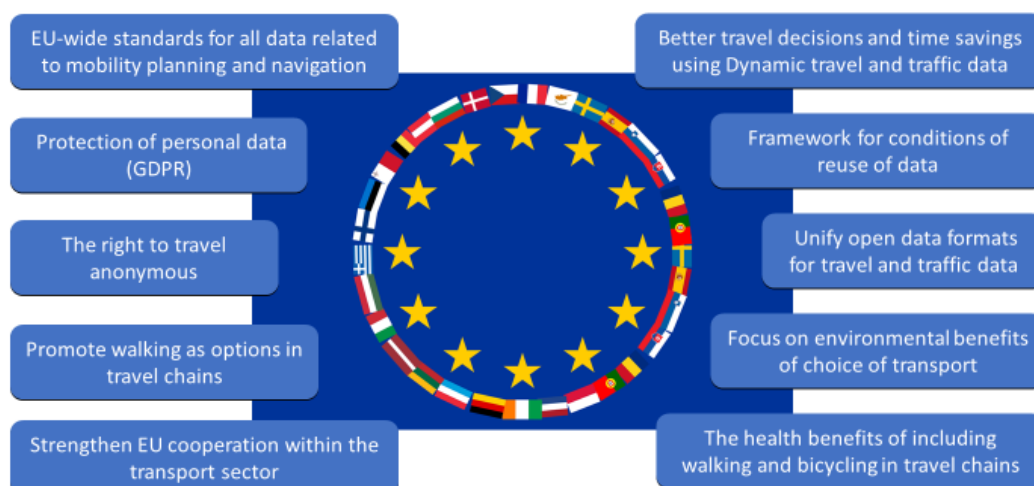


Open mobility data in the EU entering level 2

A technical paper from

Søren Sørensen, Smart Mobility facilitator and MaaS ambassador,
SFMCON ApS, Copenhagen, Denmark

Open Travel and Traffic Data in EU: Goals



Open mobility data in the EU entering level 2

Abstract

Level 2 of the EU regulation for Multimodal Travel Information Services is introduced including sample use cases.

Demand responsive modes of mobility (DRT) actors must open their data in the NeTEx and SIRI format through the NAP's December 2020. Demand responsive modes defined in the MMTIS regulation includes: Shuttle bus, shuttle ferry, taxi, car-sharing, car-pooling, car hire, bike-sharing, and bike-hire. Another major element of the December 2020 milestone is the opening of fare data for all scheduled mobility services in the EU. This includes standard fares, fare network data, fare structures (point to point including daily and weekly fares, zonal fares, flat fares) and vehicle facilities (classes of carriage, on-board Wi-Fi etc.).

The open mobility data in the 28+ national access points (NAP's) opens a completely new scene for multimodal travel information services.

Keywords:

Multimodal, NeTEx, SIRI, NAP, MMTIS

Publishing multimodal travel information open data through National Access Points in the EU

The first milestone has been reached in the EU quest to make it easier for people to plan their travels using shared mobility options rather than the private owned car, by using multimodal travel information services.

National Access Point – Common standards

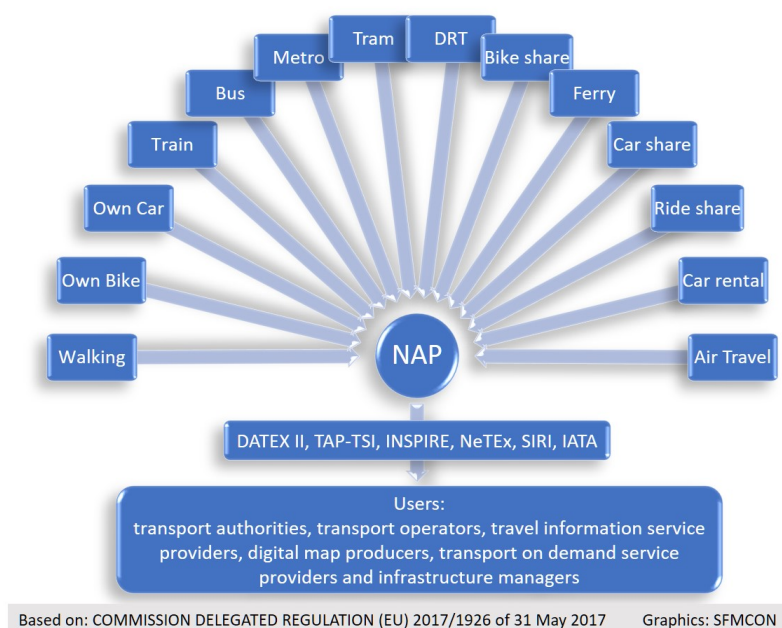


Figure 1: National Access Point – a common source of open mobility data

December 1, 2019 all EU countries should have opened a national access point for mobility data and populated it with open data from the scheduled modes of mobility (mostly public transport) following the NeTEx and SIRI standards. This completes the first of the three level of services included in the MMTIS regulation.

Now in 12 months only all demand responsive transport (DRT) modalities in the EU shall publish open mobility data through the National Access Points (NAP)

In service level 2 it is the demand responsive modes of mobility (DRT) actors who must open their data in the NeTEx and SIRI format through the NAP's. Demand responsive modes defined in the MMTIS regulation includes: Shuttle bus, shuttle ferry, taxi, car-sharing, car-pooling, car hire, bike-sharing, and bike-hire.

On top of this the MMTIS regulation adds other requirements to the mobility actors included

in service level 2. This includes the publishing of all fare information for the use of scheduled modes of transport to help multimodal planning of journeys including price comparisons.

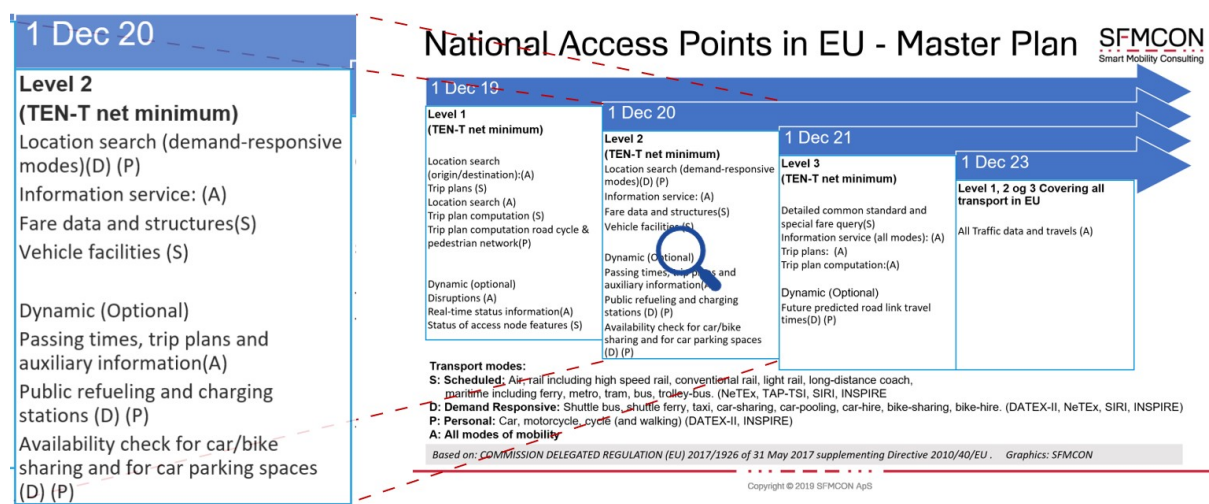


Figure 2: Master plan derived from the MMTIS regulation (showing major elements only).

Service level 2 defines a set of static data that are mandatory on a national level and a set of dynamic data which are optional – but recommended at this stage.

Static travel and traffic data included in the MMTIS regulation service level 2

(a) Location search (demand-responsive modes):

The location search open data shall allow multimodal travel information services to help end users to locate:

- (i) Park & Ride stops
- (ii) (ii) Bike sharing stations
- (iii) (iii) Car-sharing stations
- (iv) (iv) Publicly accessible refueling stations for petrol, diesel, CNG/LNG, hydrogen powered vehicles, charging stations for electric vehicles (v) Secure bike parking (such as locked bike garages)

The sources of these (geo location) data includes road authorities, station-based bike and car sharing schemes, owners of refueling/recharging stations for all forms of propellants.

These forms of data allow users of shared cars and bikes to locate vehicles.

Refueling locations and bike parking are relevant for all road-based modalities whether owned or shared.

(b) Information service:

Information services include: Where and how to buy tickets for scheduled modes, demand responsive modes and car parking (all scheduled modes and demand-responsive incl. retail channels, fulfilment methods, payment methods)

Sample use case examples: Nearest taxi, car share, rental car, bike share? How and where can I get a ticket to any public transport in the EU? Where can I park my car and how do I pay?

Access to unified up to date information on where and how to purchase shared mobility services opens the walled gardens of shared mobility services available and simplifies comparison and transparency in business models for the end users.

(c) Trip plans, auxiliary information, availability check:

The data to be published includes:

- (i) Basic common standard fares (all scheduled modes): — Fare network data (fare zones/stops and fare stages) — Standard fare structures (point to point including daily and weekly fares, zonal fares, flat fares)
- (ii) (ii) Vehicle facilities such as classes of carriage, on-board Wi-Fi.

MMTIS agents can use the data to present a single price for a multimodal journey (e.g. bus, train, ferry, and flights and compare with alternative travel plans based on up to date and valid prices for all scheduled modes of transport (public and private actors alike).

Now end users can get information on any trip plan in easy comparable ways. Travel information providers are encouraged to inform about levels of sustainability for the various trip plan options (air travel versus train etc.)

Dynamic travel and traffic data recommended by the MMTIS regulation in service level 2

(a) Passing times, trip plans and auxiliary information (all modes):

- (i) Estimated departure and arrival times of services
- (ii) (ii) Current road link travel times (iii) Cycling network closures/diversions

The dynamic data already familiar to road GPS end users are extended to all modes of transport. Also note the focus on cycling network disruptions.

This opens for new and enhanced mobility navigation services and suggestions to alternative routings or shift of mobility modes to get to the destination of the journey on time.

(b) Information service:

Availability of publicly accessible charging stations for electric vehicles and refueling points for CNG/LNG, hydrogen, petrol- and diesel-powered vehicles

This information will be helpful for any navigation supplier to deliver a total up to date picture of charging and refueling points. Over the next years there is bound to be an increase in charging points for sustainable energy forms and a reduction of outlets for petrol and diesel as demand goes down. Up to date information is crucial for journey planning for the use of sustainable energy powered vehicles especially outside the home region.

And as the cars become more intelligent and autonomous, they will need direct access to digital representations of refueling points.

(c) Availability check:

- (i) Car-sharing availability, bike sharing availability
- (ii) Car parking spaces available (on and off-street), parking tariffs, road toll tariffs.

Up to the minute and reliable availability data for car and bike sharing is an importing factor in relying on shared mobility services.

Whether you drive in a shared or your own car, availability of a car parking spot at your destination is the only way you can get out of your car again.

Up to date road toll tariffs as part of planning and navigation for a journey can help in the decision process for alternative cheaper modes of transport. Also, helpful to ensure that you have the accepted payments means handy when meeting a payment gate.

Plan and discussion:

Open mobility data, following service level 2 of the MMTIS regulation, shall be published, and made available through the NAP by all mobility actors in scope no later than December 1, 2020.

All data specified are available today but in different formats and typical only published through proprietary and closed digital channels.

The opening of fare data is mostly a task for regulatory bodies and assumed to be funded and delivered.

The service level 2 involves investments of time and money by private mobility service actors.

Living up to EU regulation is mandatory, however it seems the MMTIS regulation is not yet widely known in the industry.

Campaigning the purpose of the regulation and the applicable standards and profiles is necessary. Especially some good answers to “what’s in it for me?” type of questions.

How do all the private actors for demand responsive modes of transport get access to qualified assistance and funding to make the data available? The complexity of complying with the MMTIS regulation is not trivial, and of somewhat same magnitude as the GDPR compliance exercise.

The open mobility data in the 28+ NAPS opens a completely new scene for multimodal travel information services. Stimulating startups utilizing MMTIS open mobility data and publish early success stories should be prioritized on a national and EU level.

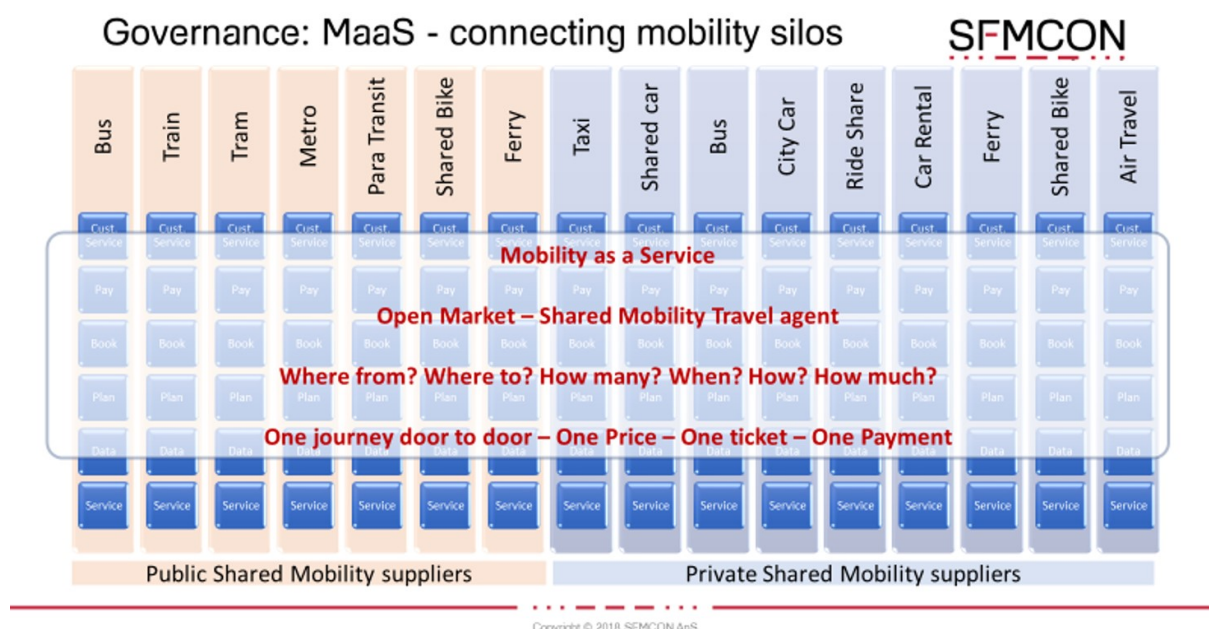


Figure 3: Opening the walled gardens of mobility silos through open mobility data.

Getting close to open data for MaaS throughout EU

Looking forward to seeing the walled gardens of mobility data be transformed to a big green field of open mobility data making it easier to make smart and sustainable choices of travel plans. Can’t wait to get hands on a multimodal “GPS” to help me navigating from door to door independent of means of transport modes.

The MMTIS regulation simplifies the efforts to create mobility as a service (MaaS) solutions as almost all required primary mobility data are in the same open formats.

Only outstanding element to be opened and standardized is booking and payment.

When booking multimodal air travel we are used to get one travel plan, one price, one ticket reference and one payment in one currency of choice.

Looking forward to similar level of service for ground transport based on shared mobility services.

Thank you

SFMCON
Smart Mobility Consulting

From Door to Door

From closed to open data

From own car to shared mobility

Continue the discussion:

Søren Sørensen

Mail: sos@sfmcon.com

Mobile: +45 20 42 05 12

www.sfmcon.com

[linkedin.com/in/sorensorensen](https://www.linkedin.com/in/sorensorensen)

twitter.com/sos_sfmcon

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