# Challenges in MaaS – the ERTICO experience

Dr. Johanna Tzanidaki

Director Innovation and Deployment

ERTICO –ITS Europe

J.Tzanidaki@mail.ertico.com

# ERTICO Partners

## MOBILE NETWORK OPERATORS

T··Mobile · · · ERICSSON · TIM

## PUBLIC AUTHORITIES

**NATIONAL**

bmvit · Department for Transport · GDDKIA · Bundesministerium für Verkehr, Bau und Stadtentwicklung

MIT · Czech Republic Ministry of Transport

Rijkswaterstaat Ministry of Infrastructure and the Environment · Norwegian Public Roads Administration · IMT · وزارة النقل TRANSPORT MINISTRY

TRAFICOM · TRAFIKVERKET · DGT

REPUBLIC OF TURKEY MINISTRY OF TRANSPORT AND INFRASTRUCTURE · WDR

**REGIONAL**

Flanders State of the Art · Province Noord-Brabant · NORTH DENMARK REGION · GOBIERNO VASCO

The Ministry of Informatization and Communication of the Republic of Tatarstan

**CITY**

Berlin · CITY OF COPENHAGEN · Glasgow · Hamburg · BORDEAUX MÉTROPOLE

Northamptonshire County Council · Strasbourg.eu · THE CITY OF TAMPERE · TRANSPORT FOR LONDON · CONCELLO DE VIGO

## RESEARCH

AALBORG UNIVERSITY DENMARK · ARISTOTLE UNIVERSITY OF THESSALONIKI · CATAPULT Satellite Applications · CATAPULT Transport Systems

CERTH · CHALMERS · CTAG Centro Tecnológico de Automoción de Galicia · DLR Deutsches Zentrum für Luft und Raumfahrt German Aerospace Center

DTU Technical University of Denmark · ICCS · ICOOR · IFSTTAR

LINKS · ITS UNIVERSITY OF LEEDS · list · LIST

MIRA · Newcastle University · OKAN ÜNİVERSİTESİ · Politecnico di Bari

TNO innovation for life · VEDECOM · vicomtech · VTT

## SERVICE PROVIDERS

AKKA · Allianz · Atos · BE MOBILE

DEKRA · dots. · here · IBM

Applus IDIADA · NeoGLS · PluService.NET · PTV GROUP the mind of movement

SWECO · teamnet · Technolution · TomTom

VVA Valdani Vicari & Associati ECONOMICS & POLICY

## SUPPLIERS

3M · AISIN AW · BRIDGESTONE · Continental

DENSO · DENSO TEN · FICOSA · HUAWEI

META SYSTEM · MITSUBISHI ELECTRIC Changes for the Better · NEC · NXP

Panasonic · Qualcomm · Valeo

## TRAFFIC AND TRANSPORT INDUSTRY

ASFA · dynniq · kapsch · MICHELIN

SIEMENS · swarco · TXLOGISTIK

## USERS

Automobile Club d'Italia · FIA · RACC

## VEHICLE MANUFACTURERS

ACEA European Automobile Manufacturers Association · BMW · MINI · FCA · FIAT · Ford

FORD OTOSAN · GROUPE RENAULT · HONDA · JAGUAR · LAND ROVER
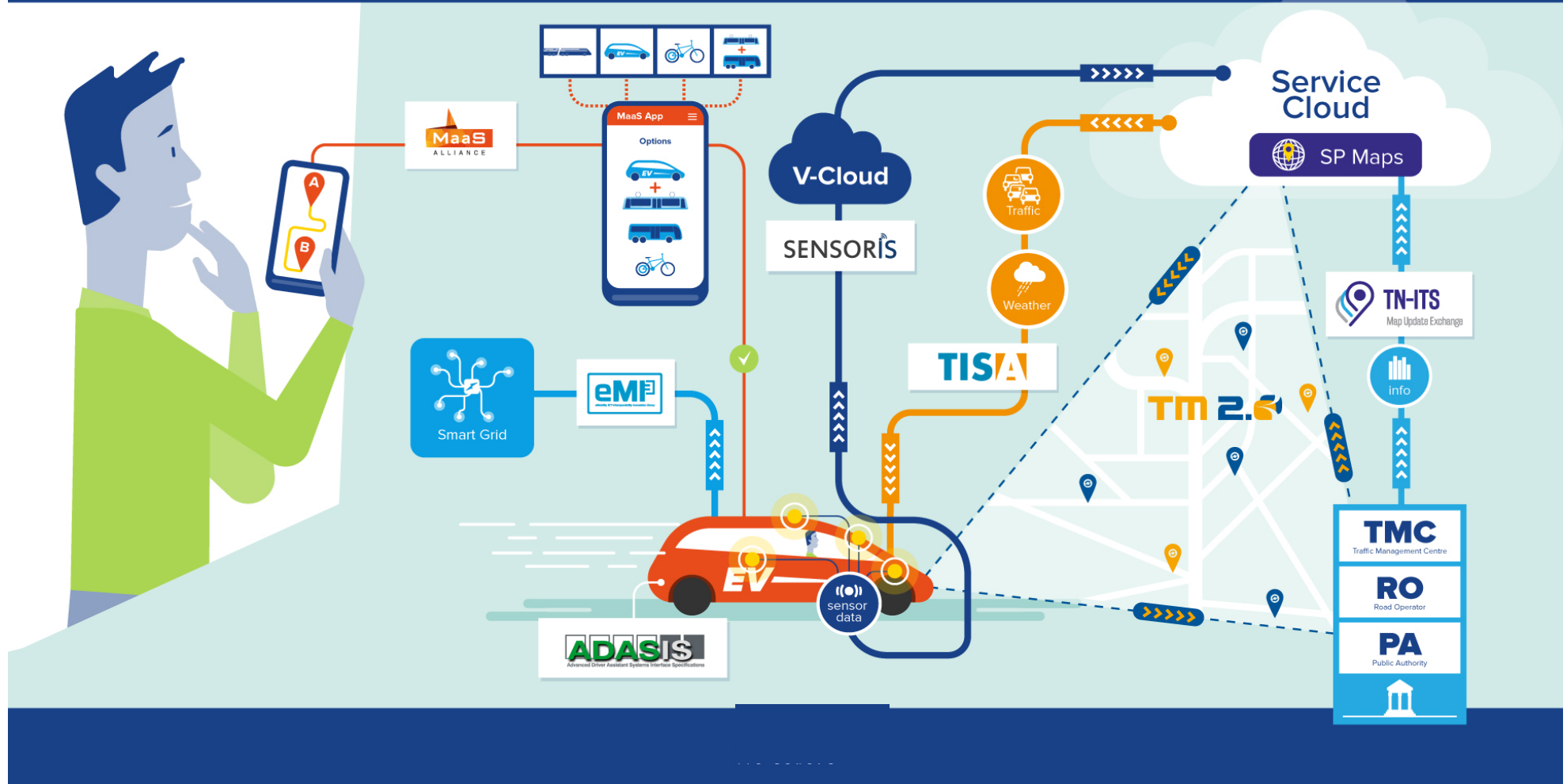
TOYOTA · VOLVO · VOLVO · VOLKSWAGEN

# ERTICO's Vision 2030 for mobility

- Shared
- Digital
- Multimodal
- Connected

- Clean
- Safe
- On demand
- User-centric

- Integrated

# SMART MOBILITY DEPLOYMENT BY ERTICO PARTNERSHIP

MaaS Alliance

MaaS App
Options

V-Cloud
SENSORIS

Traffic
Weather
TISA

Smart Grid
eMI³

Service Cloud
SP Maps

TM 2.0

TN-ITS
Map Update Exchange
Info

ADASIS
Advanced Driver Assistant Systems Interface Specifications

sensor data

EV

TMC
Traffic Management Centre
RO
Road Operator
PA
Public Authority

MaaS
ALLIANCE

Bringing together
- Public and private sectors
- Mobility service providers
  (often local)
  and tech companies (often
  global)
- Disruptors and incumbents
- Data providers and data users
- Local and global approaches
- Players with different business
  models
  (B2C, B2G2C, B2B …)



9%

48%

43%

■ Public Sector  ■ Private Sector  ■ Associations  ■
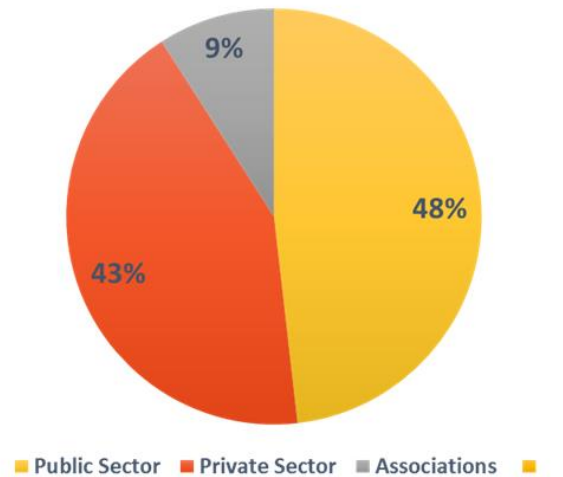
According to headquarters, updated in May 2021

Mobility as a Service (MaaS)

"MaaS is the integration of various forms of transport services into a single mobility service, accessible on demand."

**MaaS Alliance White Paper**
https://maas-alliance.eu/wp-content/uploads/sites/7/2017/09/MaaS-WhitePaper_final_040917-2.pdf



MaaS Alliance
-international public-private-partnership

Journey planner
Booking
Ticketing
Real-time information
& support

Flexible mixed use of
- Public
- Private
- Shared resources

Public Transport
Rental cars
Ride sharing
Car sharing
Bike sharing
E-scooters

# 3 dimensions of MaaS
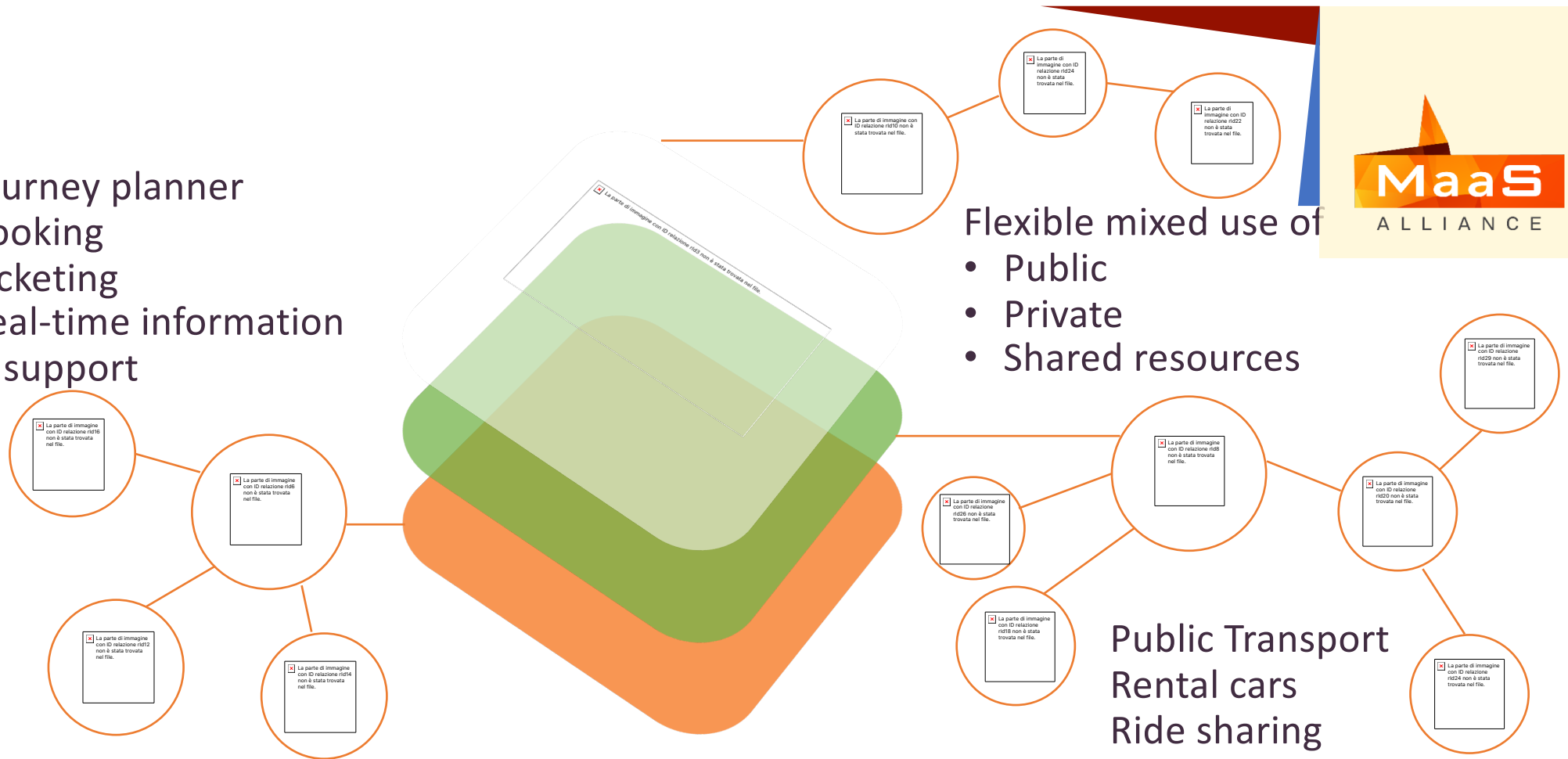
MaaS
ALLIANCE

➢Challenges in MaaS

Winner takes it all (UNDESIRED)
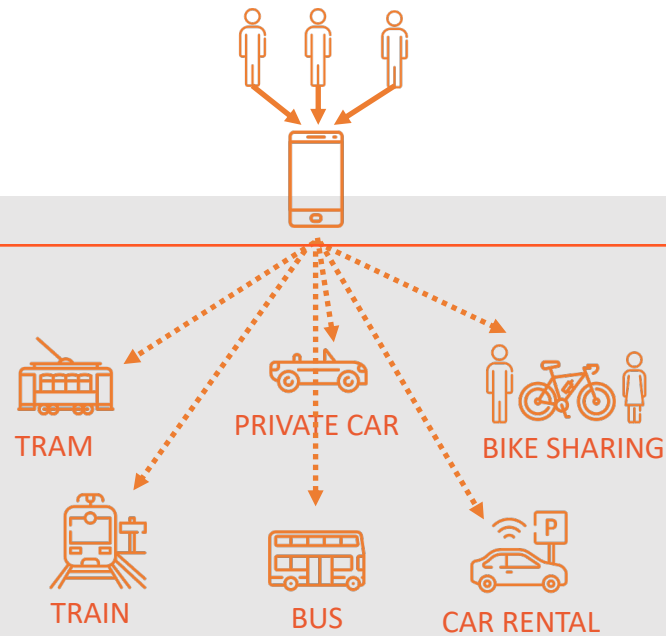
Open ecosystem (DESIRED)
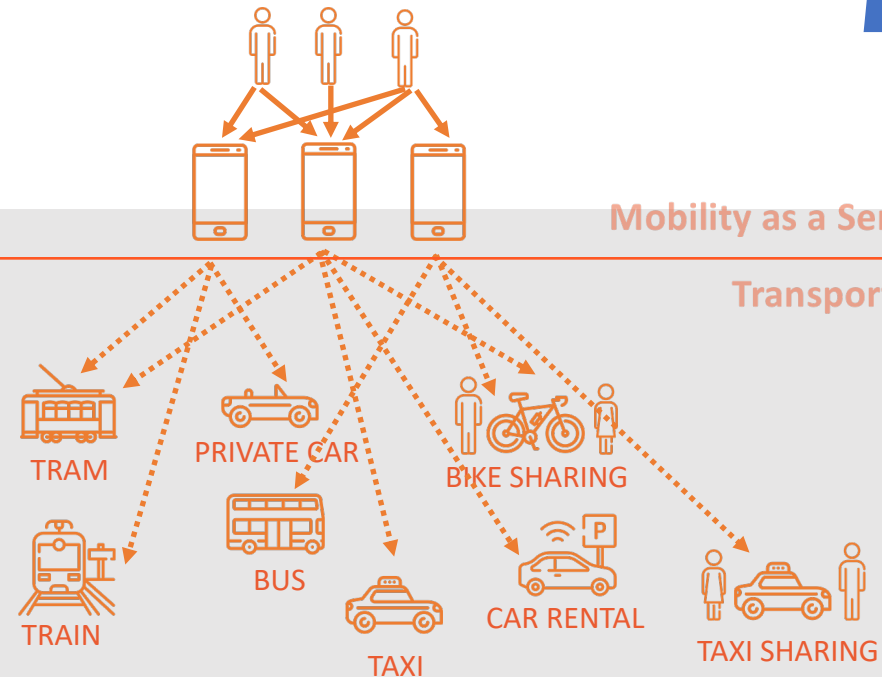
Mobility as a Service (aggregators)

Transport service providers

TRAM
PRIVATE CAR
BIKE SHARING
TRAIN
BUS
CAR RENTAL

TRAM
PRIVATE CAR
BIKE SHARING
TRAIN
BUS
TAXI
CAR RENTAL
TAXI SHARING

- Access to data
- Access to market
- Access to service
- Integration

**Vision:** an open MaaS ecosystem

MaaS
ALLIANCE

# COVID-19 impacts

- **Emergency measures:**
  - Services for critical workers
  - Safety measures
- **Changes in behaviour:**
  - **Negative impacts:** Public transport, car rental, automotive industry, ride-hailing
  - **Positive impacts:** cycling, micromobility, delivery services
- **Acceleration of**
  - Contactless processes – public transport and car rentals
  - Electomobility (via stimulus packages)
- **Structural changes:**
  - Reallocation of space in cities
  - New "togetherness" (we have to deal with this together, complementarity, MaaS, redefinition of public transportation)

# Integrating occupancy features into MaaS
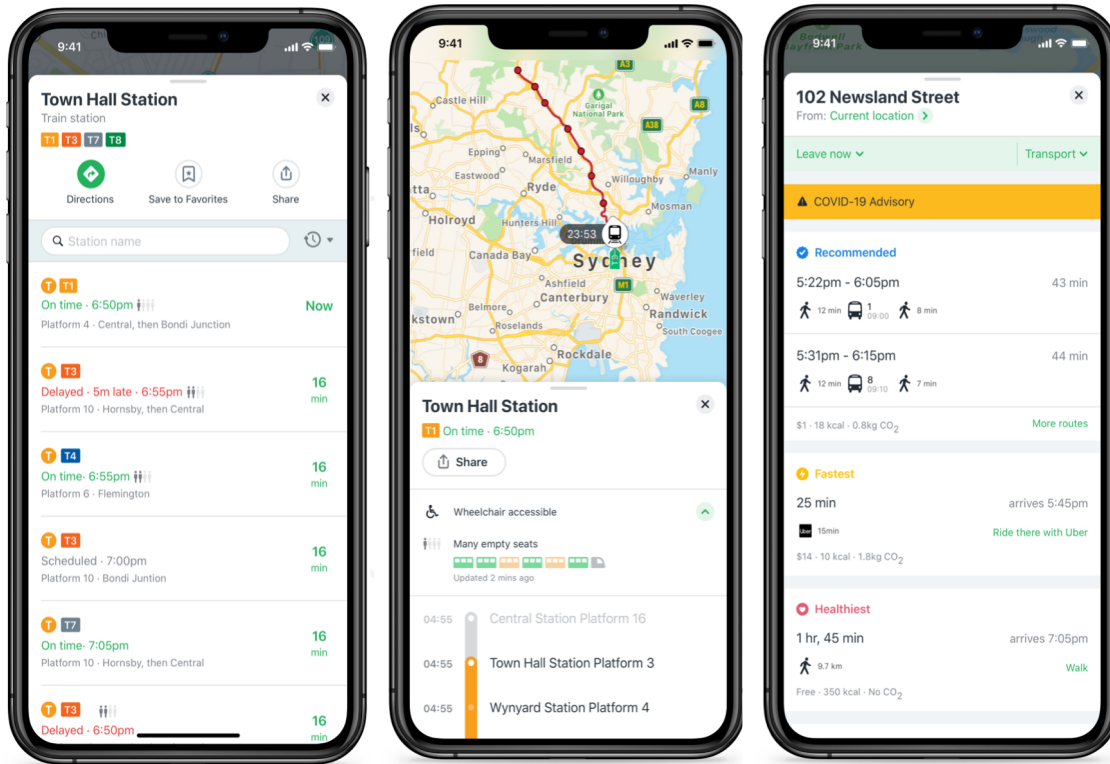
**Current new features: real-time occupancy of carriages, COVID-19 alerts**

**Future dev: occupancy-based routing of journeys, alongside other priorities**

@TripGo    kedgo.com

# Viavan: Supplementing public transportation with a free on-demand service for essential workers



## BVG

Getting essential
workers where
they need to go.

**CASE STUDY:**

**BVG, Berlin**

- Extending service zone to cover 10+ hospitals.

- Transforming an existing shared, on-demand service into a dynamic service for essential healthcare workers.

- Allowing registration to pre-approved workers only.

- Reducing vehicle capacity to allow for social distancing and public health recommendations.

- Timeline: 1 week.

**UbiGo**
URBAN MOBILITY

# MaaS topology (Sochor, Arby, Sarasini, Karlsson, Holmberg)

4 | **Integration of societal goals**
Governance & PP-cooperation

3 | **Integration of service offer**
Bundling/subscription - responsibility

2 | **Integration of payment:**
Single trip - find, book and pay

1 | **Integration of information:**
Multimodal travelplaner, price info

0 | **No integration:**
Single, separate services
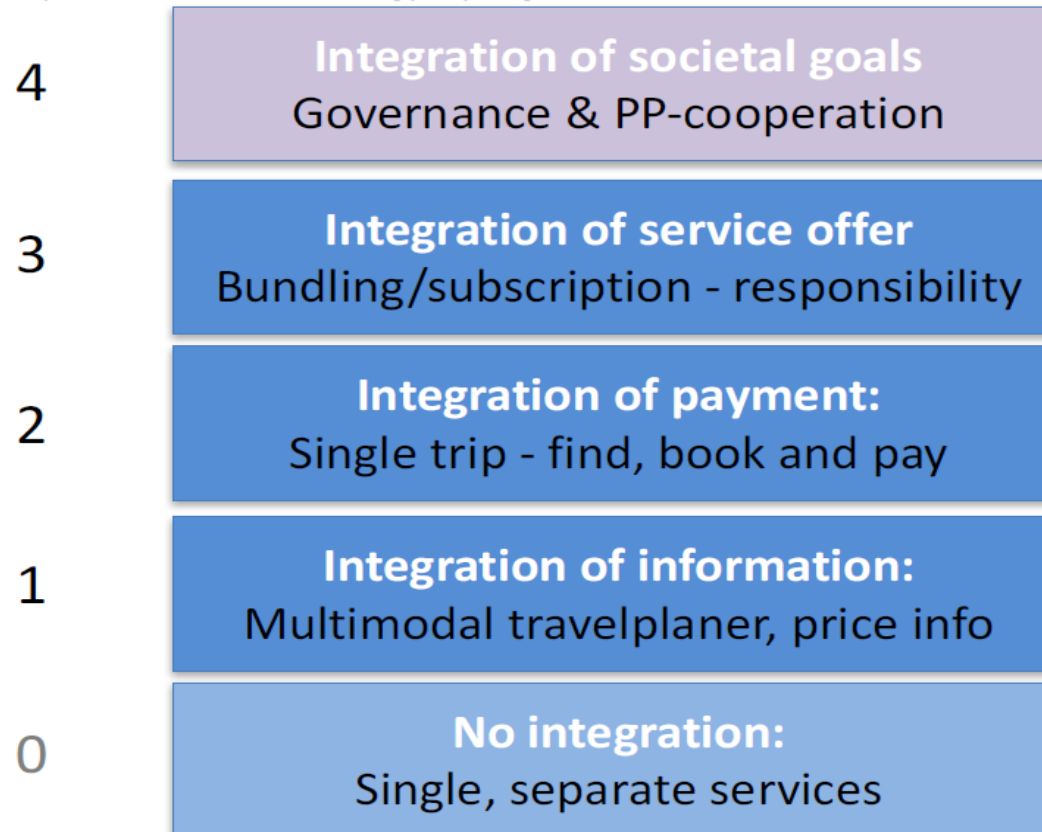
➢ Mobility Network

# By encouraging **desired modal shift:**

- From single-occupancy to shared vehicles / rides

- Better information on active mobility options

- Making multimodal combined trips more predictable, easy and attractive

- Providing better info & access to tourist, to public transport networks, and services
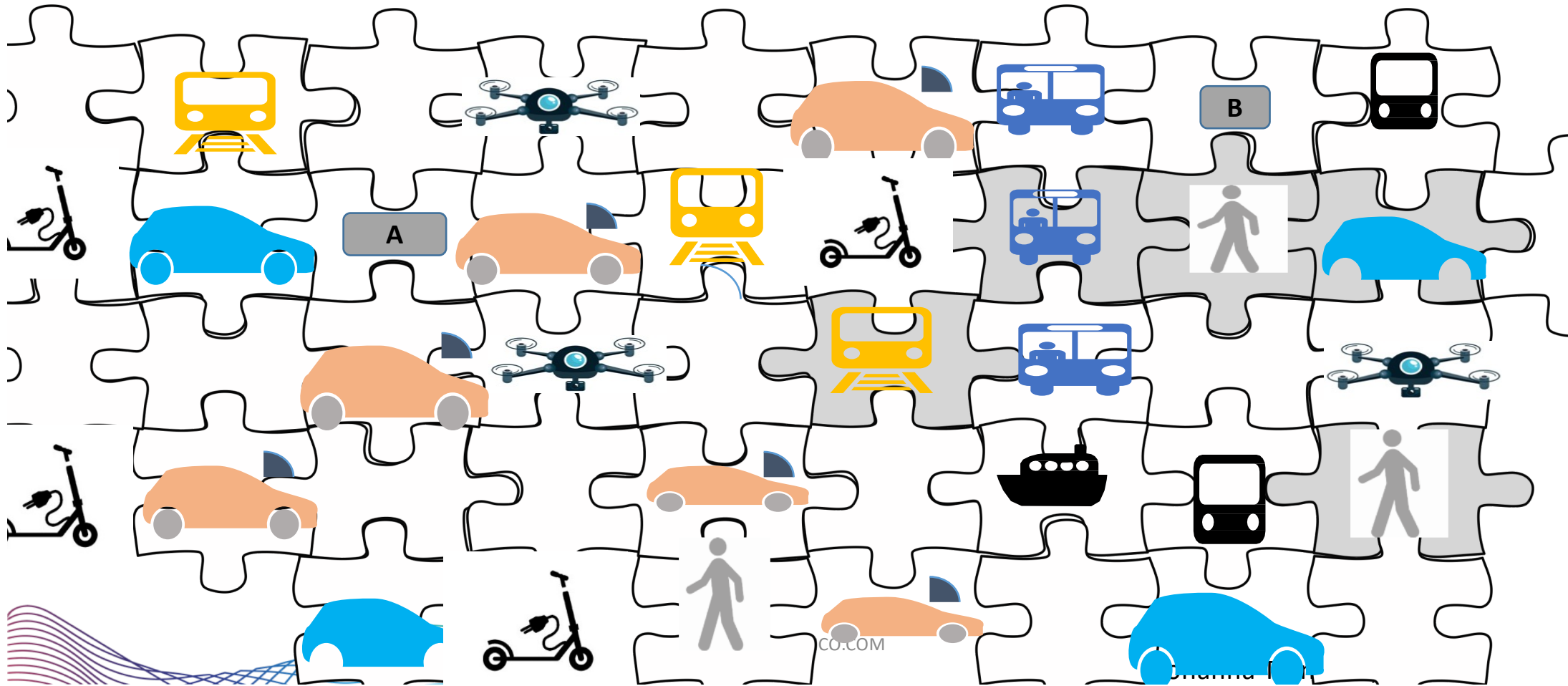
# By making **transport network operations more efficient:**

MaaS
ALLIANCE

- Less vehicles in urban areas – release urban space - less traffic & congestions related to search of the parking space

- "Fleet effects" (B2B market): Easier to implement measures through agreement with fleet operators

- **Data gathered by MaaS app used for predictive traffic management services and network and capacity management**

# Mechanisms on how MaaS can change the world

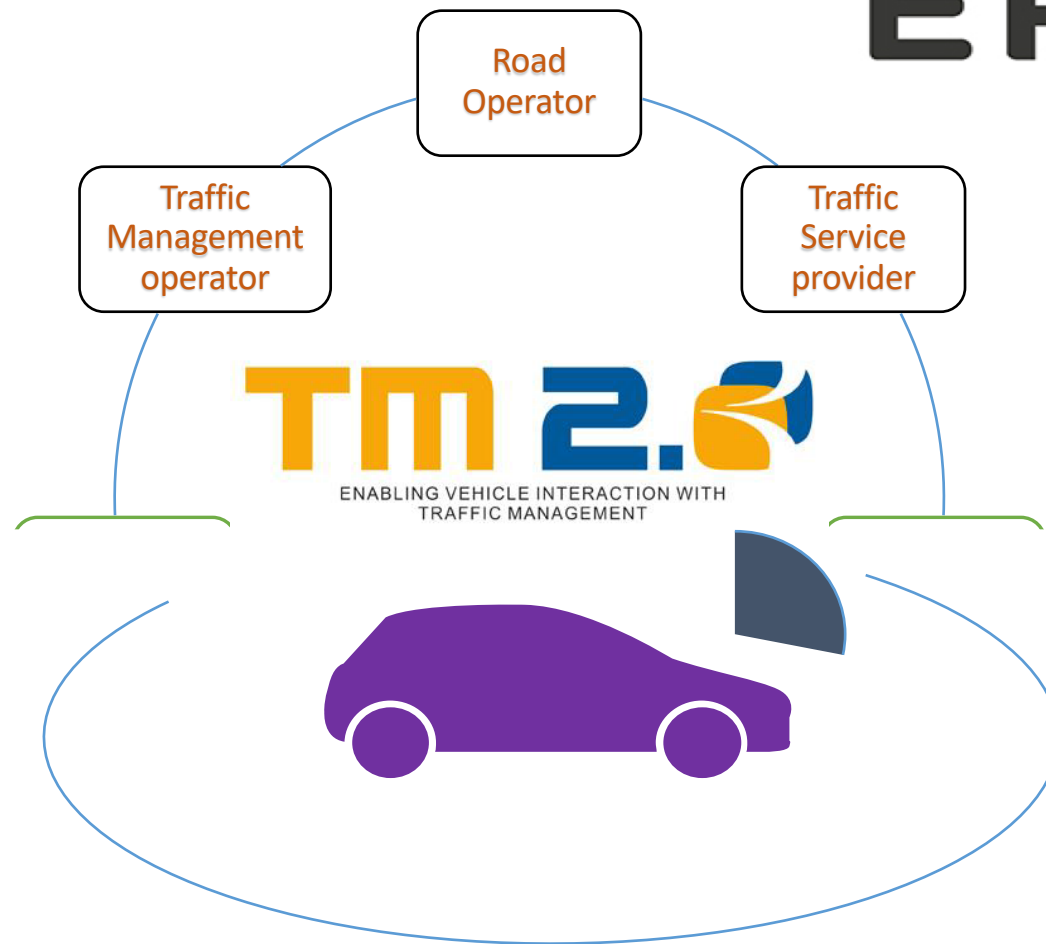# Multimodal Mobility & Common Operational Picture

# Interactive Traffic Management

**ERTICO**
ITS EUROPE

Principles:

Collaboration & Trust

Co-opetition

Road
Operator

Traffic
Management
operator

Traffic
Service
provider

**TM 2.0**
ENABLING VEHICLE INTERACTION WITH
TRAFFIC MANAGEMENT

Loop of
information in
TM value-chain

credits: Johanna Tzanidaki, ERTICO

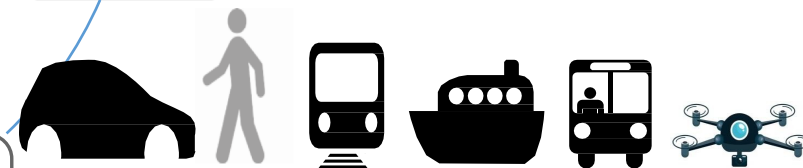# Mobility Network Management
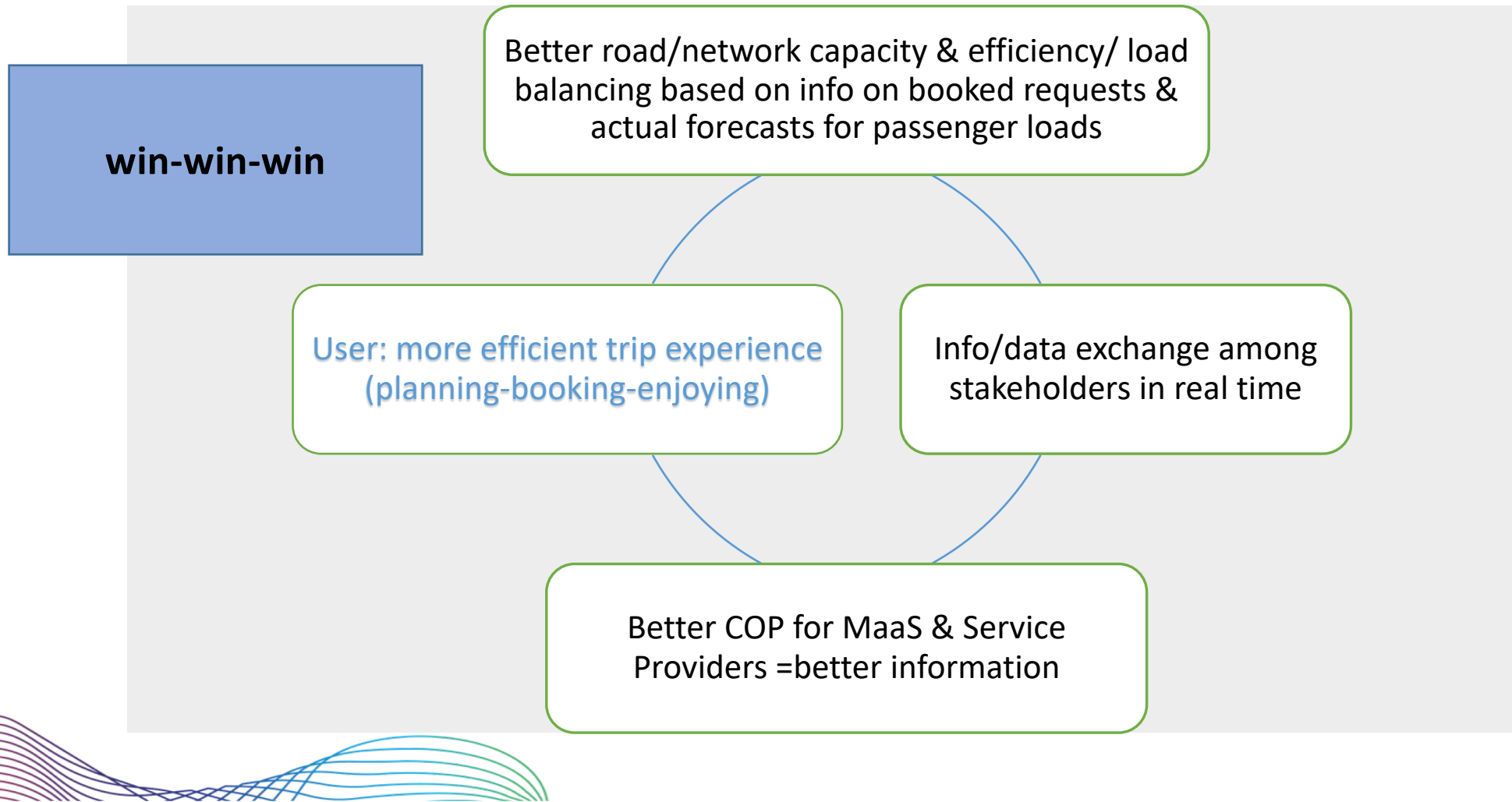
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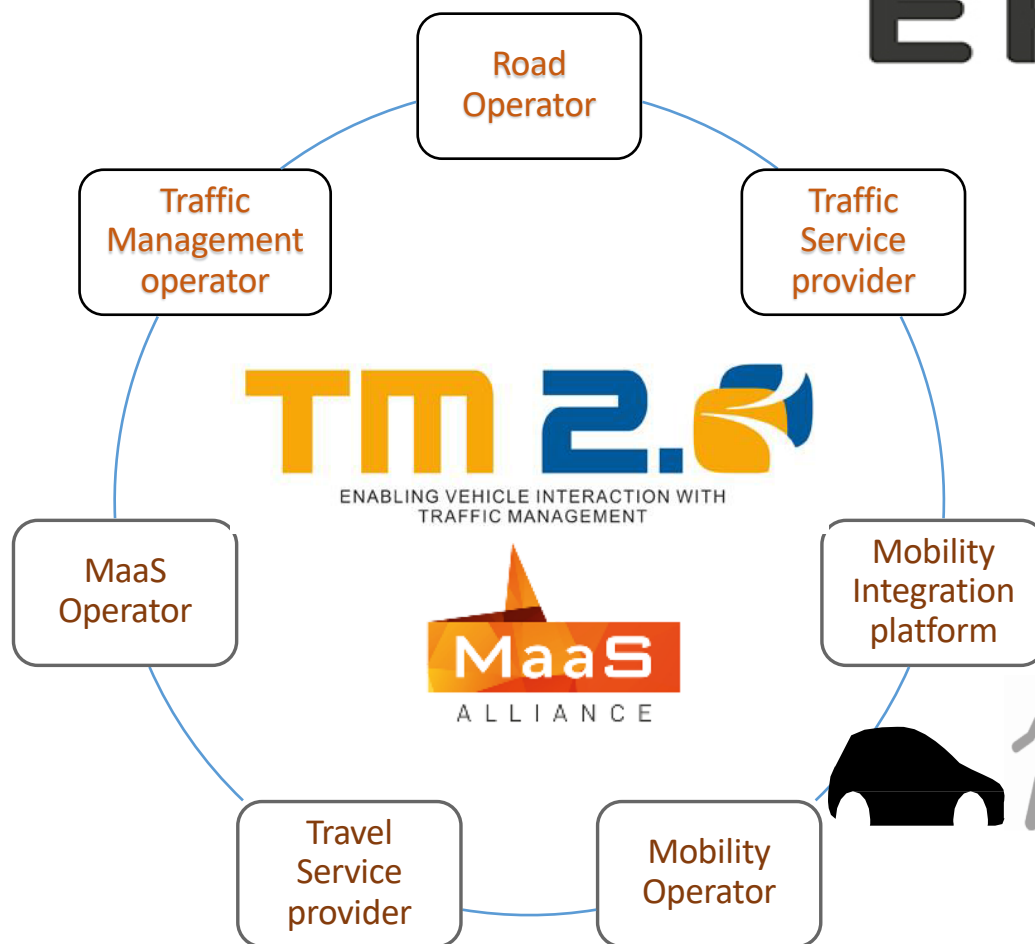


Loop of information in mobility value-chain

credits: Johanna Tzanidaki, ERTICO

# Multimodal Mobility Management / Mobility Network Management

**win-win-win**

Better road/network capacity & efficiency/ load balancing based on info on booked requests & actual forecasts for passenger loads

User: more efficient trip experience (planning-booking-enjoying)

Info/data exchange among stakeholders in real time

Better COP for MaaS & Service Providers =better information