

## Open Journey Planner (OJP)

### Extended system task customer information (SKI+)

Status	Binding
Version	1.0
Last amended on	Monday, 31 October 2022
Amended by ...	Lucas Christoph (I-FUB-PLA-KI)
Translation	In the event of any discrepancies between the various language versions, the German version shall be binding.

### History of revisions

Version	Status	Amendment	by	valid from
0.1	Draft	Initial creation	Matthias Günter	
0.2	Draft	Additions	Christoph Lucas	
0.3	Draft	Revision	Anina Döbeli, Dominik Grögler	
0.4	Draft	Additions	Christoph Lucas	
1.0	Final	Additions	Matthias Günter, Christoph Lucas	01.10.2022

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## 1 What does OJP mean?

OJP has two meanings:

1. Standard CEN/TS 17118 “**O**pen API for Distributed **J**ourney **P**lanning”, which [Delegated Regulation \(EU 2017/1926\)](#) made binding for the Member States of the European Union.
2. The “**O**pen **J**ourney **P**lanner” backend routing system for computing public transport routes, walking routes and other mobility offerings that the SKI office has implemented and continues to develop on behalf of the FOT in accordance with the standard referred to in point 1. The open OJP API is available via [openmobilitydata.swiss](http://openmobilitydata.swiss).

In this document, the abbreviation "OJP" refers to the Open Journey Planner backend system.

## 2 What is the purpose of OJP?

OJP comprises various services that can be employed for multimodal journey planning systems and used via a standardised API.

The most important service is routing between two places. The service requires a start point and a destination as input. These can be any two places (e.g. coordinates, stops, addresses or points of interest "POI"). OJP then computes possible connections between the two locations. Routing currently comprises public transport connections including real-time data, plus walking routes and private transport routes for vehicle sharing services.

Routing is non-discriminatory, i.e. no mode of transport or operator is given preference over any other.

OJP services are highly available (see section 5, Availability) and can be used free of charge up to a certain volume (see section 5, Costs). If you require higher volumes, please contact [opendata@sbb.ch](mailto:opendata@sbb.ch).

All this makes OJP your complete, non-discriminatory journey planner of the future for Switzerland.

### 3 How is OJP used?

OJP services can be used to develop end-user applications. You retain full control of direct customer contact and user data.

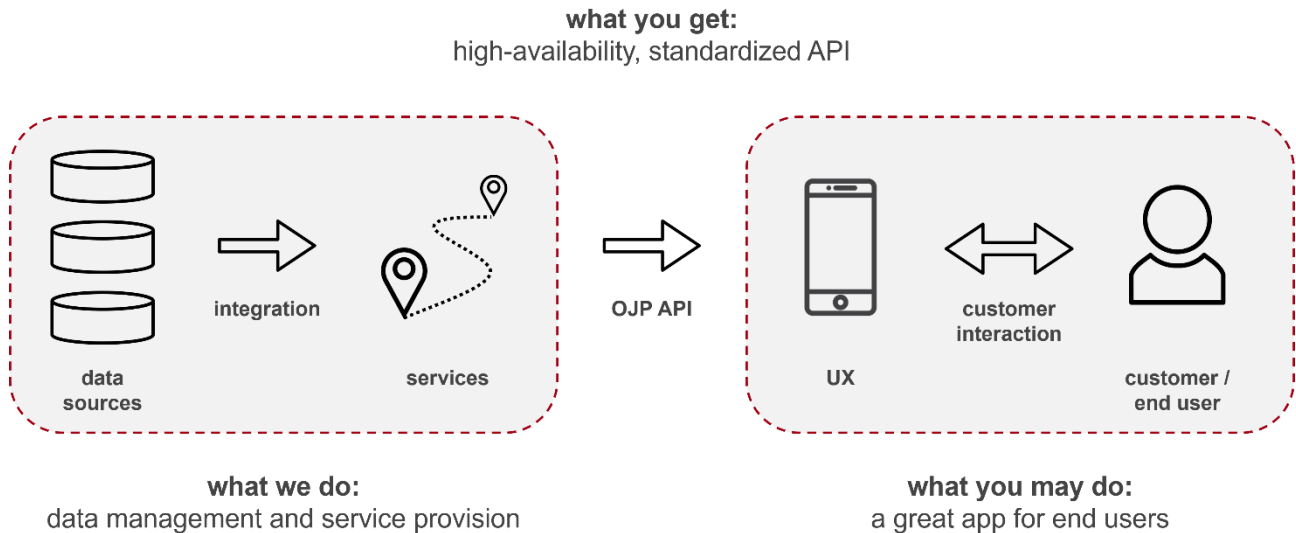


Figure 1: Data integration and consolidation upstream of OJP.

Various data sources are combined and consolidated upstream of OJP. This spares you the task of negotiating with data suppliers and the cost of integrating data sources (see Figure 1). OJP currently integrates the following data:

- Timetable data for all public transport in Switzerland, including real-time information and disruptions for individual transport operators.
- OpenStreetMap routes for private transport
- Elevation data for route calculations
- Vehicle sharing services (bike sharing, e-scooters, car sharing)
- Electric car charging points
- A large number of points of interest

### 4 What new features are in the pipeline?

A number of new features are in the pipeline, all of which contribute to the goal of providing users with a completely multimodal data resource. These include:

**2022:**

- Scheduled and **unscheduled** public transport incidents (e.g. route closures)
- Footpath closures and diversions
- Licensed on-demand services

**From 2023:**

- Additional **information for disabled public transport users** (Disability Discrimination Act)
- Timetables, operating times and real-time data for **funiculars and cable cars**
- All on-demand services

- Some **international timetables**

## 5 Key data

Costs	50 requests per minute and API key free of charge; thereafter moderate charges, see: <a href="https://opentransportdata.swiss/en/limit-and-costs/">https://opentransportdata.swiss/en/limit-and-costs/</a>
Availability	Service level 2a (99.5% availability, 7x24h)
Further information	<a href="https://opentransportdata.swiss/en/cookbook/open-journey-planner-ojp/">https://opentransportdata.swiss/en/cookbook/open-journey-planner-ojp/</a>

## 6 Technical description

Technical end point	<a href="https://api.opentransportdata.swiss/ojp2020">https://api.opentransportdata.swiss/ojp2020</a>
Instructions	<a href="https://opentransportdata.swiss/en/cookbook/open-journey-planner-ojp/">https://opentransportdata.swiss/en/cookbook/open-journey-planner-ojp/</a>

OJP provides an open, standardised API that can be used to retrieve and link various information services (LinkedServices). The current OJP standard (version 1.x) covers seven services. Our OJP implementation currently supports six of these. FareRequest (ticket price information) is currently not supported owing to a lack of data. The three most important services are:

- **TripRequest:** This is the actual routing service. When a start point and destination are entered (could be coordinates, an address, POI or stop), OJP computes connections linking the start point and destination. Routing comprises both public transport-based routing that takes account of current journey times and disruptions and map-based private transport routing using OpenStreetMap (OSM). If desired, you can use the LinkProjection output parameter to request the actual geographical routes and a TurnDescription (verbal navigation aid) is generally also available for walking routes. Different modes can be additionally requested with Mode-sToCover. The following modes are currently available:
  - Public transport
  - Walk
  - Bicycle
  - Car driven by user
  - Vehicle sharing services (bikes, e-scooters, car sharing)
- **LocationInformationRequest:** When a coordinate or address is entered, OJP determines the nearest stops and points of interest.
- **StopEventRequest:** Outputs the next departures/arrivals at a specific stop, for example to display them on an arrival/departure monitor.

Descriptions on how to use the OJP APIs are freely available in various languages in the Cookbook at <https://opentransportdata.swiss>. You are also very welcome to contact us at [opendata@sbb.ch](mailto:opendata@sbb.ch) to discuss using OJP. We would be delighted to hear from you.

An open source demonstrator that includes a software development kit for the interface is available via <https://opentdata.ch.github.io/ojp-demo-app/>.

## 7 Summary of technical details in English

End point	<a href="https://api.opentransportdata.swiss/ojp2020">https://api.opentransportdata.swiss/ojp2020</a>
Access type	Fixed end point with XML request / response
Protocol	1.0 <a href="https://github.com/VDVde/OJP">https://github.com/VDVde/OJP</a> ). For more information about the profile used and the capabilities see: <a href="https://github.com/openTdataCH/ojpch">https://github.com/openTdataCH/ojpch</a>
User manual	<a href="https://opentransportdata.swiss/en/cookbook/open-journey-planner-ojp/">https://opentransportdata.swiss/en/cookbook/open-journey-planner-ojp/</a>
Demonstrator	<a href="https://opentdata.ch.github.io/ojp-demo-app/">https://opentdata.ch.github.io/ojp-demo-app/</a> (with source code and SDK)
Security	Bearer token (obtainable through <a href="https://opentransportdata.swiss/de/dev-dashboard/">https://opentransportdata.swiss/de/dev-dashboard/</a> )
Limits	50 requests per minute and 20K requests per day per API key for free <a href="https://https://opentransportdata.swiss/en/limit-and-costs/">https://https://opentransportdata.swiss/en/limit-and-costs/</a>
Availability	Service level 2a (99.5% availability, 7x24)
Status information	<a href="https://status.opentransportdata.swiss/">https://status.opentransportdata.swiss/</a>
Contact	<a href="mailto:opendata@sbb.ch">opendata@sbb.ch</a>