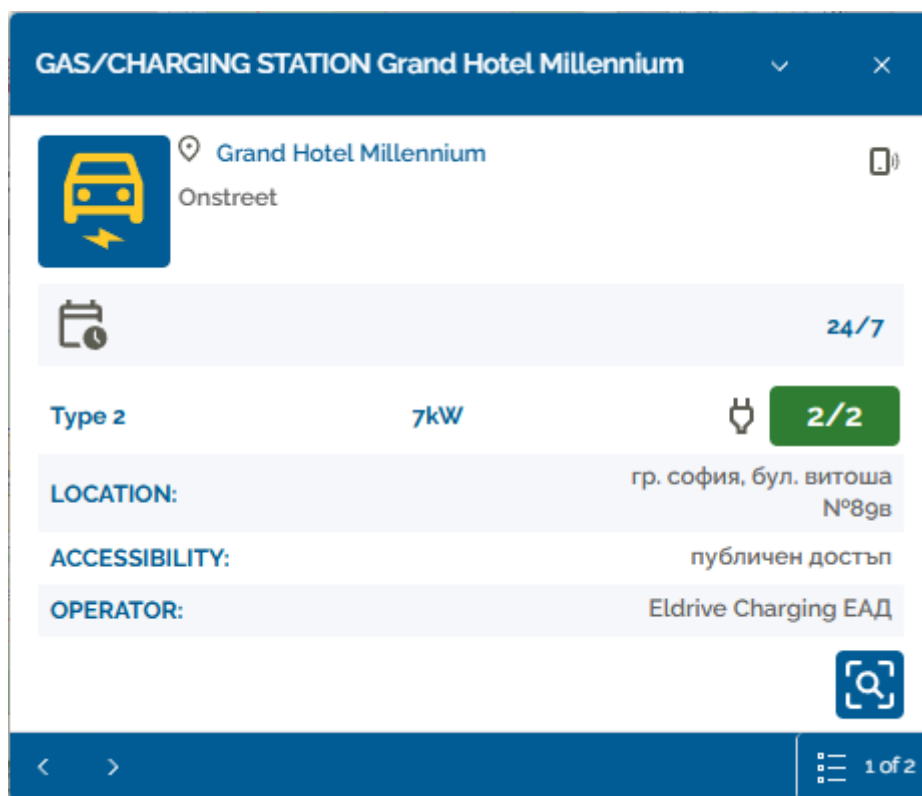


Fig. Gas/Charging Station Pop-up Interface

Events

To view detailed data for facilities in the group, they must be visible on the map. Visibility is managed by:

- clicking the “Layers”  button in the application interface and clicking the button to enable the layer’s visibility;



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- clicking the button ;
- zooming in to a larger map scale, at which point the legend button is active and the objects are visible on the map.

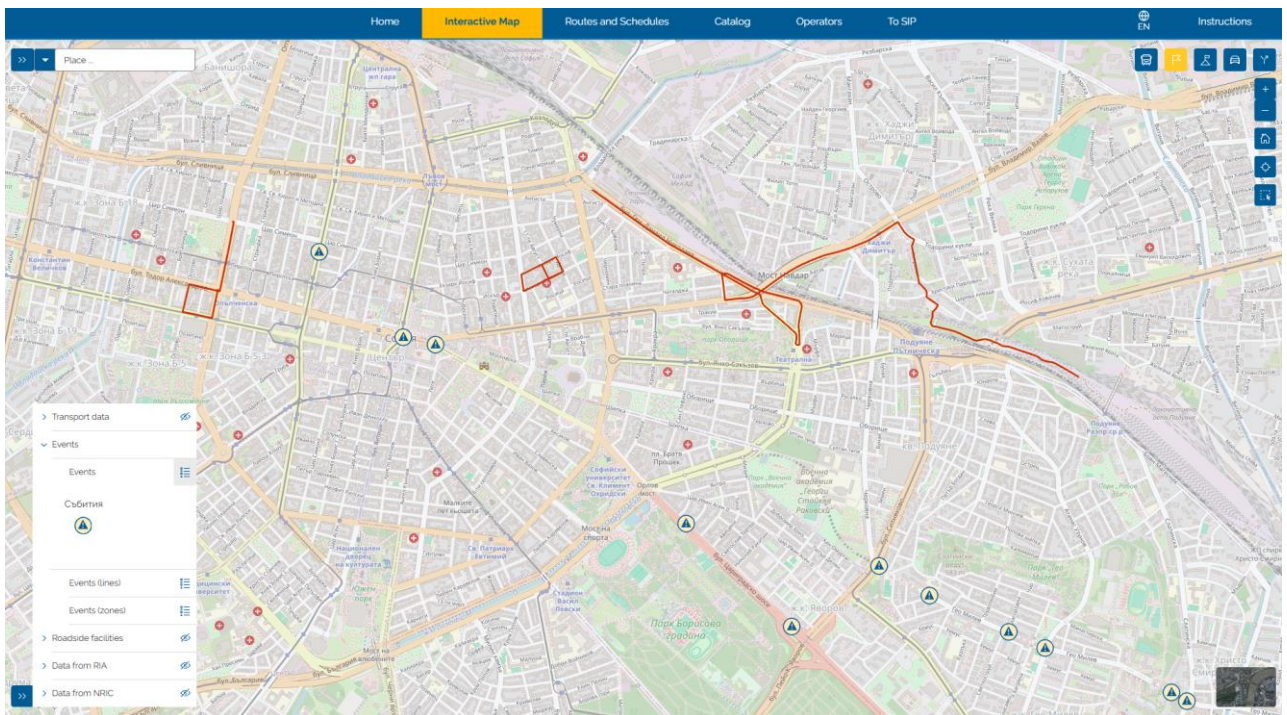


Fig. Visualization of the "Events" Data Group

Once the layer is visible, the user selects a specific event by clicking directly with the left mouse button on an object on the map. After selection, a pop-up window for the selected event opens automatically. The object is visually highlighted on the map to make it clearly distinguishable.



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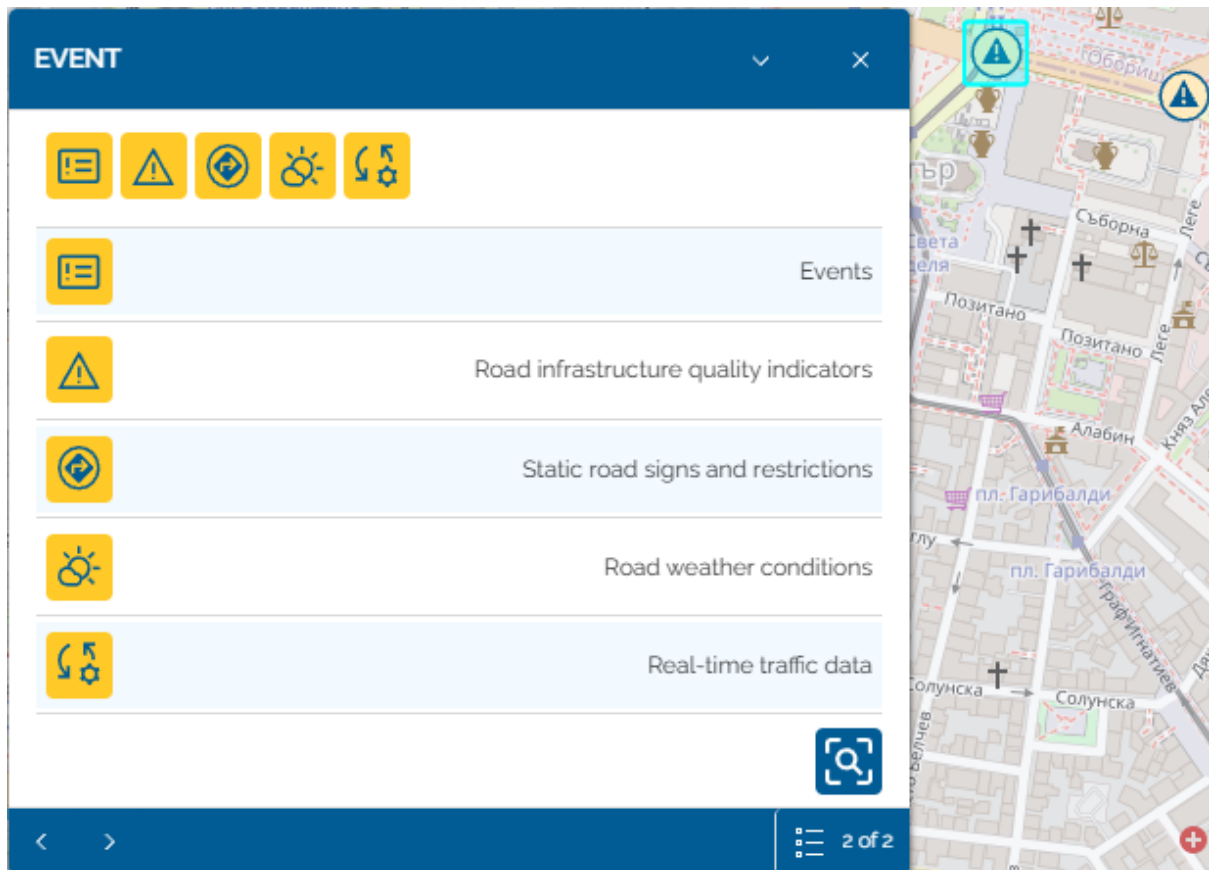


Fig.Event Pop-up Interface

The event pop-up window contains:

- Information about the selected object (e.g., name, date, and time of the event);
- Navigation buttons (scrolling) -  ;
- Button for marking on the map -  ;
- Event details -  - opens a panel with detailed information;
- List of objects  - opens a list of objects.



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Infrastructure

To view detailed data for objects from the “RIA” and “NRIC” groups, they must be visible on the map. Visibility is controlled by:

- clicking the “Layers”  button in the application interface and clicking the button to enable the layer’s visibility;
- clicking the  and/or  buttons;
- zooming in to a larger scale on the map, at which point the legend button is active and the objects are visible on the map.

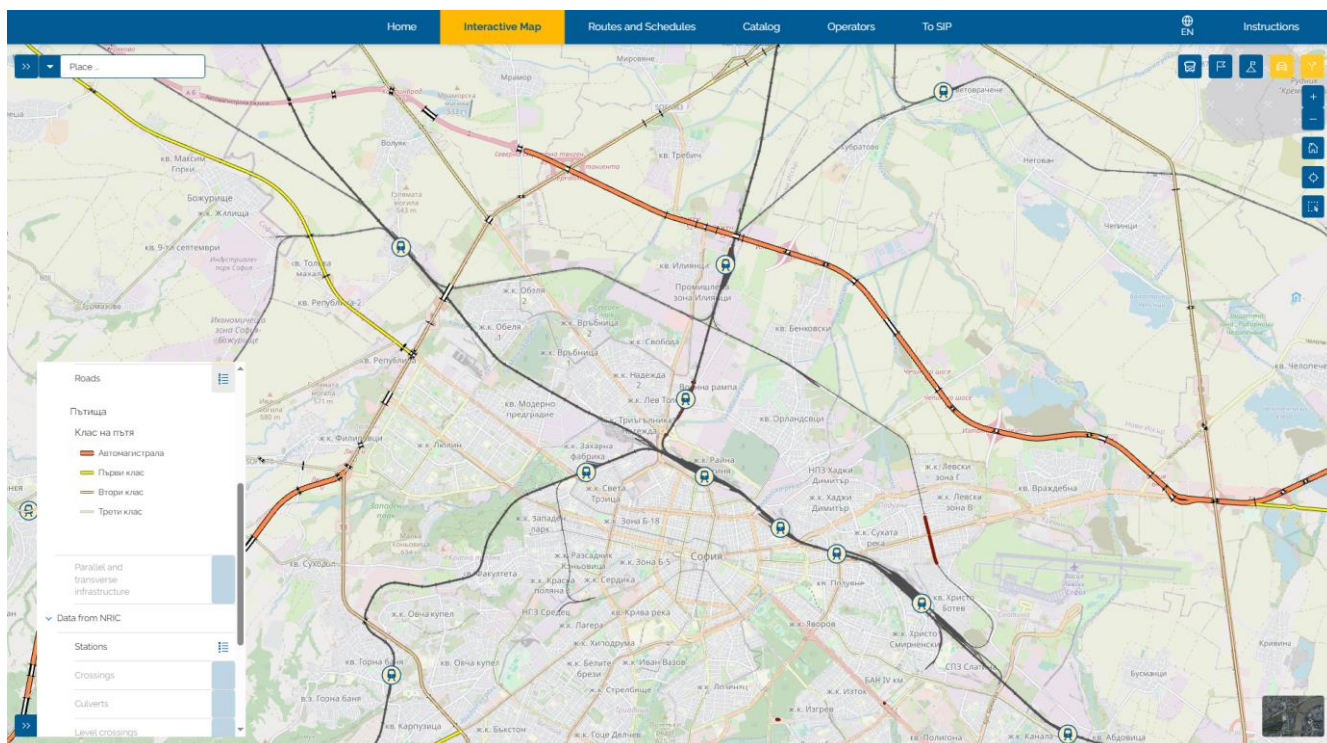




Fig. Visualization of data from the RIA and NRIC groups

Once both data groups are visible, the user selects a specific object (e.g., a road or a station) by clicking directly on the object on the map with the left mouse button. After selection, a pop-up window for the selected object opens automatically. The object is visually highlighted on the map to make it clearly distinguishable.

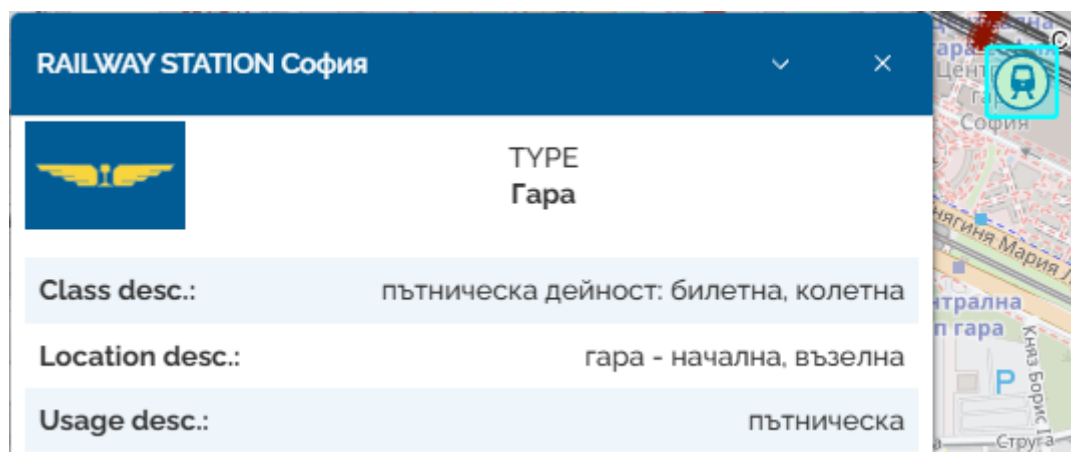


Fig. Pop-up interface for a station



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ПРОГРАМА
ТРАНСПОРТНА СВЪРЗАНОСТ

ROAD NETWORK II-18			
	ROAD N° 18	CLASS Втори клас	EU ROAD N°
Length:		62007 (m)	
Maximum vehicle width:		(m)	
Maximum vehicle height:		(m)	
Maximum vehicle length:		(m)	
Total vehicle weight:		(t)	

Fig. Pop-up interface for a road



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10 Digital Hub for Geospatial Information on Digital and Transport Connectivity

The Digital Hub for Transport and Network Connectivity brings together all applications of the Single Information Point and the National Access Point.



Digital hub for transport and network connectivity



European Union
European
Social Fund



REPUBLIC OF BULGARIA
Ministry of Transport
and Communications



OPERATIONAL PROGRAM
GOOD GOVERNANCE

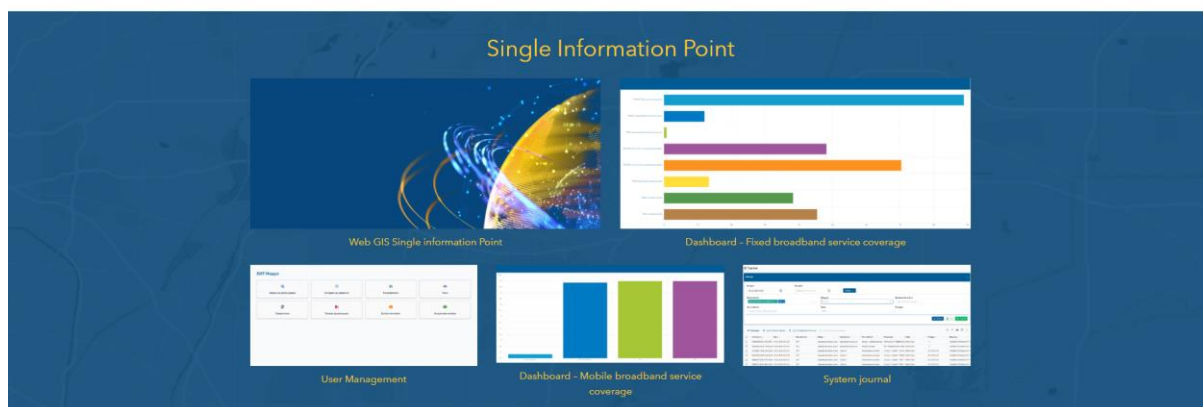


Fig. Sample interface of the Digital Hub for Single Information Point



Digital hub for transport and network connectivity

National Access Point

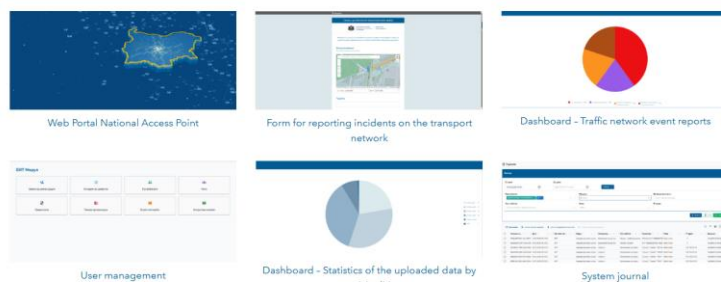


Fig. Sample interface of the Digital Hub for Transport and Network Connectivity



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The hub' s interface is organized into several sections:

- 1) A header bar located at the top of the interface with logos;
- 2) SIP section, located in the central part of the interface with links to the individual applications of the platform–Web GIS application, broadband access dashboard, user administration site, and system log;
- 3) NAP section, located at the bottom of the interface, with links to the individual applications on the platform - NAP portal, form for reporting incidents on the transport network, dashboard for visualizing reports, statistics dashboard, administration site, and system log.
- 4) Project information.

To reset the password, you must enter your username and the email address where you will receive instructions for resetting the password.



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11 FREQUENTLY ASKED QUESTIONS

11.1 General Questions

What is National Access Point (NAP)?

The National Access Point (NAP) is a centralized national digital platform for collection, management and provision of transport data for all transport modes on the territory of the Republic of Bulgaria – public road transport, rail transport, tram and metro transport, taxi services, shared mobility, cycling infrastructure and individual road transport. NAP provides a single-entry access point to standardised static and dynamic transport data necessary for the development and the delivery of information services for multimodal travels, including route planning, fare information, timetables, accessibility, transfers and real-time information.

Whom NAP is intended for?

NAP is intended for four main groups of users:

For passengers:

- Multimodal Trip Planning – combining different modes of transport in one trip;
- Real-time information – up-to-date timetables/schedules, delays, service interruptions;
- Interactive GIS Map – visualization of routes, stops, parking lots and charging stations;
- Ticket and fare information – prices, payment methods and places to buy tickets from;
- Accessibility – intended customised information for people with disabilities and reduced mobility;
- Road Events (accidents and incidents) – temporary traffic management measures, breakdowns, roadworks



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For developers:

- RESTful API interfaces – easy data integration with mobile and web applications;
- Open data – free access to transport information in standardised formats;
- Technical documentation – detailed description of API, JSON/XML schemas, sample code;
- Standards support – GTFS, NeTEx, DATEX II, SIRI, GTFS-RT.

For transport operators:

- Centralized publishing – easy data upload and management;
- Automated integration – API connectivity to transport operator's systems;
- Quality control – automatic data validation;
- User management – a hierarchical system of roles and rights;
- Statistics and analysis – dashboard for monitoring the provided data

For municipalities and institutions:

- Local data management – publication of municipal transport information;
- Monitoring and Control – statistics on the data entered/provided at municipal level;
- Integration of national systems – automatic connection with the Road Infrastructure Agency (RIA), National Railway Infrastructure Company (NRIC), Sofia Urban Mobility Center (UMC);
- Compliance with EU standards – full coverage of and conformity with the requirements set out in the European Regulations.

What data can I find in NAP Platform/Portal?

NAP provides two main types of data:

Static planning data: Republican road network (RPM) and railway infrastructure, timetables of all types of public transport, access hubs (bus stops, stations, airports, ports), tariff information, bicycle and pedestrian network, parking lots



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(including Park and Ride), charging stations for electric vehicles, recharging stations (CNG/LPG, hydrogen, gasoline, diesel), accessibility of infrastructure.

Real-time (dynamic) data: Delays and cancellations of trips/routes/lines, actual arrival and departure times, estimated travel time, road events (closures, detours/alternative routes, accidents), weather conditions, availability of parking vacancies, status of charging stations, node functions, traffic and congestion.

How does NAP work?

There are four operation stages to consider when working with NAP:

1. *Data collection:* Automatic integration (API push/pull), manual file upload (GTFS, NeTEx, DATEX II), web input interface.
2. *Processing and Validation:* Metadata verification (mobilityDCAT-AP), validation against standards, format conversion, enrichment with geographic data.
3. *Publishing:* Data catalog, RESTful API, Web Portal, GIS visualization.
4. *Usage:* Mobile applications, information services, MaaS platforms, analytics and research.

What is NAP's main purpose and objective?

NAP's general objective is to fulfil the requirements of Delegated Regulation (EU) 2017/1926 for the provision of information services for multimodal travels throughout the European Union. The NAP provides a single-entry transport data access point to facilitate citizens and businesses in planning trips with different modes of transport.

What are NAP's specific objectives?



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NAP serves the fulfilment of the following specific objectives:

- Ensure a single, standardised and interoperable national transport data access point for all modes of transport;
- Enable the provision of high-quality information services for multimodal journeys in a national context;
- Ensure compliance with Delegated Regulation (EU) 2017/1926 and the rest of the applicable Delegated Regulations under Directive 2010/40/EU;
- Support the development of a smart, sustainable and integrated transport system through efficient data usage;
- Provide foundation for future NAP's future expansion and upgrade in line with regulatory framework evolution and technological progress;
- Build application programming interfaces (APIs) for the provision of traffic data by competent authorities and travel information from transport operators

Is the access to NAP free of charge?

Yes, the access to public data in NAP is free of charge for all users. No payment is required to view information, search the catalog, download data, or use the Public Data API.

How do I begin to use NAP?

For users (passangers):

1. Visit the public portal.
2. Use the interactive map.
3. Plan your trip.

For developers:

1. Register on the Portal.



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2. Download documentation.
3. Use an API key.
4. Test in a sandbox environment.

For operators:

1. Submit registration request.
2. Get approved.
3. Configure integration
4. Publish data

11.2 Regulatory Framework and Compliance

What is the regulatory basis for the establishment of NAP?

NAP's establishment and operation is based on the applicable European and national regulatory framework in the field of intelligent transport systems and multimodal mobility. The fundamental legislative act is Directive 2010/40/EU of the European Parliament and of the Council on the framework for the deployment of intelligent transport systems in the field of road transport and on interfaces with other modes of transport, as amended by Directive (EU) 2023/2661.

The platform is being built in compliance with the requirements of European Commission Delegated Regulation (EU) 2017/1926 of 31 May 2017 on the provision of information services for multimodal travel throughout the European Union. NAP functions as a key element European National Access Points ecosystem and is aligned with the general framework and guidelines of the NAPCORE initiative.

What other European regulations apply?

The regulatory framework is complemented by the other delegated regulations under Directive 2010/40/EU, including:



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- Delegated Regulation (EU) No 885/2013 (SSTP) – for safe and secure parking lots for trucks and commercial vehicles
- Delegated Regulation (EU) No 886/2013 (SRTI) – on the provision of minimum universal traffic information related to road safety, free of charge
- Delegated Regulation (EU) 2022/670 (RTTI) – on the provision of real-time traffic information services across the EU

What is NAPCORE?

NAPCORE (National Access Point Coordination Organisation for Europe) is a European initiative to coordinate the established national access points in EU Member States. The NAP is consistent with the general framework and guidelines of this initiative, thus ensuring interoperability with other European systems.

What technical standards does NAP comply with?

NAP is designed and operates in full compliance with the following internationally approved transport data standards:

- GTFS and GTFS-RT – for static and dynamic public transport data;
- NeTEx – for structured static data for public transport;
- DATEX II – for road and traffic information;
- SIRI – for real-time public transport information;
- mobilityDCAT-AP – for transport datasets and metadata description and publication

Such compliance ensures interoperability, high level of standardisation as well as enables NAP's integration of with both national and cross-border, and European smart and multimodal mobility systems and services.

Does national legislation apply?

Yes, relevant national acts and regulations apply. They transpose the European framework and define institutional roles, responsibilities and enforcement



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mechanisms, including those with regard to data management, information protection and public access.

11.3 Single Information Point (SIP) and NAP

What is the difference between SIP and NAP?

The Single Information Point (SIP) is a GIS-based electronic platform focused on road infrastructure and broadband while National Access Point

The National Access Point (NAT) is a multimodal transport data platform covering all modes of transport. The two platforms are integrated into a common Digital Hub.

Can I have one single registration for both platforms?

Yes, when you make your registration, you can choose which platform to access - SIP, NAP or both platforms simultaneously. If you already have a SIP registration, you can extend this access to NAP by completing the required data.

What is the Digital Hub for Transport and Network Connectivity?

The Digital Hub consolidates all SIP and NAP applications into a single-entry point. It enables you to access web GIS applications, dashboards, administrative panels and system logs on both platforms.

11.4 Access and Registration

Is registration required to use NAP?

No, registration is not required to view publicly available information, search the catalog, download data and use the interactive map. Registration is only required when you add and edit datasets.

What browsers does the Portal support?



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The portal supports Google Chrome (recommended), Mozilla Firefox, Microsoft Edge, and Safari. The platform is optimized for desktops, laptops, tablets, and mobile phones.

In what languages is the Portal available?

The Portal is available in Bulgarian language and in English language. Switch between languages is done via the *language selection* button in the upper right corner of the screen.

How can I register as a user?

Registration is done through the *"Add datasets and services"* button on the homepage. You can submit registration application either with a username and password or with a qualified electronic signature (QES). After submitting the request, the account is activated after approval by an administrator.

What data is required for registration?

Upon registration the following data is required: first and last name, position, contact phone number, e-mail and data about the organization to which you are registering. When registering with a username and password, a username (2-50 characters, Latin letters, numbers and the symbols "_", "-", "@") and a password should additionally be taken into account.

How long does it take for a registration request to be approved?

The submitted registration request is reviewed by a system administrator. The approval time is dependent on administrators' workload. If additional information is required, you will be notified at the specified email address.

What should I do if I have forgotten my password?

Use *"Forgot Password"* button on the login page. Enter your username and email address, where you will receive instructions on how to reset your password.



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How do I log in with e-Authentication?

Click on the *"Login with e-Authentication"* button on the login page. The system will forward you to the national electronic authentication system, where you select an authentication tool and enter the PIN of your QES.

11.5 Search and Catalog

How do I search for datasets?

Enter a keyword in the search box on the home page or in the *"Catalog" tab*. The search covers the dataset name, operator name, and description. You can use filters by region and by operators to refine search results.

How do I filter catalog Search results?

Use *"Regions"* and *"Operators"* buttons to filter. You can select multiple filters simultaneously. Active filters are displayed as labels/tags and can be removed either one-by-one or all selected via the *"Clear All"* button.

How do I sort Search results?

Click the sort button and select the preferred criteria: Name (A-Z), Name (Z-A), Date (most recent) or Date (oldest).

What is a dataset map?

Each dataset in the catalog is displayed as a map containing icons for data type, set name, operator name, description, region, and last update date. When you click on the map, a detailed page with full information opens.

What are Data Feeds?

Data feeds are the different formats and types of information available for a given dataset. They are grouped by format (GTFS Static, GTFS Realtime, SIRI,



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NeTEx) and can include different types such as trip_updates, alerts, vehicle_positions, estimated_timetable, and vehicle_monitoring.

11.6 Data Formats

What data formats does NAP support?

Nap supports the following standardized formats:

- GTFS Static – static timetable data (ZIP Archive with TXT/CSV Files);
- GTFS Realtime – real-time (dynamic) data (Protocol Buffers format);
- NeTEx – European standard for static transport data (XML format);
- SIRI – European standard for real-time information (XML format);
- DATEX II – European standard for road and traffic.

What is GTFS and what is it used for?

GTFS (General Transit Feed Specification) is public standard format developed by Google which enables transport operators to share and exchange timetables, route geographic data, and stops information. GTFS Static contains static data (timetables, routes, stops) while GTFS Realtime provides dynamic information (vehicles' positions, delays, alerts).

What is NeTEx and how is it different from GTFS?

NeTEx (Network Timetable Exchange) is a European CEN standard based on the XML format. Unlike GTFS, NeTEx supports more advanced information like detailed data on accessibility, tariffs and fares, and network structure. NeTEx is the recommended format for data exchange within the European Union.

What is SIRI?

SIRI (Service Interface for Real-time Information) is a European standard for real-time transport information exchange. It uses XML format and provides data on Estimated Timetable, Vehicle Monitoring and passenger information.



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What is DATEX II?

DATEX II is a European standard for road and traffic data exchange. It is used for information about road events, accidents and incidents, roadworks, closed sections, weather conditions, and traffic measurements.

What is mobilityDCAT-AP?

mobilityDCAT-AP is a profile for describing and publishing transport datasets and metadata. NAP uses this standard to metadata verification upon data processing and validation.

How do I download static data?

Open the detailed page of the preferred dataset, find the section with the preferred format (e.g. GTFS Static), expand it and click the *"Download"* button located next to the preferred file.

How do I access real-time data?

For GTFS Realtime or SIRI data feeds, open the dataset detailed page and use the the provided link or access button. The downloaded file contains a snapshot of the data at the time of the request.

11.7 Data Relevance and Updates

How often is the data updated in the?

Data updates frequency depends on the data type and the specific provider Static data (timetables, routes) are typically updated upon effective timetable changes. Dynamic real time data is updated continuously – it takes from a few seconds to several minutes, depending on operator's capabilities.

How do I know when the latest dataset update has been made?



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The date of the last update is displayed both on the map of each dataset in the catalog and on the detail page. The date of creation/update of the single files in the data feeds is also displayed.

Why isn't some real-time data shown?

Real-time data depends on whether the transport operator concerned provides such information. If the operator has not provided data on the location and movement of vehicles, it will not be displayed on the map.

How is data quality ensured?

NAP performs automatic data validation against technical standards and metadata verification according to mobilityDCAT-AP. The system also performs format conversion and enrichment with geographic data. However, the responsibility for the accuracy and completeness of the data lies with the respective providers.

11.8 GIS Portal and Map

How do I use the interactive map?

The map is accessible via the *"Map"* section in the navigation menu. Use the zoom in/out, drag and drop buttons and quick buttons to activate/disactivate different data layers.

How do I activate/disactivate map layers?

Use the *"Layers"* button in the lower left part or the quick buttons (Public transport, Roadside sites, Events, RIA, NRIC) in the upper right part. Blue color means a layer is not active while yellow means the layer is active.

How do I search for objects on the map?

Use the search box at the top left side of the map. Select the search group (location, a stop, POI, etc.) and type the criteria. The system displays hints to make the choice easier.



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How do I get information about a specific site/object?

Click directly on the object on the map. A pop-up window with detailed information will open, including enabling you to set the site/the object as a starting or an endpoint of a route.

What basic maps are available?

There are two basic maps available: OpenStreetMap and a Satellite imagery. The switch between the two maps is done via the switch button located in the bottom right side of the app.

How do I go back to the initial/original map view?

Click *"Initial view"* button located the navigation group buttons on the right side of the interface.

How do I find my current location on the map?

Click on *"My location"* button on the right side of the interface. The map will automatically move to your current location. (requires location permission access from the browser you use).

How do I select multiple objects from the map?

Use the *"Select from map"* button and draw geometry on the interactive map. All objects available in the framed/circled area will be displayed in a pop-up window with information.

Where can I see the legend on the map?

After activating a layer via the *"Layers"* button, click the *"Legend"* button – becomes visible upon clicking. The legend shows the symbols used as well as their meaning.



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11.9 Trip Planning

How do I plan a route?

Select "*Timetables and Routes*" from the main menu. Set a start and an endpoint by clicking on the map. Select a planning mode (departure now, departure at a certain time, or arrive by a certain time). Click on "*Calculate route*" button.

What scheduling modes are available?

There are three scheduling modes available: "*Departure Now*" (the route is calculated based on the current moment), "*Departure at*" (planning for a specific departure date and time) and "*Arrival by*" (the route is calculated so that you arrive by the selected date and time).

Can I see vehicle's location in real time?

Yes, enable the "*Vehicles*" layer at the top of the right panel. The map will display the movement of buses, trams, trolleybuses and other vehicles, for which operators provide data in real time.

How do I see the timetable for a specific line?

Click on the vehicle (a dot with line and direction tag/label) on the map. A panel with detailed information about the line, including route ID, line number and direction will open as well as a list of upcoming stops with scheduled arrival times and any deviations from the schedule.

Can I compare different routes?

Yes, if the system calculates more than one possible route, use the "*Choose a route*" drop-down menu to compare the options by time, by distance, and by number of sections to travel.



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11.10 Reporting Issues

How do I report an issue on the transport network?

Click the *"Report"* button on the homepage. Fill in the form by specifying the location, the category of the issue/problem, any additional information, and optionally attach a photo. The report can be submitted anonymously.

What categories of reports can I submit?

The available categories are: *Problems with road surfaces* (potholes, bumps, poor quality roadworks), *Problems with signs and road signalings* (missing road markings; incorrectly placed road sign; missing or damaged road sign; poor road sign visibility (hidden by vegetation, faded inscription), *Problems with road infrastructure* (landslides/collapses affecting the roadway; damaged bridges, tunnels, viaducts; missing lighting; damaged guardrails; uncleaned ditches), *Road Traffic Problems* (heavy traffic jams/normal traffic jams; road closure; traffic accident; incidents with dangerous/hazardous goods; lack of traffic regulation (traffic lights); incorrectly parked cars; frequent rules' violations by drivers in a certain area), *Hazards caused by nature conditions* (fog, poor visibility, road surface not cleaned - snow drifts and icy areas; fire on/near vehicles or road infrastructure; flooded road sections), *Obstacles on the Road* (animals on the road; fallen objects on the road (e.g. loads, trees, rocks/stones); open or missing ditch covers), *Issues with the transport service quality* and *Others*.

How do I specify the location of the reported event?

There are two ways to indicate the location of the event you are reporting: by placing a marker on the map or by entering geographical coordinates. If you select the map option for reporting event location, the coordinates are filled in automatically, as well as the information about the region and municipality on which territory the event occurred.

Is it mandatory to provide a name and email when reporting an event?



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No, it is not mandatory to fill in name and email address. The report can be submitted anonymously.

Can I attach a photo/a picture to the event report?

Yes, in the "*Photo/Picture*" section, you can attach a file from your device or shoot directly with your device camera.

What happens after the report is submitted?

After entering *captcha* security code, click "Submit" button. The Event Report is registered in the system and redirected to the competent authorities for consideration and action.

11.11 For Transport Operators

How do I register my organization as a data provider?

Submit a Registration Request via the "Add datasets and services" button on the homepage. Provide the required details about your organization in the course of the registration process. After approval by an administrator, you will get access to data publishing functionalities.

What data can I publish in NAP Platform?

You can publish static data (timetables, routes, stops, fares, accessibility information) and dynamic data in real time (vehicles' positions, delays, cancellations, service messages). The data must be in the supported standardized formats (GTFS, NeTEx, SIRI, DATEX II).

How is data in NAP published?

After registration and its approval, you have access to the administrative portal, where you can upload data via a web interface (manual file upload) or to configure automated integration via API (push/pull mechanisms).



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Is data validation performed?

Yes, the system performs automatic data validation against technical standards (GTFS, NeTEx, SIRI, DATEX II) and metadata verification according to mobilityDCAT-AP. If errors are detected, you will be notified of the necessary corrections.

What are the data quality requirements?

The data must be accurate, complete and up-to-date. It is recommended to maintain regular updates, especially when data concerns changes in timetables or routes. The data must comply with the requirements of Delegated Regulation (EU) 2017/1926.

Are there statistics on the use of my data?

Yes, in your capacity of a registered operator, you have access to a monitoring dashboard that provides statistics and analysis of the data provided.

How do I manage users from my organization?

The system provides a hierarchical system of roles and rights. As an administrator of an organization, you can manage users and their access rights.

Which national systems NAP can be integrated with?

NAP provides an automatic connection with the Road Infrastructure Agency (RIA), the National Railway Infrastructure Company (NRIC) and the Sofia Urban Mobility Center (UMC).

11.12 API and technical integration

Is there an API for programmatic access to the data?

Yes, NAP provides a RESTful API with an HTTP-based interface and a JSON format for the responses. Access to public data does not require authentication.



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Where can I find the API documentation?

The full package of API documentation is available via the *"API"* button in the catalog. The Swagger interface provides interactive documentation with possibility to test queries directly from the browser. A detailed description of the API, JSON/XML schemas, and sample code are available.

What are the main API endpoints?

The main endpoints include:

- Dataset List: GET /api/catalog/datasets
- Set details: GET /api/catalog/datasets/{id}
- Data subsets: GET /api/catalog/datasets/{id}/subsets
- Files: GET /api/catalog/subsets/{id}/files
- File download: GET /api/catalog/files/{id}/download
- Real-time data: GET /api/catalog/subsets/{id}/realtime-download

Is authentication required to use the API?

Authentication is not required to access public data. Registration and authentication are required to publish and manage data.

Is there a sandbox testing environment?

Yes, after your register as a developer, you get access to a sandbox environment where prior to switch to the production environment you can test your integration.

What are the limits for API requests?

For up-to-date information on request limits, please consult the API documentation or contact the support team.

How do I get an API key?



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No API key is required to access public data. If authentication is required for specific functionalities, an API key is generated after registration and account approval.

Does API support multilingualism?

Yes, the API supports multilingualism through the locale parameter (bg for Bulgarian, en for English).

What purposes can I use the API data for?

The data can be used to develop mobile applications, information services, MaaS (Mobility as a Service) platforms, analytics and research.

11.13 Accessibility

Is the portal accessible for people with disabilities?

Yes, the Portal is developed in compliance with WCAG 2.0 (Web Content Accessibility Guidelines). Clearly structured content, sufficient color contrast, keyboard usability, readable fonts and a scalable interface are ensured.

Is there information on the accessibility of transport infrastructure?

Yes, the NAP provides infrastructure accessibility data, including information on stops accessibility, stations accessibility, vehicles accessibility as well as information about special services for passengers with reduced mobility. The availability of such data depends on whether the operators concerned provide them. Accessibility is among the specific customized information provided for people with disabilities and reduced mobility.

11.14 Issues/Problems and Support

What should I do in case of a technical issue/problem with the Portal?



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If you encounter a technical issue, try to refresh the page or to clear the browser cache. If the issue persists, contact the support team either by using the Contact form or via the contacts details listed in the "*Support contacts*" section.

How do I report a data error?

If you notice an inaccuracy or error in the published data, you can contact the support team and indicate the specific dataset as well as provide a description of the problem. The team will forward the information to the relevant data provider.

The portal does not load properly. What should I do?

Make sure you are using a supported browser (Chrome, Firefox, Edge, or Safari) and that it is updated to the latest version. Check your internet connection. If the problem persists, try a different browser or device.

I can't log in to my account. What should I do?

Make sure you enter your username and password correctly. If you have forgotten your password, use the "*Forgot password*" function. If your account hasn't been approved by an administrator yet, wait for an email confirmation. If you have ongoing problems, contact support.

How do I contact the support team?

Support contact information is available in the "*Support Contacts*" section of the Portal. You can contact the Ministry of Transport and Communications via the specified email address and website.

11.15 Terms of Use and Legal Issues

Under what conditions may I use the NAP data?

The National Access Point provides access to transport data and metadata under clear, transparent and non-discriminatory conditions, in accordance with applicable European and national legislation. Access to data through NAP is



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carried out for the purposes of developing, providing and using information services for transport and multimodal travel, research, analysis, planning and other eligible activities of public and economic interest.

What are the specific terms of use?

Terms of use include:

- Compliance with the terms of use set by the relevant data providers
- Use of data only for lawful purposes and in accordance with the declared scope of the service;
- Preventing unauthorized alteration, manipulation or misrepresentation of data;
- Compliance with personal data protection, information security and cybersecurity requirements, where applicable;
- Indication of the data source upon its use, where required.

Who is responsible for the accuracy of the data?

NAP operates as an access and data exchange platform of and is not responsible for the accuracy, completeness or timeliness of the data provided by external providers. The responsibility for data quality lies with the respective providers.

Are there any restrictions on commercial use of data?

Terms of use, including for commercial purposes, are determined by the respective data providers. It is recommended that you get introduced to the specific terms for each dataset before commercial use.

How is personal data protected?

NAP complies with the requirements for personal data protection in accordance with the applicable European and national legislation. Upon reporting an event and registering on the platform, only the necessary data is collected and its protection is ensured in compliance with the information security and cybersecurity requirements.



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Can I use the data for a mobile app?

Yes, NAP data can be integrated with mobile and web applications through the provided APIs and standardized formats. You should comply with the terms of use and should indicate the source of the data when required.

What are the permissible purposes for using the data?

The data may be used for the development, provision and use of transport and multimodal travel information services, research, analysis, planning and other eligible activities of public and economic interest.

12 SUPPORT CONTACTS

12.1 General information

The National Access Point (NAP) is managed by the Ministry of Transport and Communications of the Republic of Bulgaria. For questions, technical support and feedback, you can contact us in the following ways:

12.2 Technical Support

For technical support and issues related to the platform:

Email	support.ntd@esribulgaria.com
Working hours	Monday– Fridy: 09:00 – 17:30