

# WHAT IS THE DEFINITION OF MAAS?

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# PRESENTATION OUTLINE

Terms that are not MaaS

Compilation of Definitions as part of J3163 Effort

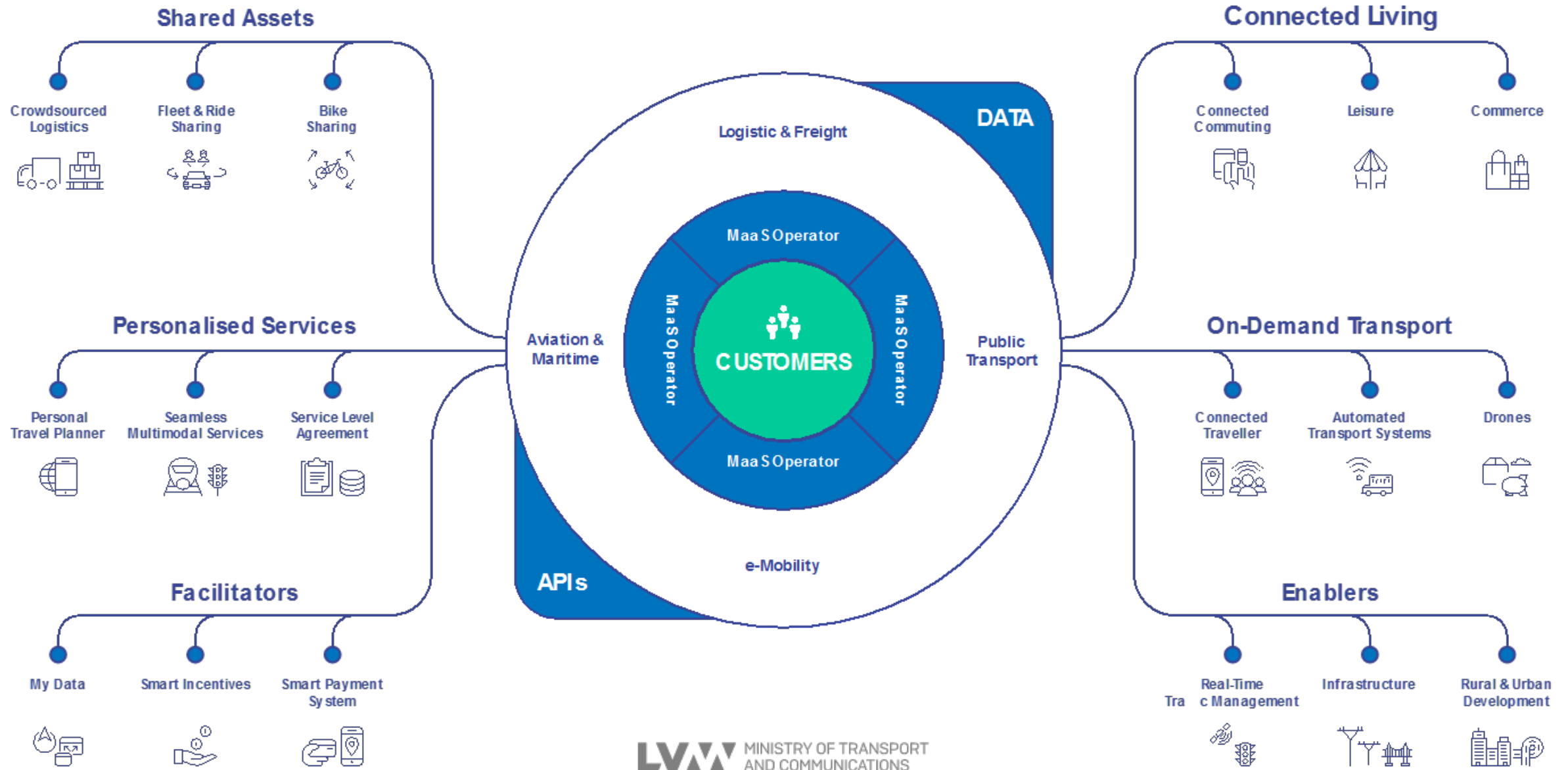
MaaS Alliance

Can we use Existing Work, such as the MaaS Topology?

What are the Key Components of the MaaS Definition?

# MOBILITY AS A SERVICE

# TRB



# INTERNET OF MOBILITY – **NOT MAAS**

Mode-agnostic, global approach to MaaS, based on an **open protocol framework** for discovery, booking, and payment for mobility services.

Theoretical **open protocol structure** to enable MaaS integration for all users and mobility service providers anywhere in the world.

- IoM protocols would create massive new opportunities for transportation service providers, current and potential customers, and mobility aggregators.

# NEW MOBILITY SERVICES – **NOT MAAS**

Ridesourcing

Carsharing

Bikesharing

Microtransit

Other Shared Mobility Services (see SAE J3163)

# TRANSPORTATION DEMAND MANAGEMENT (TDM) – **NOT** **MAAS**

Service offerings and incentives to **get commuters out of their own single-occupancy vehicles**

Well-documented **strategies through pilots, programs and services** that have been operating for decades

# MOBILITY MANAGEMENT – **NOT MAAS**

Provide congestion mitigation

Viable alternatives for non-drivers

Is Mobility Management 2.0 actually MaaS?

# MOBILITY ON DEMAND (MOD) – **NOT MAAS**

Based on principle that transportation is a **commodity**

Modes have **economic values**:

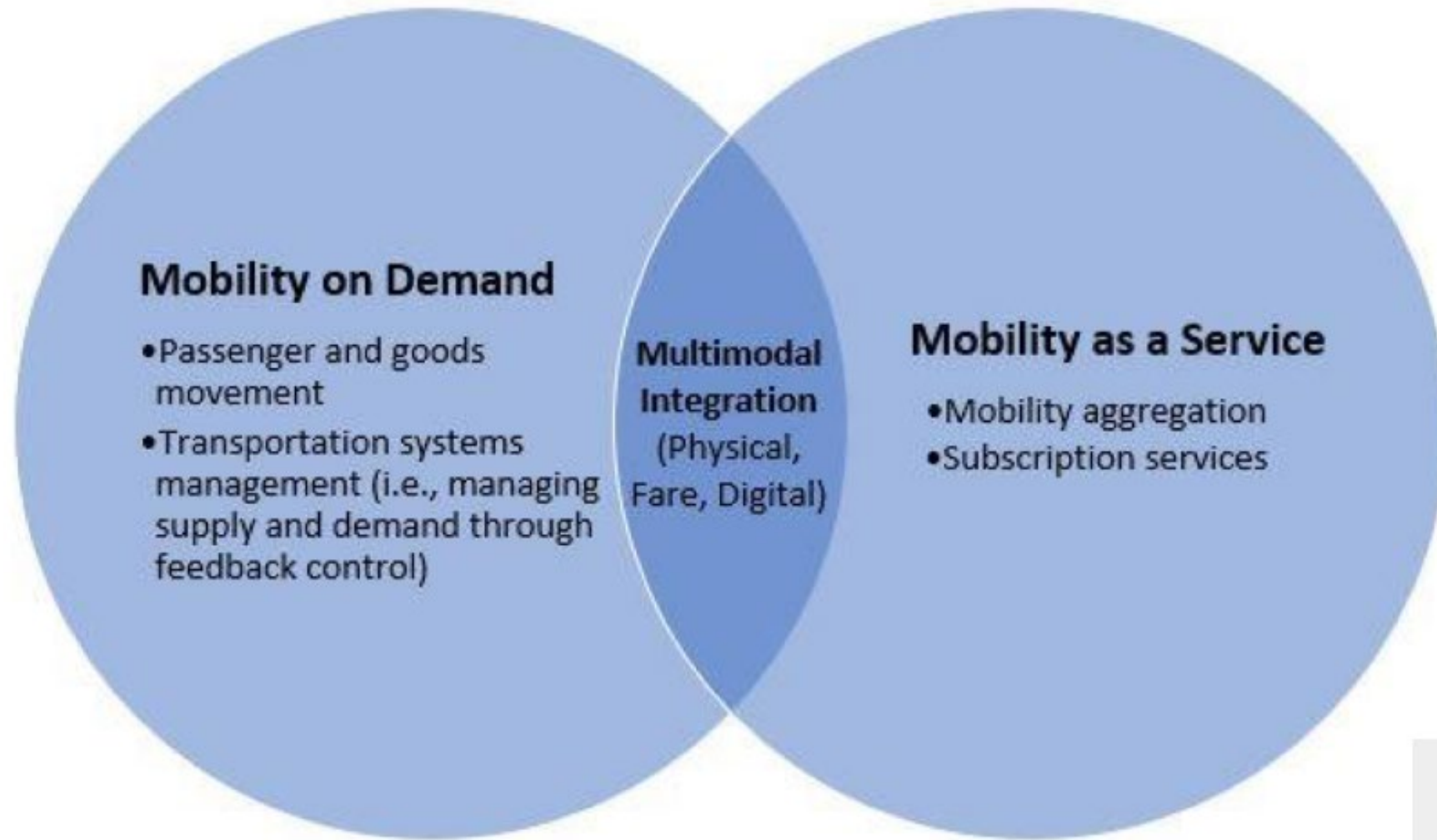
- Cost
- Journey time
- Wait time
- Number of connections
- Convenience

Enables consumers to **access mobility, goods, and services** on demand by dispatching or using following through an **integrated and connected multi-modal network**:

- Shared mobility
- Delivery services
- Public transportation solutions



# MOD AND MAAS



<https://www.move-forward.com/mobility-on-demand-mod-and-mobility-as-a-service-maas-how-are-they-similar-and-different/>

# MOD AND MAAS: KEY DIFFERENCES

MOD includes **passenger and goods movement**

MOD incorporates principles of transportation systems management (managing supply and demand)

MaaS emphasizes mobility aggregation and subscription services that bundle multiple services into a pricing package

<https://www.move-forward.com/mobility-on-demand-mod-and-mobility-as-a-service-maas-how-are-they-similar-and-different/>

# PART OF SAE J3163 EFFORT

## – 13 DEFINITIONS SO FAR

| A |                              |   | B   | C |
|---|------------------------------|---|---|---|
| 1 | Term                         | Definition  | Source  |   |
| 2 | Mobility as a Service (MaaS) | MaaS differs considerably from existing definitions of MOD in that MaaS emphasizes mobility aggregation, smartphone and app-based subscription access, and multimodal integration (infrastructure, information, and fare integration).  | <a href="https://rosap.ntl.bts.gov/view/dot/34258">https://rosap.ntl.bts.gov/view/dot/34258</a> |   |
| 3 | Mobility as a Service (MaaS) | MaaS emphasizes mobility aggregation, smartphone and app-based subscription access, and multimodal integration (infrastructure, information, and fare integration). MaaS tends to emphasize the integration and convergence of passenger mobility services, mobile devices, realtime information, and payment mechanisms. | <a href="https://rosap.ntl.bts.gov/view/dot/34258">https://rosap.ntl.bts.gov/view/dot/34258</a> |   |
| 4 | Mobility as a Service (MaaS) | MaaS primarily focuses on passenger mobility aggregation and subscription services. Brokering travel with suppliers, repackaging, and reselling it as a bundled package is a distinguishing characteristic of MaaS.   | Next Generation Mobility Systems (forthcoming)  |   |

# MAAS ALLIANCE DEFINITION

**Integration** of various forms of transport services into a single mobility service accessible **on demand**

- Facilitates **diverse menu** of transport options
- Offers added value through **single application**
- Offers **single payment channel**
- Provides **best value proposition**
  - Help meet mobility needs
  - Solve inconvenient parts of individual journeys and entire system of mobility services

# MAAS ALLIANCE (CONTINUED)

## Successful MaaS brings:

- **New business models**
- New ways to organize and operate transport options, with **advantages for transport operators** including:
  - Access to improved user and demand information
  - Access new opportunities to serve unmet demand

# MAAS ALLIANCE (CONCLUDED)

~~The aim of MaaS is to provide an **alternative to the use of the private car** that may be:~~

- As convenient
- More sustainable
- Help to reduce congestion and constraints in transport capacity
- Even cheaper

# MAAS TOPOLOGY



Source: Jana Sochor, Hans Arby and MariAnne Karlsson, " The topology of Mobility as a Service: A tool for understanding effects on business and society, user behavior, and technical requirements," Paper No. EU-SP1013, 2017 ITS World Congress, Montreal

# MAAS TOPOLOGY (CONT'D)

## – 17 DEFINITIONS IDENTIFIED

Overview of definitions and descriptions.

| Reference<br>(Term)                  | Definition/description  | Key words/concepts  |
|--------------------------------------|---|---|
| (A.D. Little, 2018), p. 59<br>(MaaS) | <i>"The concept of 'Mobility-as-a-Service' (MaaS) aims to provide consumers with integrated, flexible, efficient and user-oriented mobility services. It implies a shift away from the personal ownership of individual motorised transportation modes, and non-integrated means of transportation towards the use of integrated multimodal mobility solutions consumed as services. This shift is enabled by combining transportation services from public- and private-transportation providers through an 'integrated mobility platform' that creates and manages the journey and integrates planning and payment (based on mobility packages tailored to the needs of each customer segment) on a one-stop-shop principle."</i> | Service;<br>Multimodality;<br>User-centric;<br>Integration;<br>Platform;<br>Planning;<br>Payment;<br>Packages;<br>One-stop-shop;<br>Public and private;<br>Personalisation;<br>Flexible;<br>Efficient;<br>Non-ownership |
| (Atkins, 2015), p. 19<br>(MaaS)      | <i>"MaaS can be defined as: The provision of transport as a flexible, personalised on-demand service that integrates all types of mobility opportunities and presents them to the user in a completely integrated manner to enable them to get from A to B as easily as possible."</i>  | Service;<br>Multimodality;<br>Integration;<br>On-demand;<br>Personalisation;<br>Flexible;<br>Easy   |
| (Ghanbari et al., 2015)<br>(MaaS)    | <i>"MaaS, a multi-actor environment that provides seamless door-to-door services for end users by combining several modes of transportation."</i>   | Service;<br>Multimodality;<br>Ecosystem;<br>Seamless;<br>Door-to-door   |
| (Heikkilä, 2014), p. 8<br>(MaaS)     | MaaS is "a system, in which a comprehensive range of mobility services are provided by customers to mobility operators."  | Customers;<br>Operators;<br>Comprehensive   |
| (Hietanen, 2014), pp. 1-2<br>(MaaS)  | <i>"MaaS is a mobility distribution model in which a customer's major transportation needs are met over one interface and are offered by a service provider. Typically, services are bundled into a package."</i>   | Customer's needs;<br>One interface;<br>Service provider;<br>Bundling  |
| (ITS Australia, 2018), p. 20         | <i>"MaaS systems offer customers personalised access to multiple transport modes and services, owned and</i>  | Multimodality;  |



# CONCLUSIONS FROM EXPLORATION OF DEFINITIONS AND DESCRIPTIONS

No established definition of MaaS

Likely premature to provide 'one definition'

Some common and different **central elements** related to e.g.:

- Technology
- Organization
- Function
- Value offering
- Society

# CONCLUSIONS FROM EXPLORATION OF DEFINITIONS AND DESCRIPTIONS (CONT'D)

Offering a service with customer/user/traveler/consumer transport needs as the main focus

Offering (multimodal) mobility rather than transport

Offering integration of transport services, information, payment and ticketing

# WHAT ARE THE KEY COMPONENTS OF THE MAAS DEFINITION?

Technology

Organization

Function

Value offering

Society

# THANK YOU!

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