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Belgisch Wegencongres

MaaS – vers une meilleure coopération entre acteurs publics?

SPRB Bruxelles Mobilité - Autorité Organisatrice de la Mobilité

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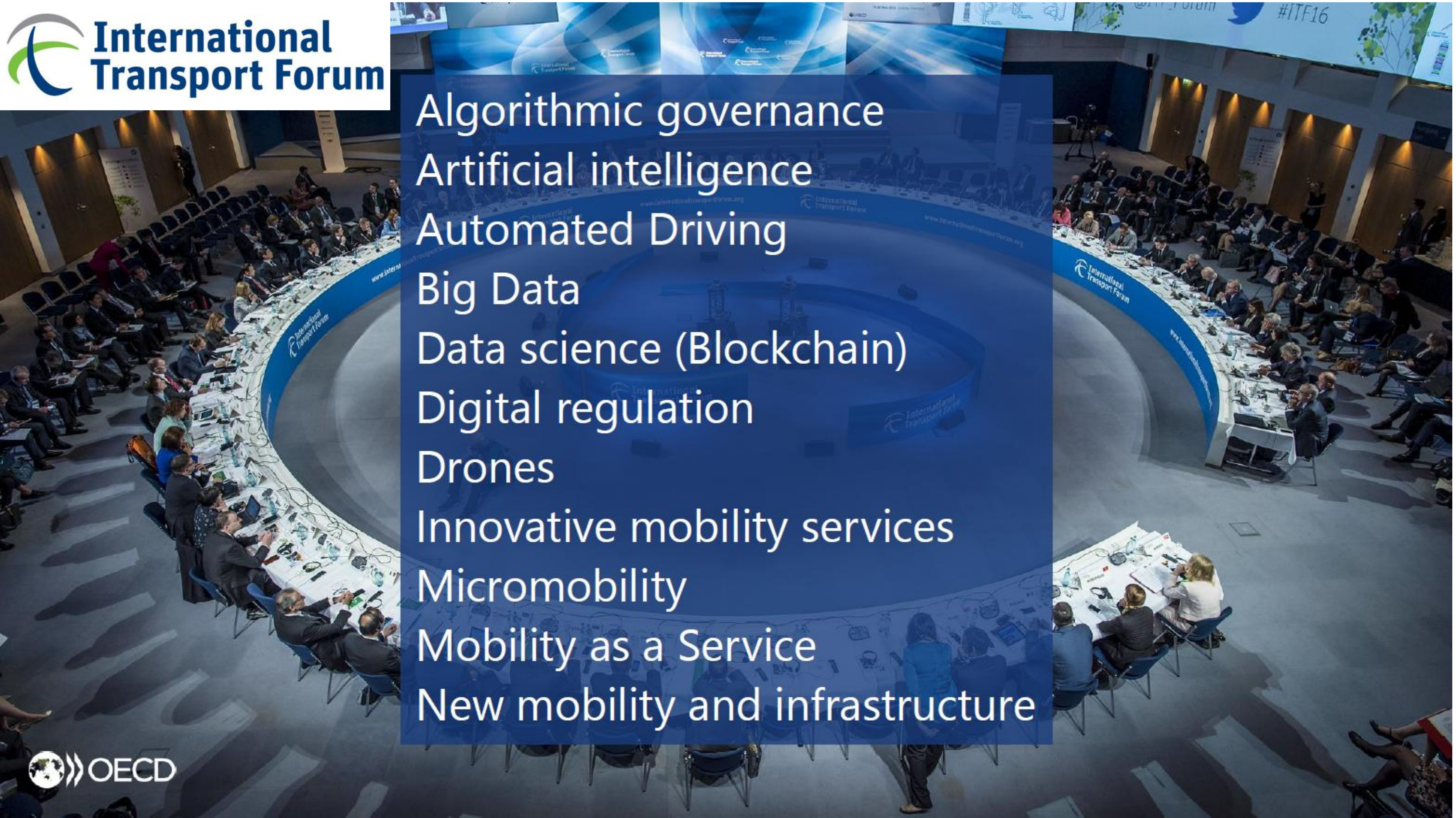
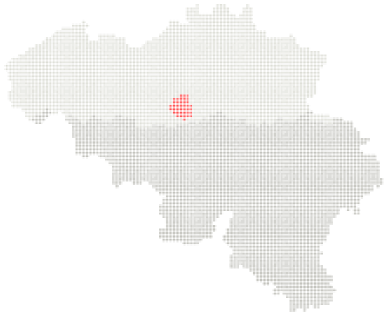


Deux projets pour la Région de Bruxelles-Capitale → « *les principes MaaS de Bruxelles* » :

- **Developing innovative mobility solutions in the Brussels-Capital Region**
- **Reaching critical MaaS: interregional co-operation for seamless mobility in the Brussels-Capital Region**

Mobility as a Service

Mobilité améliorée par association de services



MaaS in the Brussels-Capital Region and beyond

In the Brussels-Capital Region (BCR), nearly half of employees are commuters from the neighbouring provinces of Flanders and Wallonia, while 20% of employed residents of the BCR work outside of it. Answering these mobility needs requires co-ordination with transport and innovation policy in the neighbouring regions, as well as with relevant policies at the Federal and EU level.

	Brussels-Capital Regional Government	Walloon Regional Goverment	Flemish Regional Goverment	Belgian Federal Government
	COMPETENT FOR REGIONAL TRANSPORT			COMPETENT FOR FEDERAL RAIL SERVICES + ORGANISES INTERFEDERAL DIALOGUE
Transport policy	Brussels Mobility	SPW Transport Mobilité	Department of Mobility and Public Works	Federal Public Service Mobility & Transport
	COOPERATING THROUGH THEIR SUBSIDIARY BMC			
Public transport operations	STIB-MIVB *Public transport and regional MaaS*	TEC *Public transport*	De Lijn *Public transport*	SNCB-NMBS *Federal rail services*
Innovation policy	Paradigm	Digital Wallonia	Digital Flanders Public company Athumi	ITS Steering Committee Secretariat *Interfederal cooperation on transport innovation*

5 principes directeurs qui sous-tendent la gouvernance du MaaS à Bruxelles

1. Les données constituent l'infrastructure fondamentale du MaaS
2. Le MaaS nécessite le partage des données informatives, opérationnelles et transactionnelles
3. L'interopérabilité devrait être assurée au niveau interrégional
4. Le MaaS nécessite une portabilité de données personnelles pour l'accès/le statut
5. Le <u>partage</u> des données MaaS ne nécessite pas la <u>mise en commun</u> de ces données

6

actions to move interregional MaaS forward in the Brussels-Capital Region

1. MaaS Network Coordinator
2. MaaS Governance Authority
3. MaaS Foundation Document
4. MaaS Trust Model
5. MaaS Trust Building Blocks
6. Standard Data Sharing and Data Reporting Clauses

Enhanced Data Compatibility

Apply “Only Once” Principle to MaaS

Enhance Fairness and Impartiality in the MaaS Ecosystem

3

ongoing processes to move interregional MaaS forward in the Brussels-Capital Region

- MaaS Network Coordinator
- MaaS Governance Authority
- MaaS Foundation Document
- MaaS Trust Model
- MaaS Trust Building Blocks
- Standard Data Sharing and Data Reporting Clauses
- A. Enhanced Data Compatibility
- B. Apply “Only Once” Principle to MaaS
- C. Enhance Fairness and Impartiality in the MaaS Ecosystem

Go with the *(data)* flow – GT interfédéral pour l'harmonisation des données de mobilité

Provide a common framework across regions to harmonize mobility data, ensuring consistency for both reporting (KPIs) and data sharing (interoperability). Work in synergies with other GTs (Code of Conduct, Communication, AOT).

Data Reporting

Goal: Align on a harmonized set of KPIs.
Methodology: KPI Template → Dataset → Analysis → Dashboard.
Deliverables:

- Excel template (dimensions, fields, values)
- Glossary & methodological guide
- Harmonized KPI list (first V1)

Data Sharing

Vision & Role of GT: Central facilitator between federated entities, translating strategy into technical alignment.
Top-Down & Bottom-Up: Combine legal/EU compliance with real operator needs.
TOMP-API: Hybrid blueprint bridging law & operations via modular APIs.
Harmonization Fields/Datasets: Agree on mandatory/optional fields with operators (vehicles, stations, etc.).

Together, Data Reporting (KPIs) and Data Sharing (interoperability) form the foundation of a coherent mobility data space, scalable across regions.

Objective

- Harmonize mobility KPI reporting across the three Belgian regions (Brussels, Wallonia, Flanders).
- Ensure KPIs are comparable, consistent, and usable for both regional and federal monitoring.
- Provide a clear methodology and template that supports dataset requests to operators and enables coherent reporting for MaaS and mobility services.

Methodology

- **Phase 1 – KPI Template**
  Define a common template with core measures and dimensions to track KPIs (indicator, description, calculation method, geography, time, provider, etc.).
- **Phase 2 – Regional Inventory (AS IS → GAP → TO BE)**
  List KPIs currently used in Brussels, Wallonia, and Flanders. Distinguish MaaS vs. non-MaaS KPIs, compare overlaps, and identify gaps.
- **Phase 3 – From Template to Dataset & Reporting**
  Use the template to request datasets from operators/MSPs. Model datasets into structured analysis and align on dashboard/reporting practices.

	Indicator (P)	Description (P)	Calculation Method (P)	Geographical Coverage (Spatial aggregation start)
Description	The specific measurable metric.	Detailed explanation of what the KPI represents.	Formula or method used to calculate the KPI.	Defines whether the KPI applies at the national, regional, or local (city) level. This terminology replaces "region" for greater clarity. Replaces the "region" column to better adapt to different reporting levels (city, region, country).
Examples Fields	Number of trips, Rotation rate, Average trip distance	"Number of trips completed by mode and time period"	Total trips ÷ Total vehicles, Sum of distances ÷ Number of trips	Region, City, municipality
KPI example	Number of trips	Total trips taken by users with vehicles.	Brussels Mobility has access to the number of trips made every hour for each provider active in the Brussels Region and aggregated by the Vianova Data Aggregator. The indicator starts by adding up the number of trips made by the different providers for each day. An average of these 'sums per day' is then calculated for each month. Finally, it is possible to filter by provider to have only the KPI for one or several providers.	- By City - By Region - National - Municipality

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1) KPI Template harmonized sent to MSP

	Indicator (P)	Description (P)	Calculation Method (P)	Geographical Coverage (Spatial aggregation start)
Description	The specific measurable metric.	Detailed explanation of what the KPI represents.	Formula or method used to calculate the KPI.	Defines whether the KPI applies at the national, regional, or local (city) level. This terminology replaces "region" for greater clarity. Replaces the "region" column to better adapt to different reporting levels (city, region, country).
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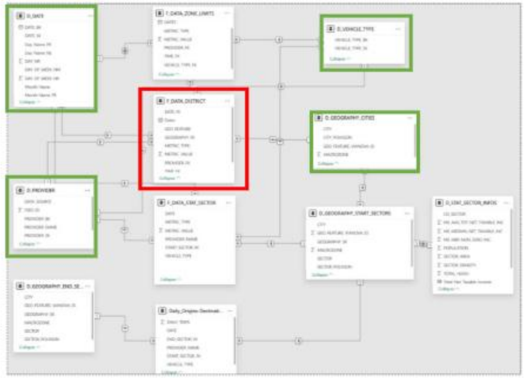
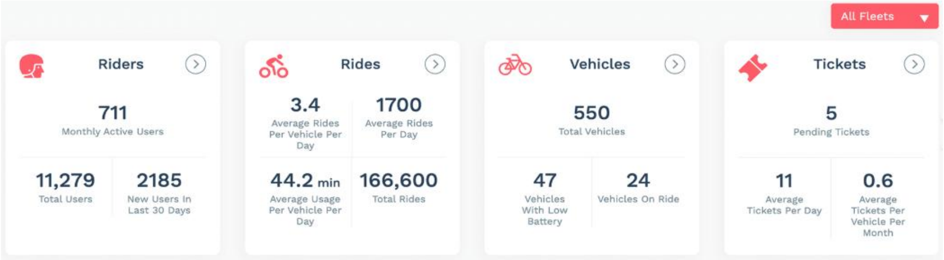
3) Modeling done by regions based on the dataset for analysis



2) Dataset received from MSP respecting the template

Provider	Vehicle type	City	Dates	Hour	Metric type	Value
Bolt	bicycle	Anderlecht	01/02/2025 00:00	1600	count_origin	
Bolt	bicycle	Anderlecht	01/02/2025 00:00	1600	fleet_size	11
Bolt	bicycle	Auderghem	01/02/2025 00:00	1600	count_origin	
Bolt	bicycle	Auderghem	01/02/2025 00:00	1600	fleet_size	2
Bolt	bicycle	Berchem-Sair	01/02/2025 00:00	1600	count_origin	
Bolt	bicycle	Berchem-Sair	01/02/2025 00:00	1600	fleet_size	1
Bolt	bicycle	Bruxelles	01/02/2025 00:00	1600	count_origin	3
Bolt	bicycle	Bruxelles	01/02/2025 00:00	1600	fleet_size	55
Bolt	bicycle	Etterbeek	01/02/2025 00:00	1600	count_origin	
Bolt	bicycle	Etterbeek	01/02/2025 00:00	1600	fleet_size	6
Bolt	bicycle	Evere	01/02/2025 00:00	1600	count_origin	
Bolt	bicycle	Evere	01/02/2025 00:00	1600	fleet_size	5

4) Dashboard allowing to visualize the analysis



Data sharing

1. Vision and Role of the Working Group (GT) :

The GT is the central facilitator, ensuring alignment between federated entities and translating strategic goals into technical actions. It defines responsibilities and steers the harmonization process.

2. Bottom-Up vs. Top-Down Approaches :

Top-down aligns with EU directives and legal compliance; bottom-up reflects real-world operator needs and constraints. Successful harmonization requires balancing both perspectives to stay practical and enforceable.

3. TOMP-API as a Hybrid Blueprint :

TOMP-API bridges legal and operational needs through a functional, modular API structure. It allows for both standardization and flexibility across MaaS providers and transport operators.

4. Harmonization through Fields & Datasets :

Harmonization becomes effective when the Working Group agrees on mandatory and optional fields for each dataset. This includes defining what is necessary for operational use cases (e.g., vehicle or station accessibility). Once agreed, these fields are directly added, modified, or standardized within the API dataset specifications in collaboration with Transport Operators.

5. External Support: Academia and Hackathons :

Given the scale and complexity of the task, support is needed beyond the GT. Engaging academic institutions and organizing hackathons helps accelerate innovation and validate practical solutions.

Mobility Anatomy

Object of mobility | Leg | Core Functionalities

(User Journey) Core Functionalities

Register | Plan | Book | Pay | Travel | After Sales

TOMP-API (Reference API Architecture for a MaaS Design)

Functional blocks

- Identification, Registration & Privacy
- Planning
- Asset Information
- Booking
- Trip Execution
- Payment
- Support
- Operator Information
- External Modules

Microservices

- Registration services
- Identity services
- Authentication services
- Account services
- Planning Services
- Asset information services
- Fare calculation services
- Booking services
- Trip validation services
- Wayfinding services
- Payment services
- Support services

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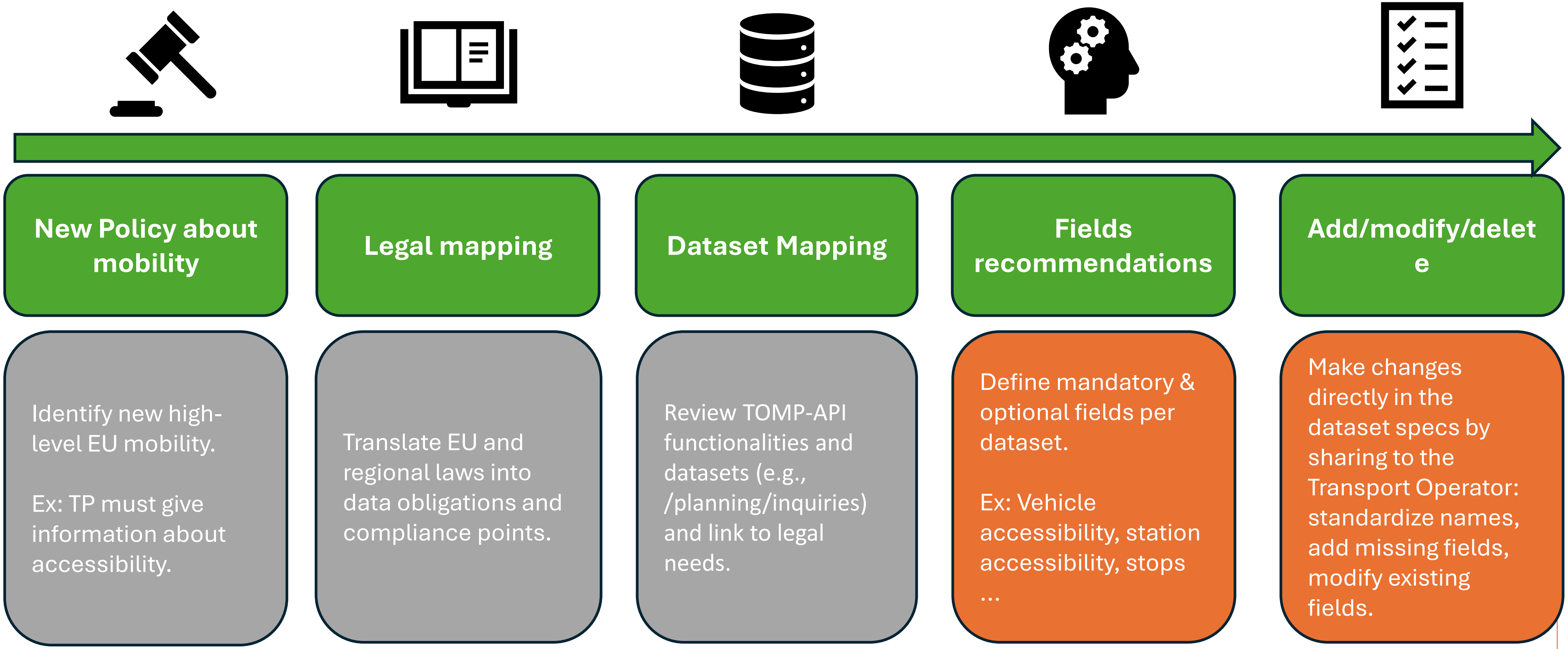

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Références

Developing Innovative Mobility Solutions in the Brussels-Capital Region
https://www.itf-oecd.org/developing-innovative-mobility-brussels-capital-region

Mix and MaaS: Data Architecture for Mobility as a Service
https://doi.org/10.1787/4272475b-en

Reaching critical MaaS: interregional co-operation for seamless mobility in the Brussels-Capital Region
https://www.itf-oecd.org/reaching-critical-maas-seamless-mobility-brussels

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