



# Urban Intelligent Transport Systems

Stephanie Leonard  
Policy Officer Unit B4  
Sustainable and Intelligent  
Transport



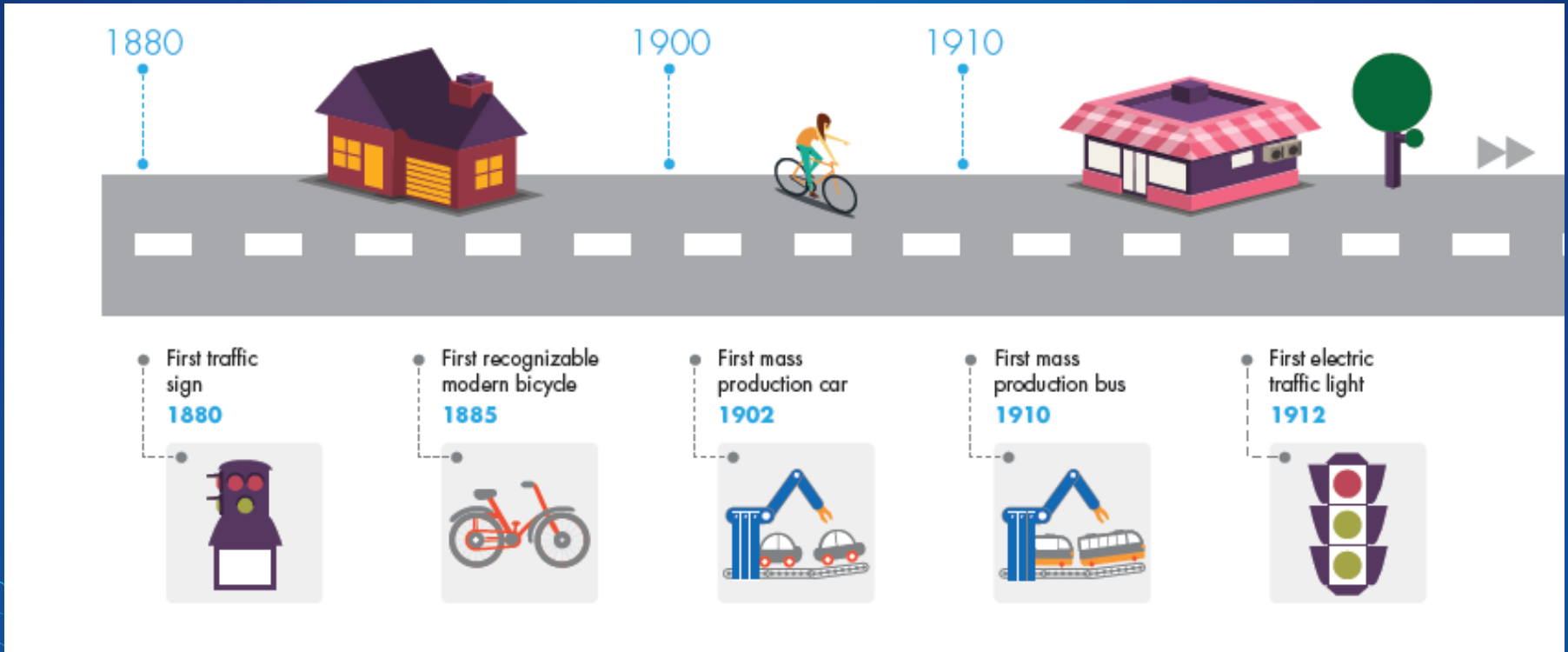
**What are Intelligent  
Transport Systems  
(ITS) and why are they  
important for urban  
mobility?**

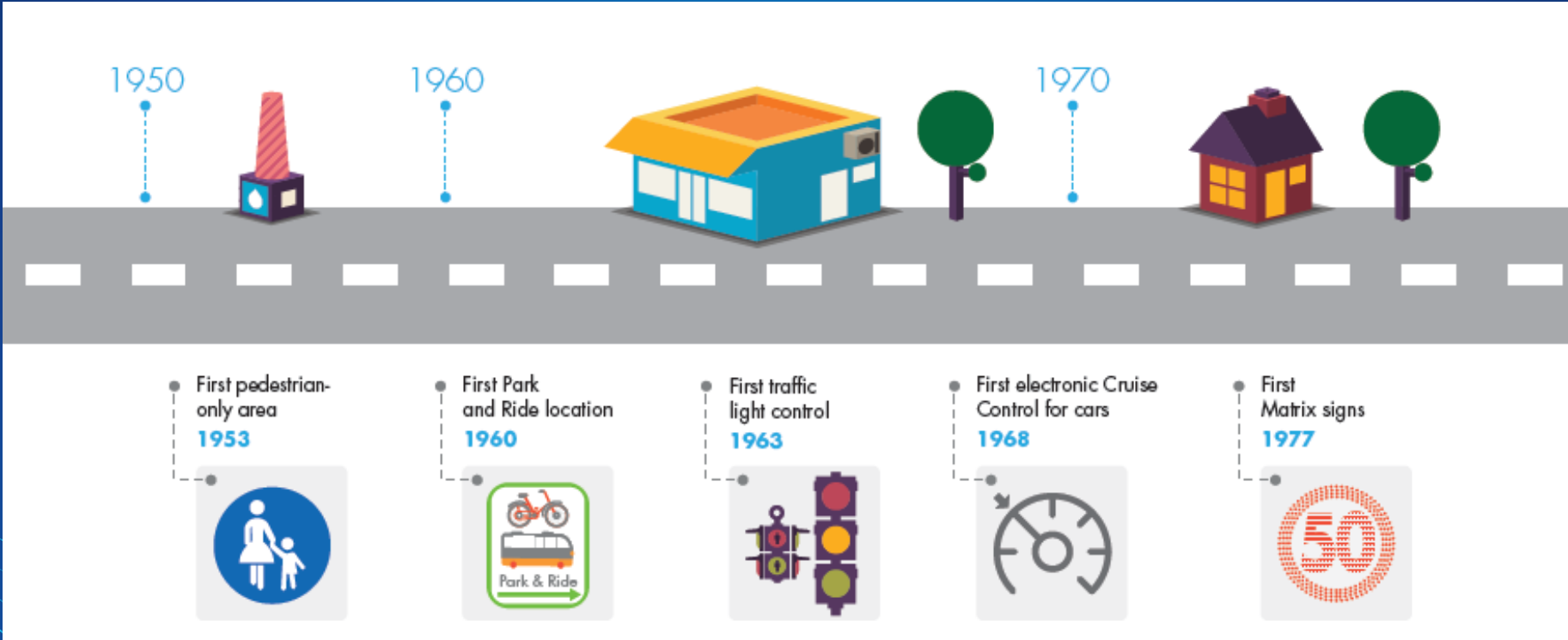


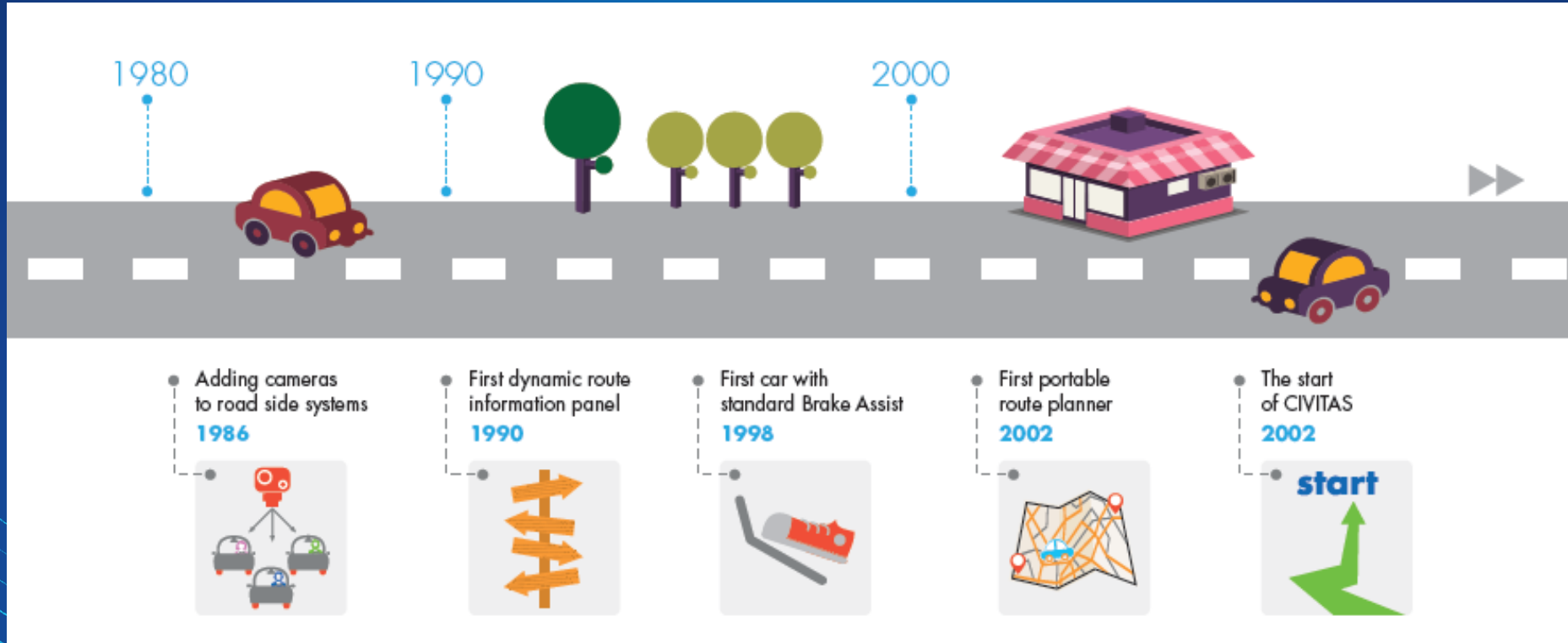
@Transport\_EU

Mobility and  
Transport

**CONNECTING  
EUROPE**

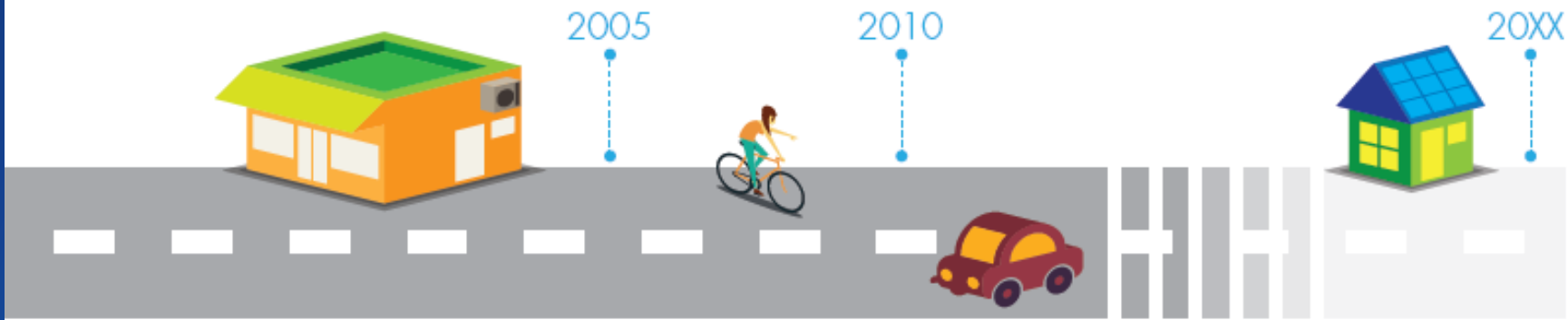








### Infographic timeline with important traffic, traffic management and ITS moments



- First commercial car with Park Assist **2003**



- London congestion charging **2003**



- First iPhone **2007**



- First state permitting autonomous Google cars **2012**



- First commercially available self-driving car







Robustness of networks



More than one road operator



Parking



Multimodality



## 7 IMPORTANT CHARACTERISTICS OF URBAN TRAFFIC



Mixed traffic



Intersections and priorities



Distribution and logistics



# Part 1: Cooperative, Connected and Automated Mobility



# Cooperative, Connected and Automated Mobility



Cooperative Intelligent Transport Systems (C-ITS) use **WiFi and Cellular** based technologies to allow road vehicles to communicate with other vehicles, with traffic signals and roadside infrastructure as well as with other road users.

The systems are also known as vehicle-to-vehicle communications (V2V), or vehicle-to-infrastructure communications (V2I).



## Cooperative, Connected and Automated Mobility

- This interaction will allow **road users and traffic managers** to **share and use information** not previously available and to coordinate their actions.
- **Exchanging data** between **different actors** in the transport system means supply and demand can be matched in real time, leading to a more efficient use of resources
- This cooperative element – enabled by digital connectivity – is expected to significantly improve **road safety, traffic efficiency and comfort of driving**, by helping the driver to take the **right decisions** and **adapt** to the traffic situation.

# What information can be exchanged?



# 11.a

#	Day 1 Services	
	<b>Hazardous location notifications</b>	<b>Signage applications</b>
1	Slow or station vehicle(s) (V2V) and Traffic jam ahead warning (V2V)	7 In-vehicle signage (V2I)
2	Road works warning (V2I)	<b>8 In-vehicle speed limits (V2I)</b>
3	Weather conditions (V2I)	<b>9 Signal violation/intersection safety V2I</b>
4	Emergency electronic brake light (V2V)	<b>10 Traffic signal priority request by designated vehicles V2I</b>
5	Emergency vehicle approaching (V2V)	<b>11 Green Light Optimized Speed Advisory GLOSA/Time To Green (TTG) V2I</b>
6	Other hazardous notifications (V2I)	<b>12 Probe Vehicle Data</b>
		13 Shockwave damping (V2I)

# What information can be exchanged?



# 11.b

#	Day 1.5 Services
1	Information on AFV stations and charging points (V2I)
2	<b>Vulnerable road user protection (pedestrians, cyclists, motorcyclists) (V2X)</b>
3	<b>On street parking information and management (V2I)</b>
4	Off street parking information (V2I)
5	<b>Park and Ride information (V2I)</b>
6	Connected & Cooperative navigation into and out of the city (1 <sup>st</sup> and last mile, parking, route advice, coordinated traffic lights)
7	<b>Traffic information and smart routing (V2I)</b>

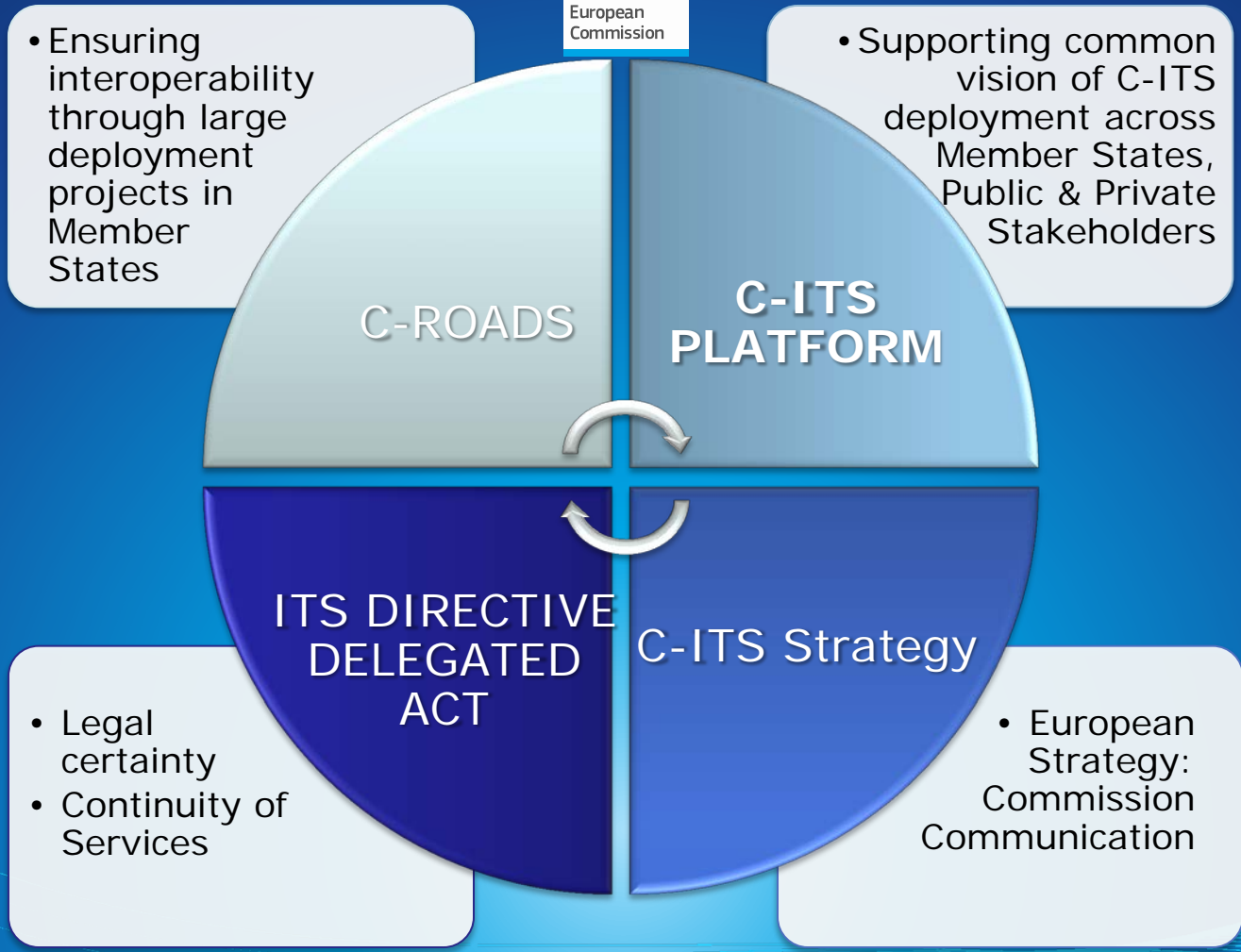




## Cooperative, Connected and Automated Mobility

- Communication between vehicles, infrastructure and with other road users is crucial also to increase the safety of **automated** vehicles and their full integration into the overall transport system.
- Cooperation, connectivity, and automation are not only complementary technologies, they **both need and reinforce each other** and will over time merge completely.



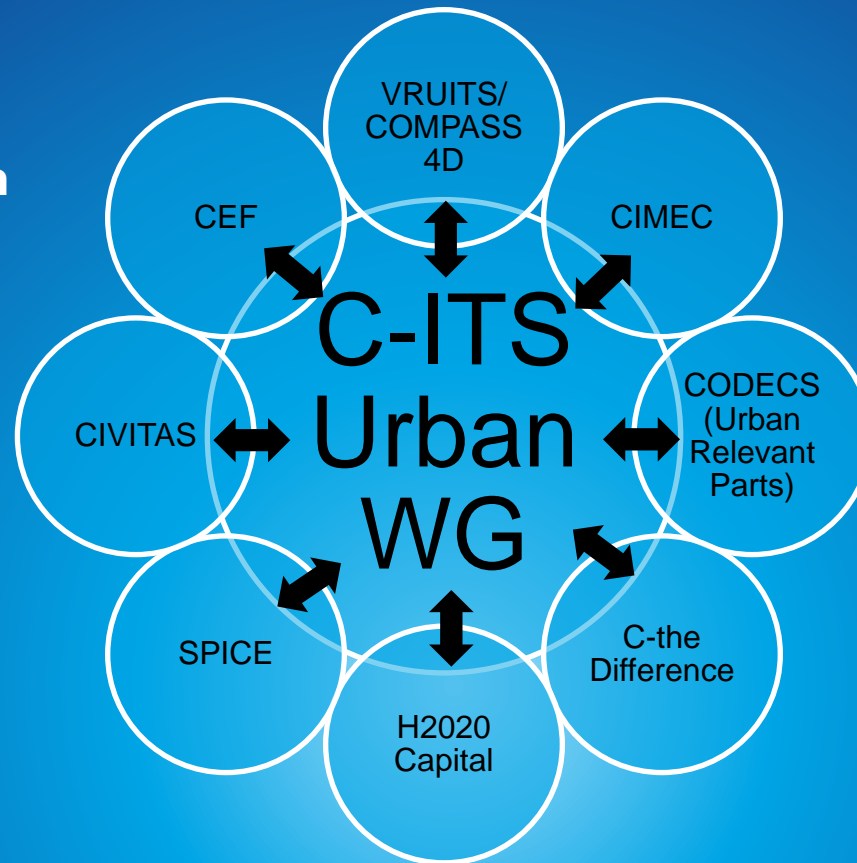




## C-ITS Platform Phase 2: Urban WG

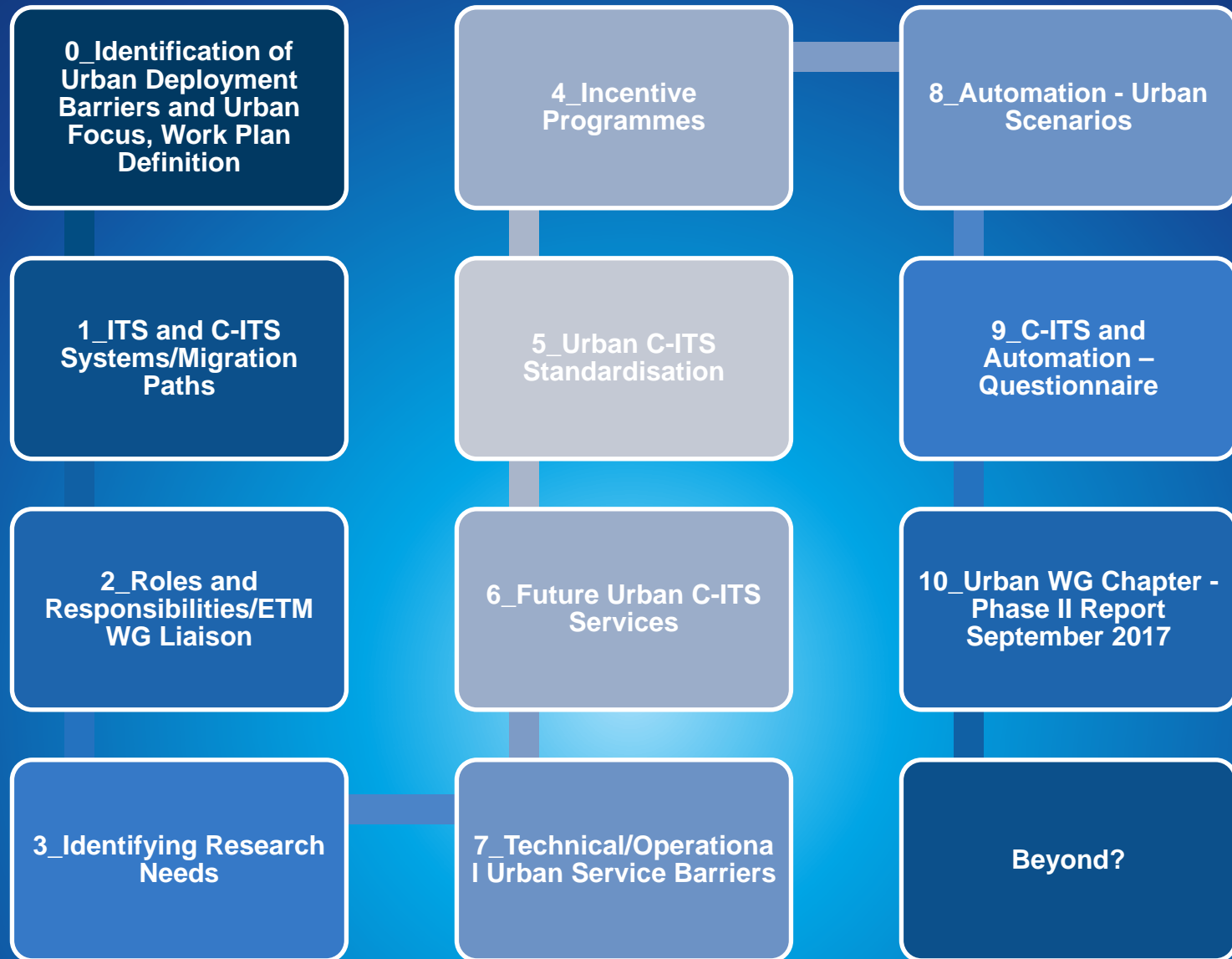
Identifying  
Relevant C-ITS  
Services in Urban  
Areas

Identifying  
Deployment  
Barriers



Coordination of  
Urban C-ITS  
Activities

Identifying  
Supporting  
Deployment  
Measures

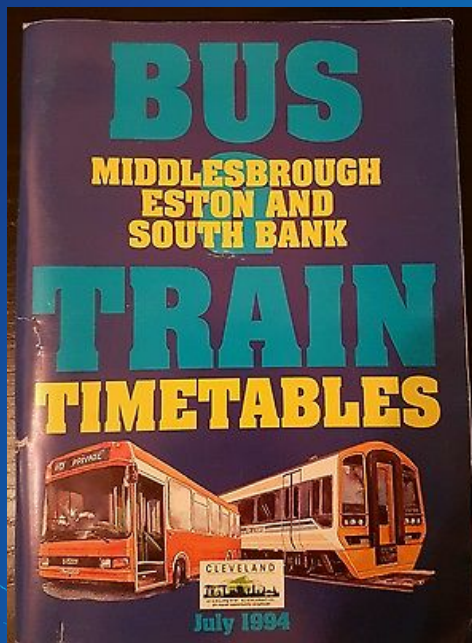




# Part 2: EU-wide Multimodal Travel Information Services

## Multimodal Travel Information

In the past, travellers would plan their journeys via traditional paper based timetables or travel agencies.

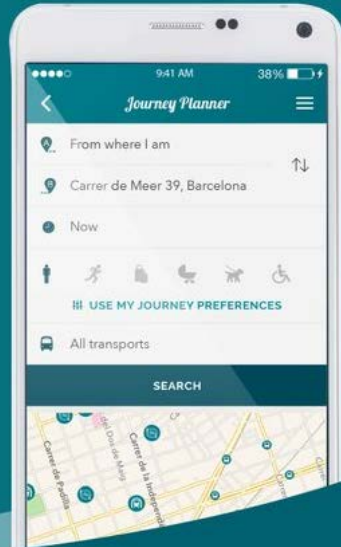


However, the internet and growth of smartphones have revolutionised the way journeys are planned with a huge growth of smart phone applications and travel information websites












## Multimodal Travel Information

**Multimodal travel information services** give travellers an overview of **all** possible travel options available to them through online websites and smartphone applications provided by **public** and **private** service providers.



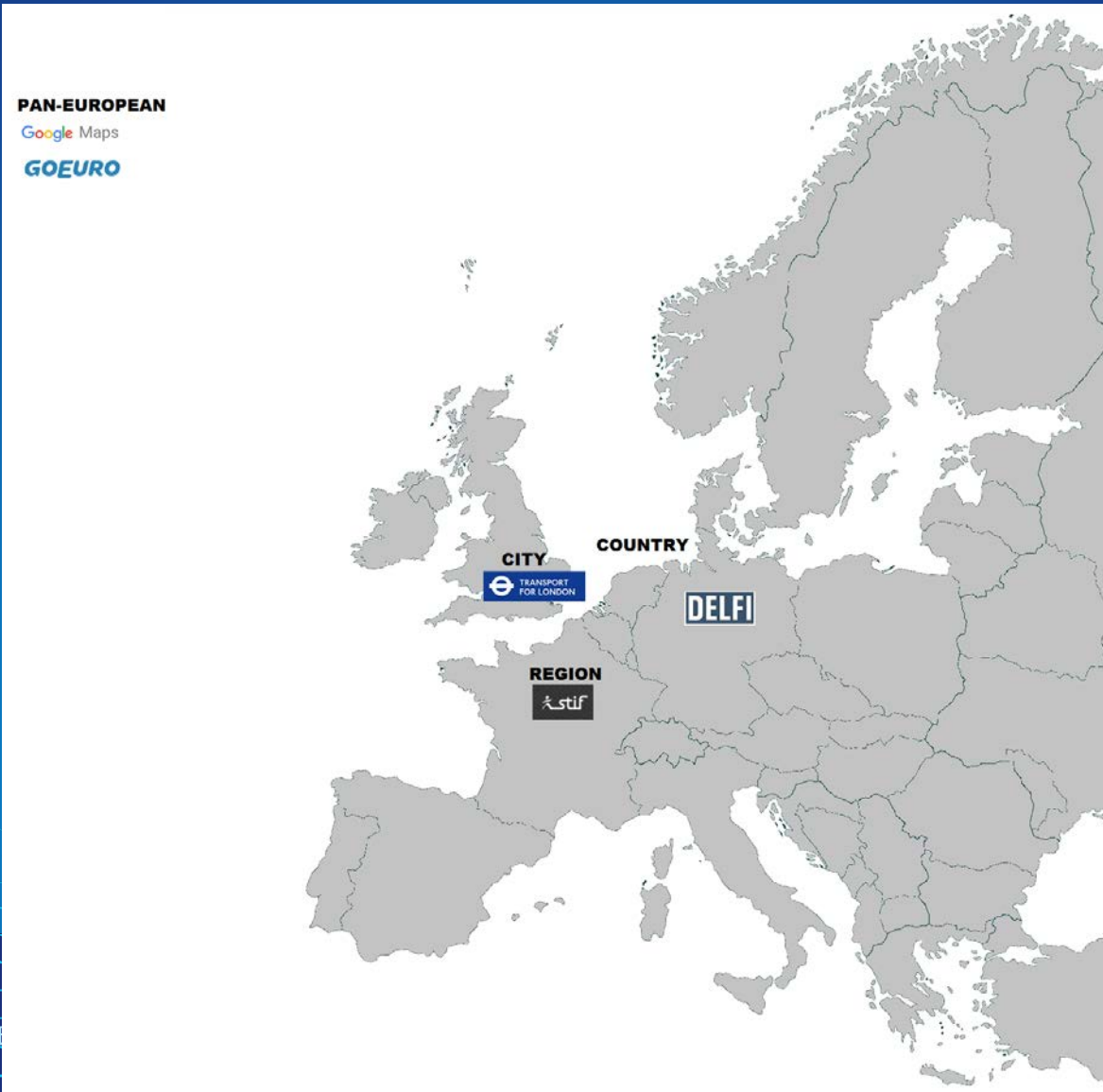
**MULTIMODAL**

 + 
  + 
  + 
  + 
  ...

 Real time information
  User centric
  Context awareness
  Service end-to-end



# Multimodal Travel Information at Different Levels





## Benefits of Multimodal Travel Information

They promote more **sustainable and less pollutant** ways of travelling

The transport network can be managed more **efficiently** during peak travel times

Travel information is more **inclusive** for passengers with reduced mobility

With **real-time information**, passengers are **better prepared**

Multimodal travel information services offer **digital economy jobs and growth**

All contributing towards some of the key Juncker Priorities

- **Boosting Jobs, Growth and Investment**
- **A Connected Digital Single Market**
- **Climate Action and Energy**



@Transport\_EU

Mobility and  
Transport

**CONNECTING**  
**EUROPE**





## Reality of Multimodal Travel Information Today

- Multimodal travel information exists at **local, regional and national levels**
- **Travel information more developed** in northern and western Europe
- Travel information is **not truly 'multimodal'** and the 'first and last mile' information i.e. starting city and end city is often missing
- more focus on static information for planning but less availability of dynamic travel information (delays etc.)

→ Planning a door-to-door cross border trip in the EU exploring all travel options is a **complicated** and **time-consuming** process because the enabling conditions to make travel information services accurate and available across borders are not in place



# ITS Directive

## Supporting Framework and Enabling Conditions

Data sharing mechanisms

Data interoperability

Interoperability and  
continuity of services

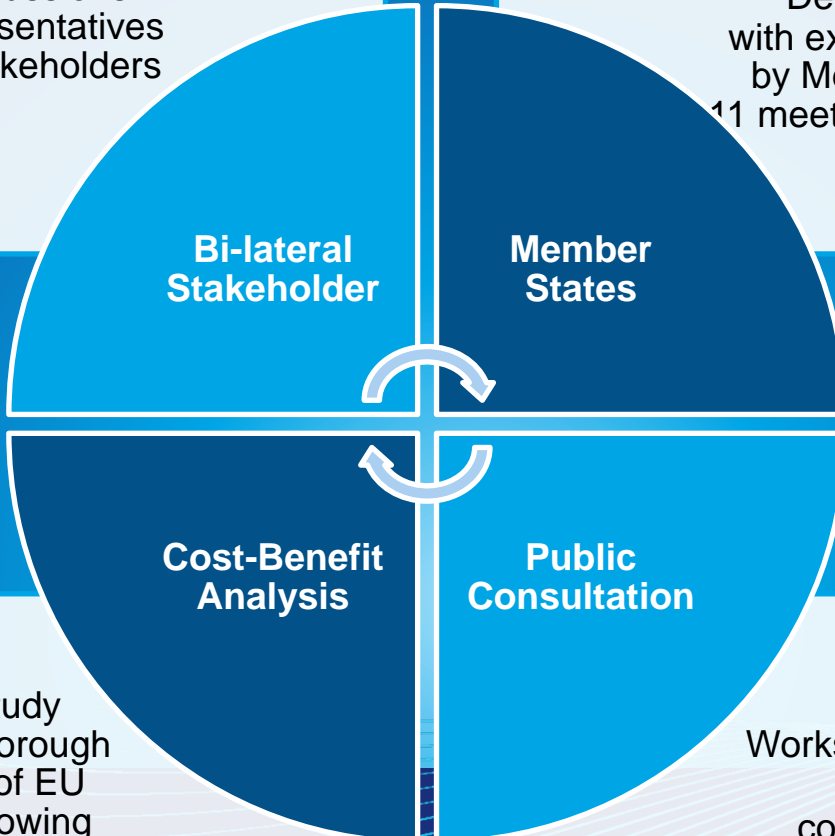
Quality framework



# Delegated Regulation Development Process – Better Regulation

- Extensive discussions with key representatives of different stakeholders

- Developed together with experts nominated by Member States via 11 meetings Nov 2014 - March 2016



- Supporting study conducted thorough examination of EU measures showing positive impact

- Stakeholder Workshop 4 Nov 2015
- 12 week online consultation Sept – Dec 2015



## ITS Directive Priority Action 'A'

### EU-wide Multimodal Travel Information Services

Providing the necessary requirements to make EU-wide multimodal travel information services accurate and available across borders

A set of inter-connected and multi-layered enabling conditions and policy measures





**Access and exchange of**  
**least STATIC Public and**  
**Private Travel and Traffic**  
**Data for Travel**  
**PLANNING across all**  
**modes**



**WHAT**



@Transport\_EU

Mobility and  
Transport

**CONNECTING**  
**EUROPE**



via **National Access Points (NAP)** in phased implementation - MS to determine shape/form of NAP



**HOW (1)**

**WHAT: access and exchange of least STATIC** Public and Private Travel and Traffic Data for Travel **PLANNING** across all modes



HOW (2)



**Standardised** Travel and Traffic Data in NAP – harmonised set across different modes. Use of translators possible

**HOW (1):** via **National Access Points (NAP)** in phased implementation - MS to determine shape/form of NAP

**WHAT: Access and exchange** of at least **STATIC** Public and Private Travel and Traffic Data for Travel **PLANNING** across all modes







## HOW (3)

Use via **licence agreements**, harmonised set of **terms and conditions**, **quality criteria**

**HOW (2) Standardised** Travel and Traffic Data in NAP – harmonised set across different modes. Use of translators possible

**HOW (1): via National Access Points (NAP)** in phased implementation - MS to determine shape/form of NAP

**WHAT: Access and exchange of least STATIC** Public and Private Travel and Traffic Data for Travel **PLANNING** across all modes



**WHAT: Access and exchange of at least STATIC Public and Private Travel and Traffic Data for Travel PLANNING across all modes**

**HOW (1): via National Access Points (NAP) in phased implementation - MS to determine shape/form of NAP**

**HOW (2) Standardised Travel and Traffic Data in NAP – harmonised set across different modes. Use of translators possible**

**HOW (3) Use via licence agreements, harmonised set of terms and conditions, quality criteria**

**Priority Action A is not just about DATA but also about SERVICES**



**WHAT: Push for Distributed Journey Planning across EU via linking local, regional and national services where there is a demand**

**HOW: Recommended use of European standardised interface, defined 'handover points' and contractual agreements**





# Next Steps

**EC Adoption and MS Meeting**  
**31 May 2017**

**OJ Publication**  
**Autumn 2017**



**EP and Council Review**  
**June – Sept 2017**



**THANK YOU FOR  
YOUR ATTENTION!**

***STEPHANIE.LEONARD@EC.EUROPA.EU***