LinkingAlps

Decision Support Handbook: a guide for future adopters

UM-FGPA

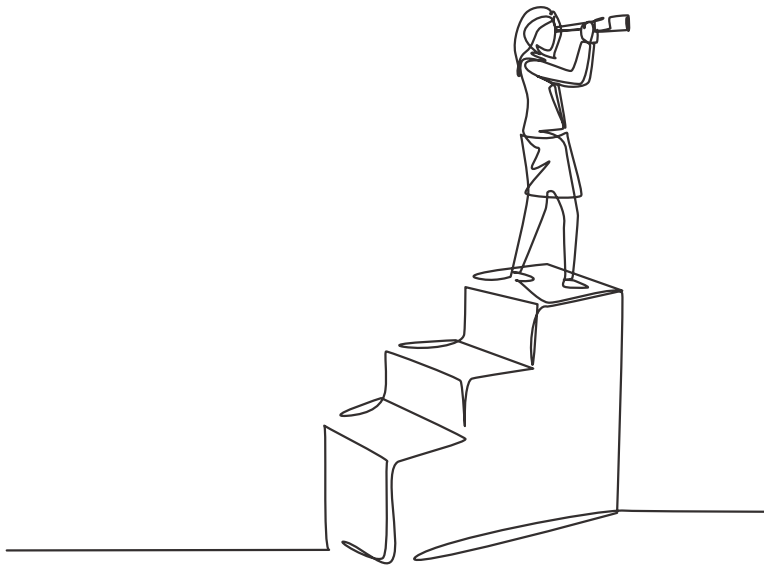Sara Guerra de Oliveira

Andrej Tibaut

Decision Support Handbook: a guide for future adopters

E-book
Printed version
(Limited Edition)

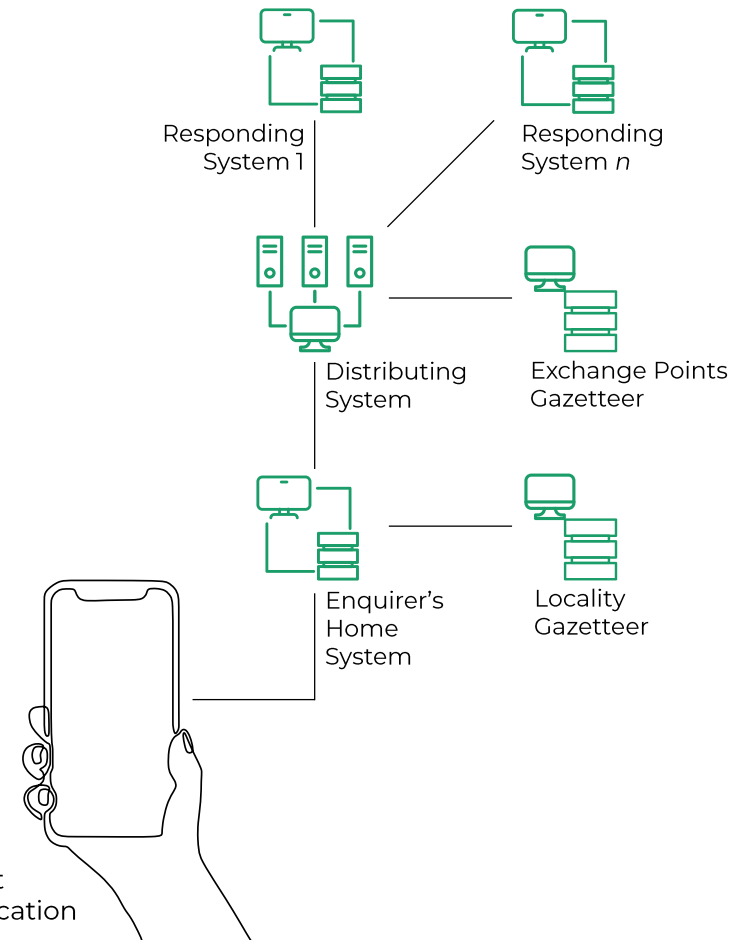# Decision Support Handbook: a guide for future adopters

Contents

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Legal and technical framework

Distributed journey planning environment, according to the
SIST-TS CEN/TS 17118:2018 - Intelligent transport systems - Public transport - Open API for distributed journey planning.

- Directive 2010/40/EU of the European Parliament and of the Council of 7 July 2010 on the framework for the deployment of Intelligent Transport Systems in the field of road transport and for interfaces with other modes of transport.

- Commission Delegated Regulation (EU) 2017/1926 of 31 May 2017 supplementing Directive 2010/40/EU of the European Parliament and of the Council with regard to the provision of EU-wide multimodal travel information services.

- EN 12896:2006, Public transport – Reference data model (Transmodel v5.1).

- EN 12896-1:2016, Public transport - Reference data model – Part 1: Common concepts (Transmodel v6).
- EN 12896-2:2016, Public transport - Reference data model - Part 2: Network topology (Transmodel v6).
- EN 12896-3:2016, Public transport - Reference data model – Part 3: Timing information and vehicle scheduling (Transmodel v6).
- CEN/TS 16614-1, Public transport - Network and Timetable Exchange (NeTEx) - Part 1: Public transport network topology exchange format.
- CEN/TS 16614-2, Public transport - Network and Timetable Exchange (NeTEx) - Part 2: Public transport scheduled timetables exchange format.
- EN 15531-1:2015, Public transport - Service interface for real-time information relating to public transport operations - Part 1: Context and framework (SIRI).
- EN 15531-2:2015, Public transport - Service interface for real-time information relating to public transport operations - Part 2: Communications (SIRI).
- EN 15531-3:2015, Public transport - Service interface for real-time information relating to public transport operations - Part 3: Functional service interfaces (SIRI).
- CEN/TS 15531-4:2011, Public transport - Service interface for real-time information relating to public transport operations - Part 4: Functional service interfaces: Facility Monitoring (SIRI).
- CEN/TS 15531-5:2016, Public transport - Service interface for real-time information relating to public transport operations – Part 5: Functional service interfaces: Situation Exchange (SIRI).

Responding System 1

Responding System *n*

Distributing System

Exchange Points Gazetteer

Enquirer's Home System
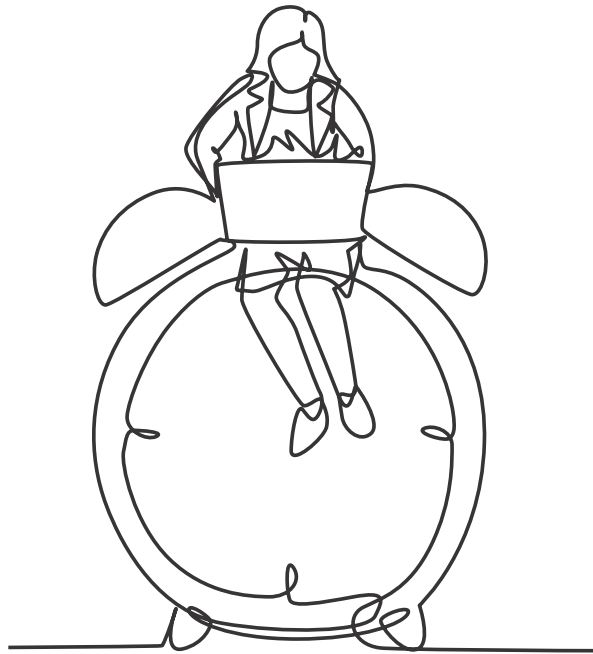
Locality Gazetteer

Client Application

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In your local journey planner specify the start and end points of your trip, preferred time and date for your departure and arrival.
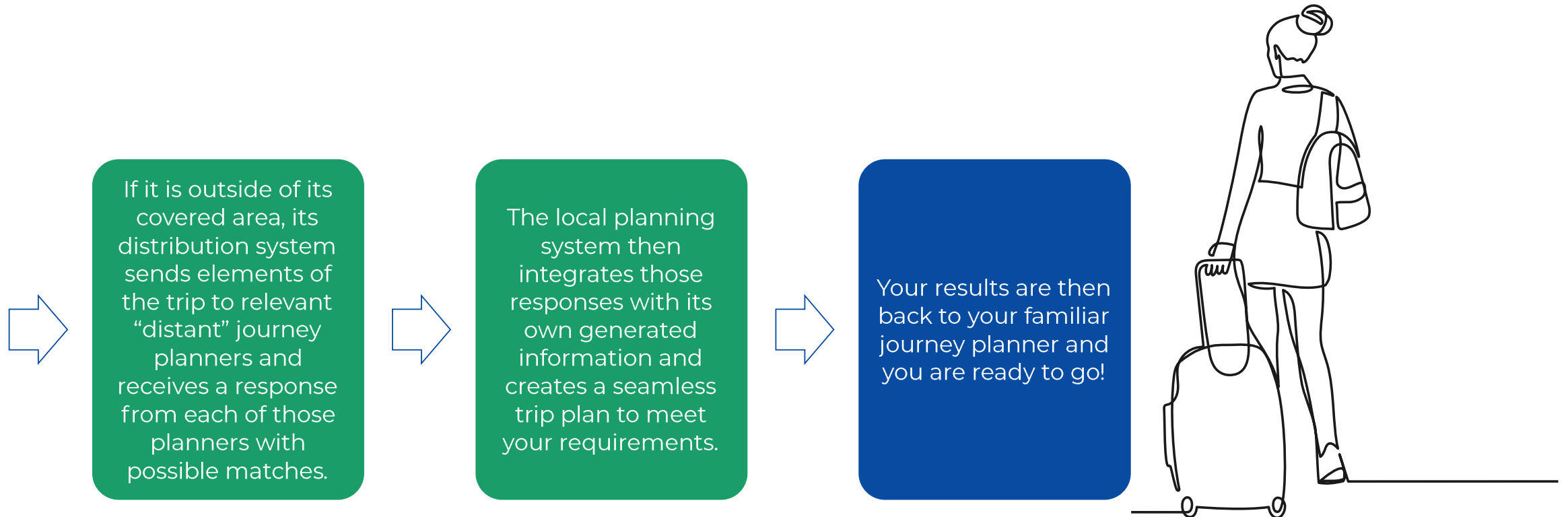
The local planning system matches the locations you selected with locations understood by the relevant journey planning systems.

The local planning system establishes how your journey can be planned when one end or both ends are outside its direct scope.

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If it is outside of its covered area, its distribution system sends elements of the trip to relevant "distant" journey planners and receives a response from each of those planners with possible matches.

The local planning system then integrates those responses with its own generated information and creates a seamless trip plan to meet your requirements.

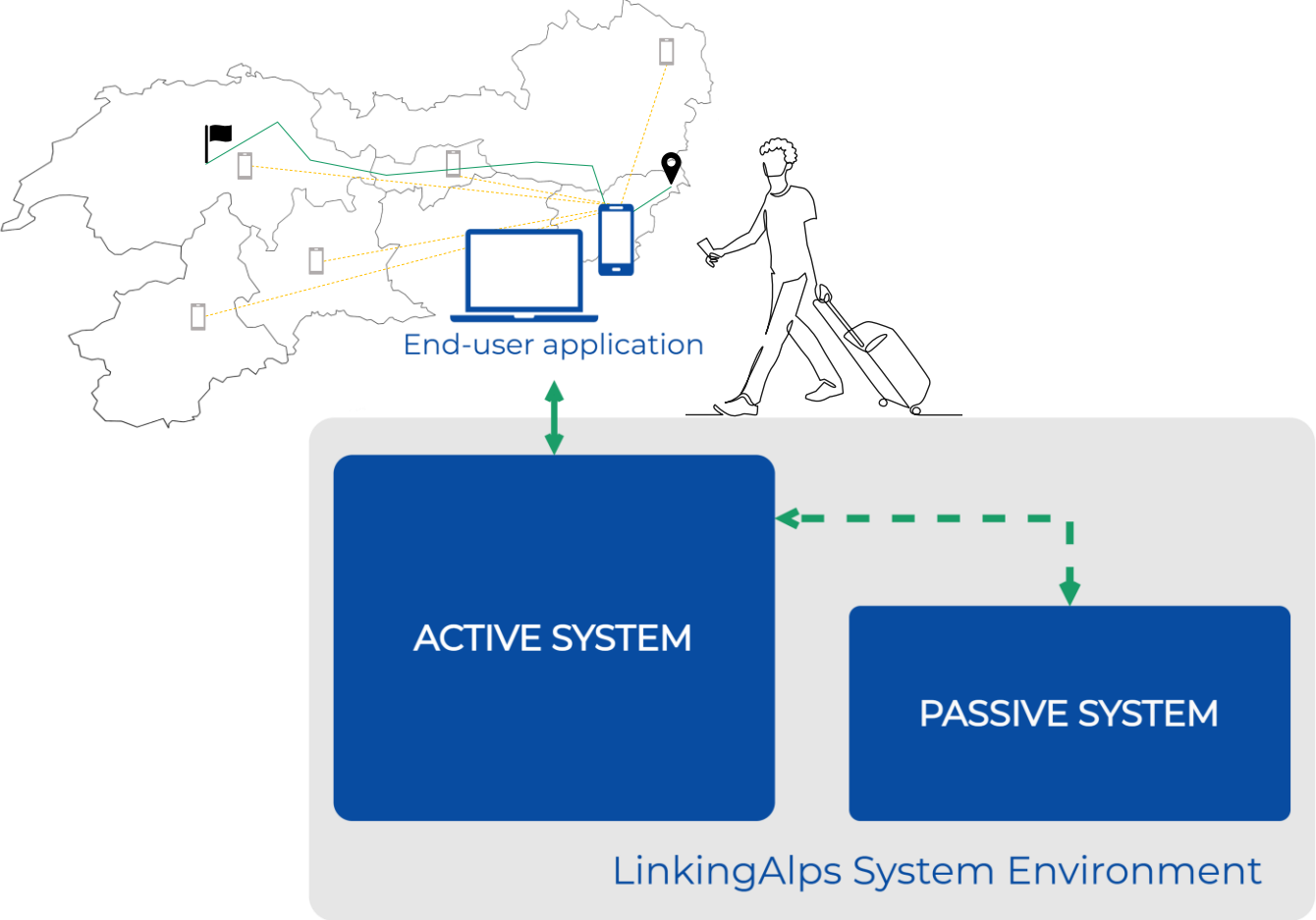Your results are then back to your familiar journey planner and you are ready to go!

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End-user application
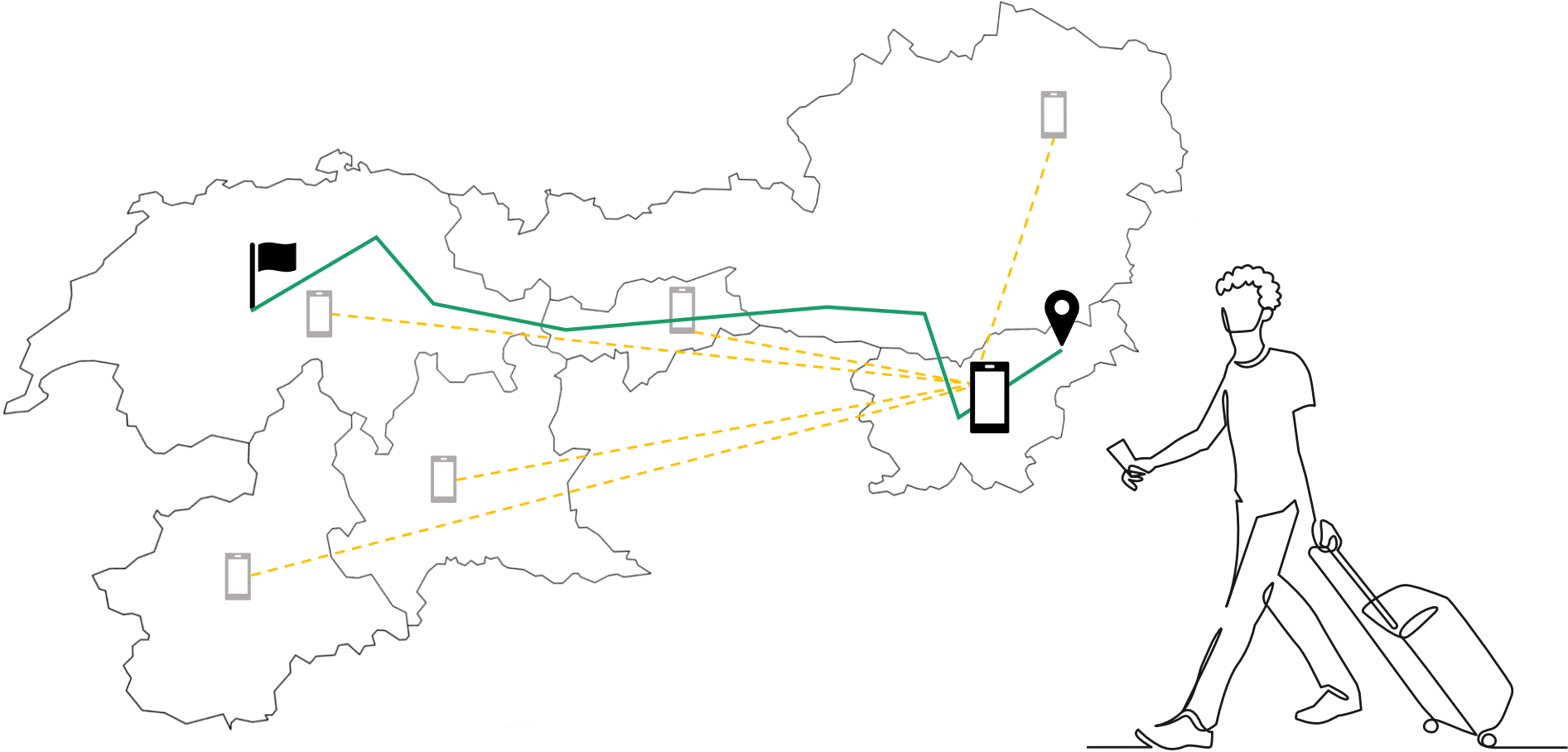
ACTIVE SYSTEM

PASSIVE SYSTEM

LinkingAlps System Environment

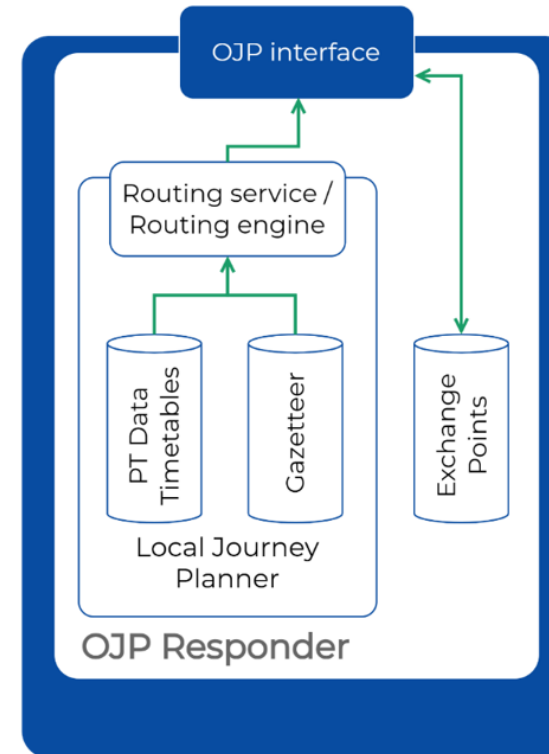# Decision Support Handbook: a guide for future adopters

Passive system

Within the LinkingAlps distributed journey planning environment, a **Local Journey Planning System** that is participating as a passive system (also known as **OJP Responder**) serves as an information source for journeys that require information from within its coverage area to be calculated.

Passive systems contain a **routing engine**, **multimodal public transportation travel data**, a **gazetteer** (that contains mainly local geolocations) and a list of **exchange points** related to their coverage.

To enable the distributing routing based on the Technical Specification CEN/TC 17118:2018 for "Open API for Distributed Journey Planning", passive systems:

- Contain information which allows the calculation of trunk legs (i.e., long-distance transport connection(s) that interlink different journey planning systems), mostly connected to the identification of exchange points (public transport stations with a direct connection to another local journey planning region).

- Support both the static and dynamic approaches of retrieving exchange points.

- Integrate real-time data if available for its area.

- Passive systems do not have a distributing system, but they are providers of information to create itineraries that can be combined with others in the distributing system. For this to happen, the passive system has an exchange service (openAPI web service) designated **OJP Interface**.

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Appendix A. Frequently Asked Questions

- What is a journey planner?

A journey planner is a search engine that enables an optimal means of travelling between two or more locations, using one or more transport modes, often based on user defined criteria, for example, fastest trip, most economic and fewest mode changes.
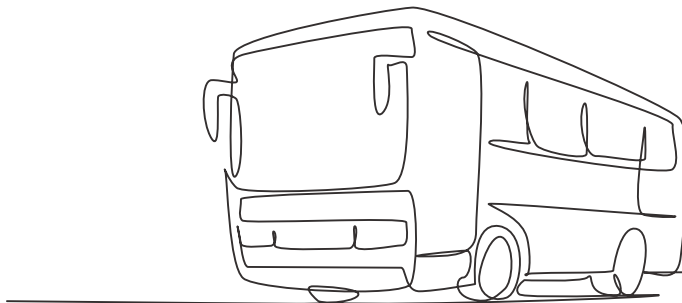
- What is an Open Journey Planner?

An open journey planner is a journey planner which follows the Standard for [...] (CEN/TS 17118:2017) Open API for Distributed Journey Planning.

- What about a Distributed Journey Planner?

Being a distributed journey planner implies that data is collated from multiple [...] quality and accuracy of the planning process and final journey plan presented [...]

- What are the requirements for the implementation of OJP?

Information on the network of public transport services and geographical d[...] gazetteers and static or dynamic lists of exchange points).

Appendix B. Glossary

Active system	The active system integrates the routing information from several local journey planners to a combined seamless route. It is composed of a Passive system and a Distributing system. It communicates through an OJP interface. It is a journey planning engine with OJP capabilities. Via the distributing system it can detect journeys through adjacent or remote regions and able to create OJP Trip Compositions.
Adjacent region	Region which is adjacent to the local region and has its own "local" journey planning systems.
Adjacent system	Alias for neighbouring system. Participating system of an adjacent region.
Distributing system	System that distributes journey planning enquiries to other systems. It sends the request for journey-parts through areas to the corresponding passive servers, receives the responses and can create OJP Trip Compositions. It has the knowledge about gazetteers and can collect information about exchange points for the whole system.
End user	User of an "end user application". Person asking for journey planning information by using an end user application. Enquirer of a journey plan with a start, an end point, and some travel preferences.
End user application	Application used by the end user to have access to JP information generated by the Distributed Journey Planning Service (DRJP). It can be a third-party application connecting by OJP interface to a Participating system or the User Interface Participating system. The providers of the end user applications are named "OJP users" in the LinkingAlps project.
Enquirer	End user asking for information.

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Decision support for the implementation of LinkingAlps OJP

- To understand technical and organisational decisions related to the implementation of the "linking of services" based travel journey planning approach as implemented by LinkingAlps

  ➔ General system environment for traffic and mobility data **as an ideal model for technical and organisational decisions**

    ➔ data owners, data suppliers, data aggregators, travel data or service providers, travel data publishers and travel information service providers
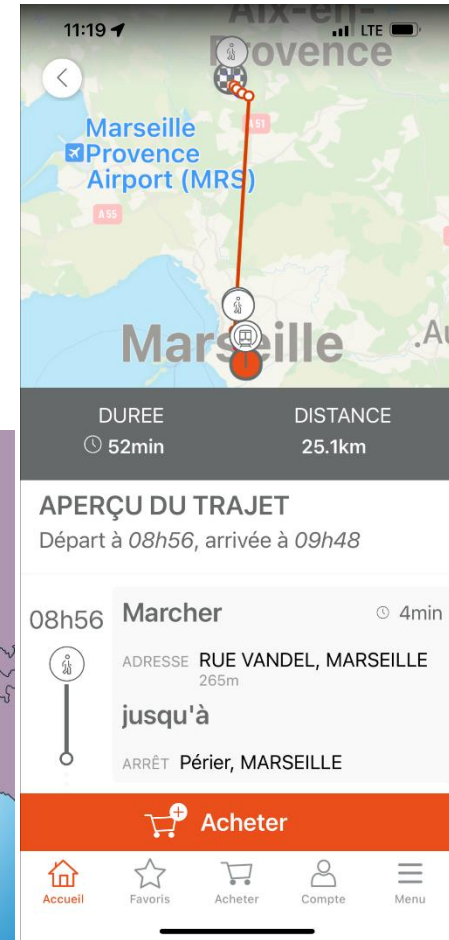
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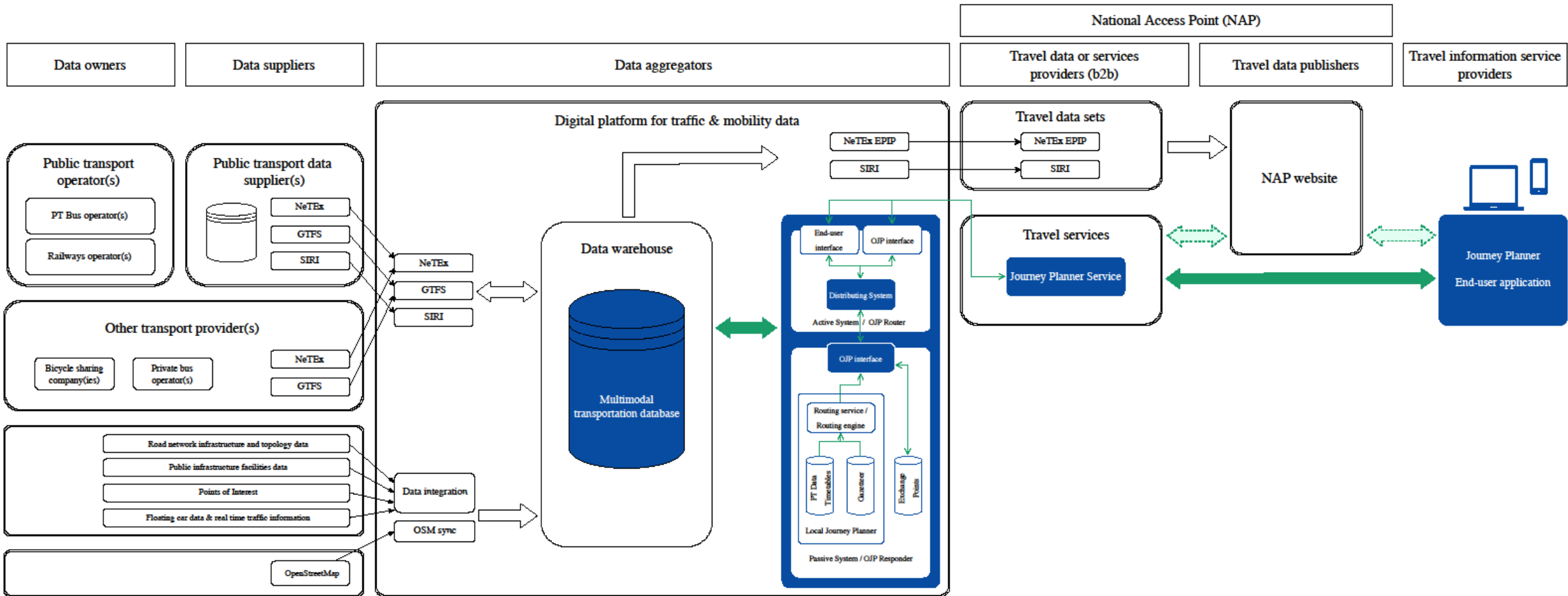
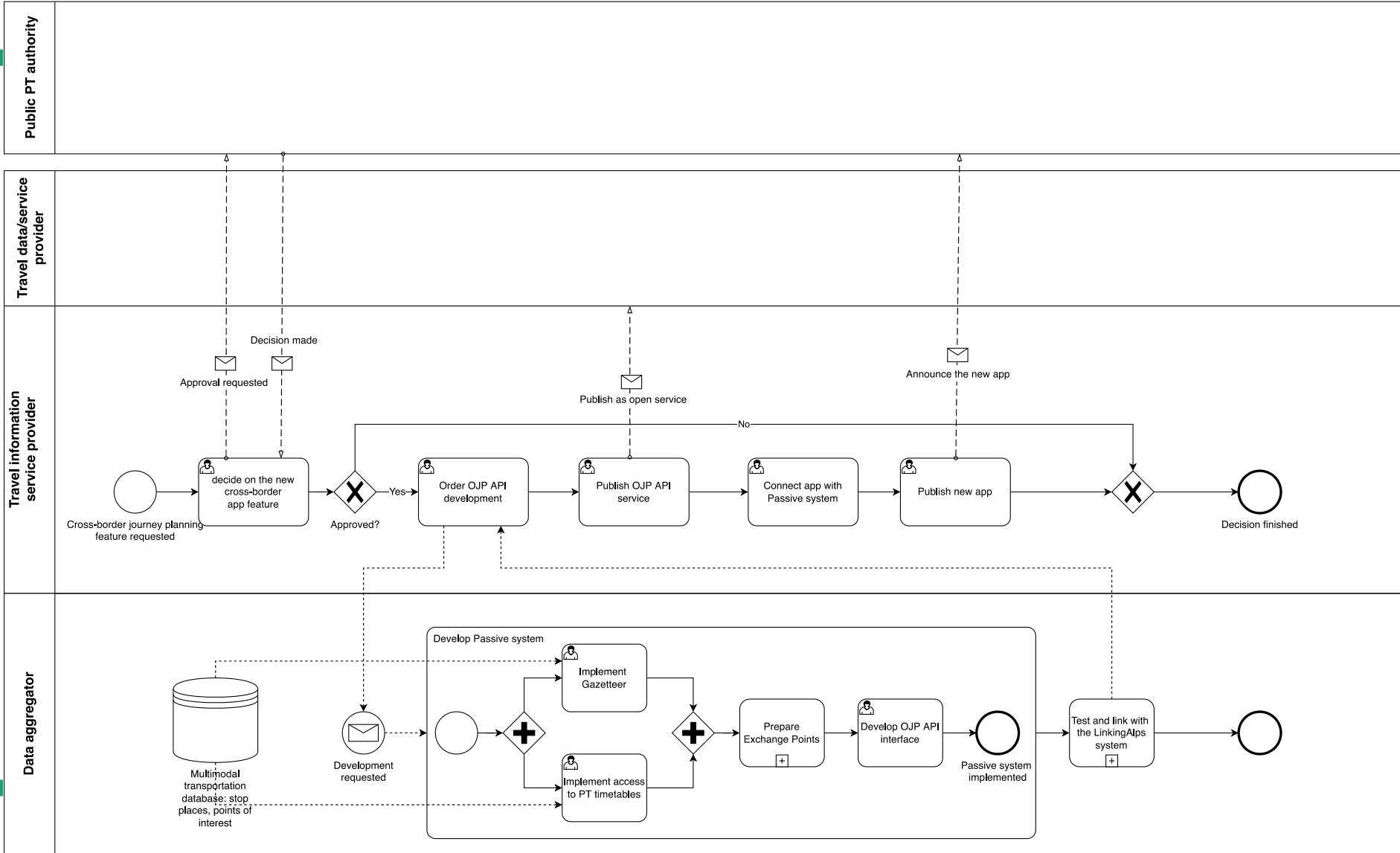# Decision Support Handbook: a guide for future adopters

Decision support for the implementation of OJP

- **Decision case #1**: Integrating a multimodal journey planning app in the LinkingAlps system
  - Marseille, "La Métropole Mobilité" app → LinkingAlps

- Decision case #2: How to aggregate multimodal traffic and mobility data
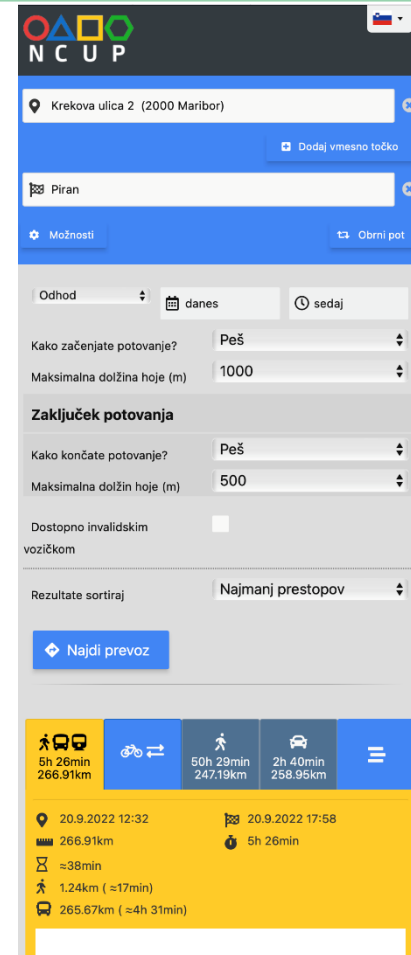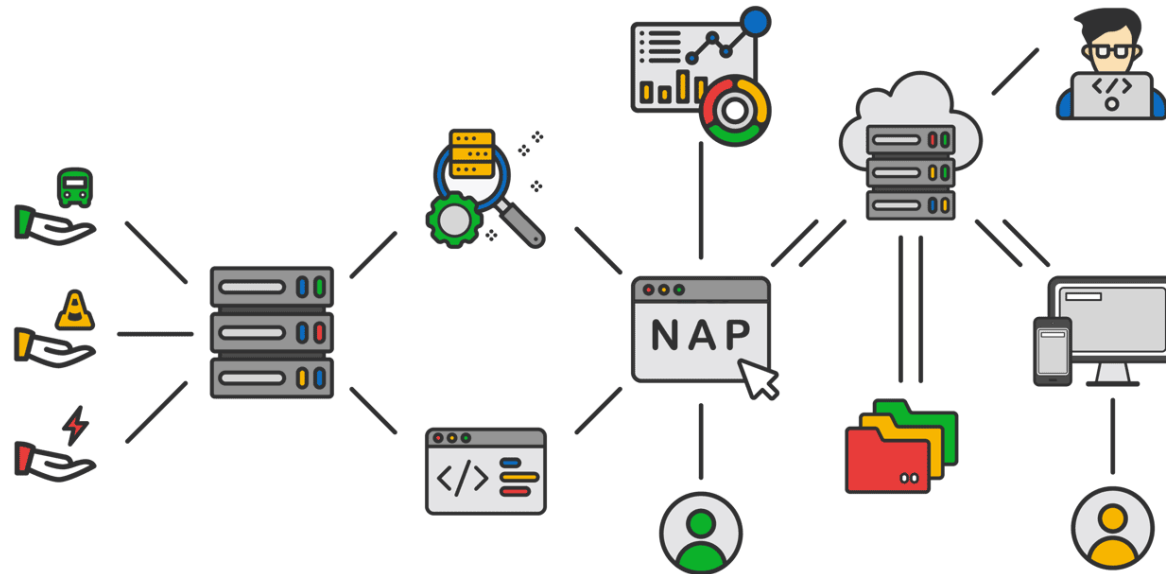- Decision case #3 How to provide data to feed local OJP system
- …

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Use case: implementation of OJP in Slovenia

- NCUP.si - National Traffic Management Centrz
- IJPP – Integrated public transport (static, dynamic)
- NAP.si – Slovenian National Access Point
- AtoB.si Journey Planner

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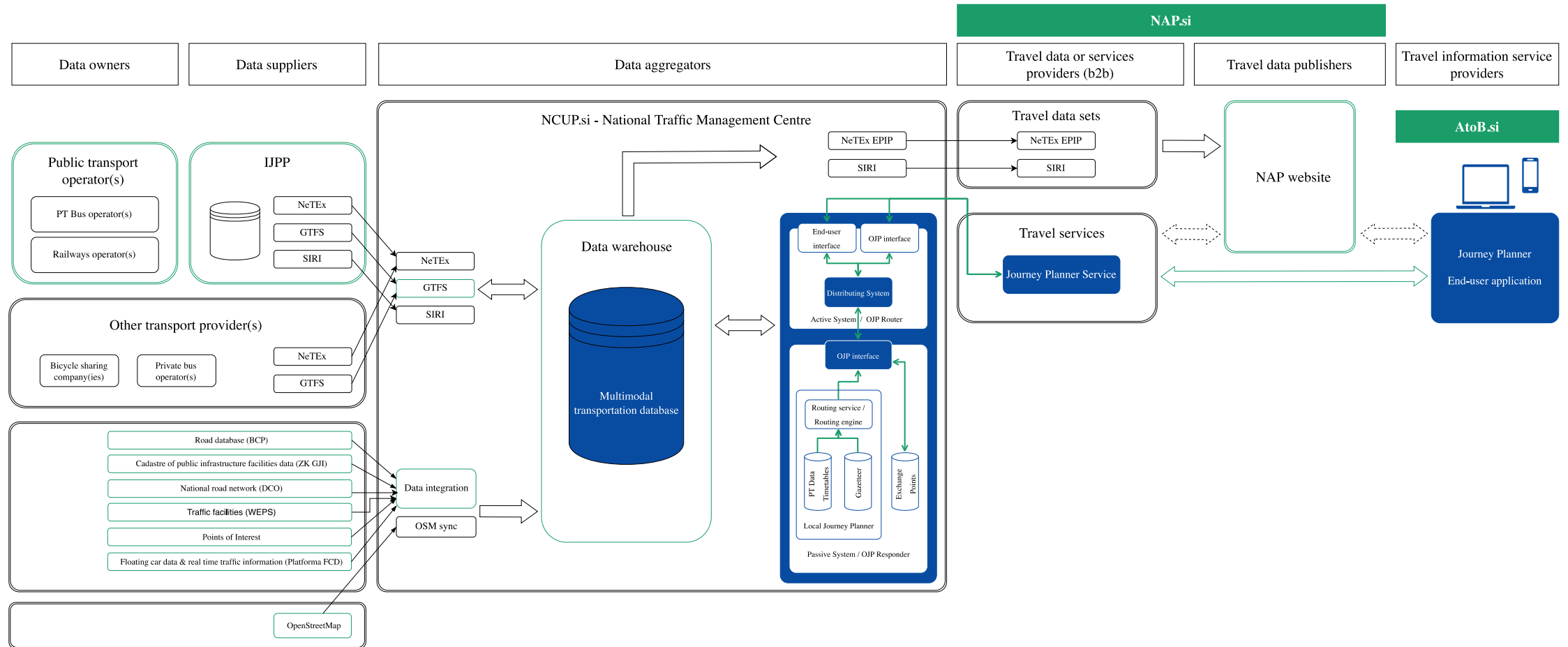
Thank you for your attention

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