



Impacts of new mobility in urban and peri-urban areas: the Italian case study

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Road mobility projects in urban regions and their Impact on the environment

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 - **THE ROGER APP**

PIARC TECHNICAL COMMITTEE 2.1 - MOBILITY IN URBAN AREAS

EVALUATING IMPACTS OF NEW MOBILITY IN URBAN AND PERI-URBAN AREAS

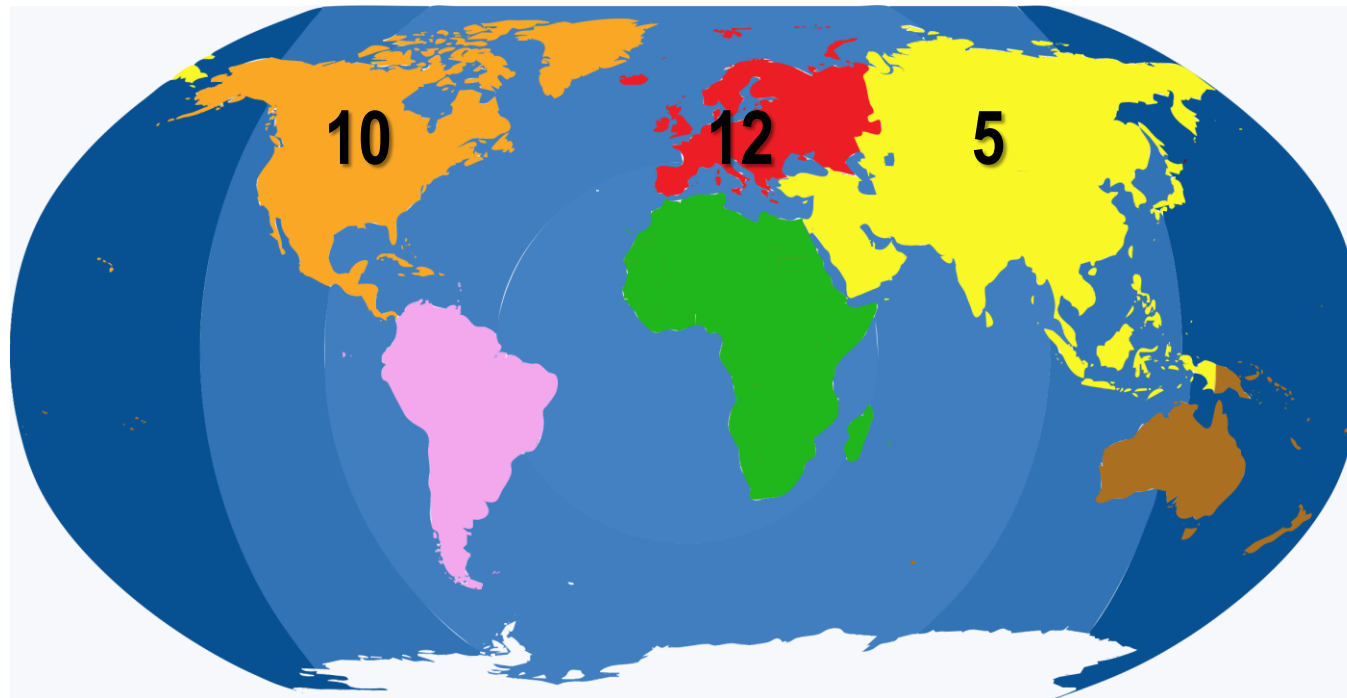
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PIARC TECHNICAL COMMITTEE 2.1

EVALUATING IMPACTS OF NEW MOBILITY IN URBAN AREAS



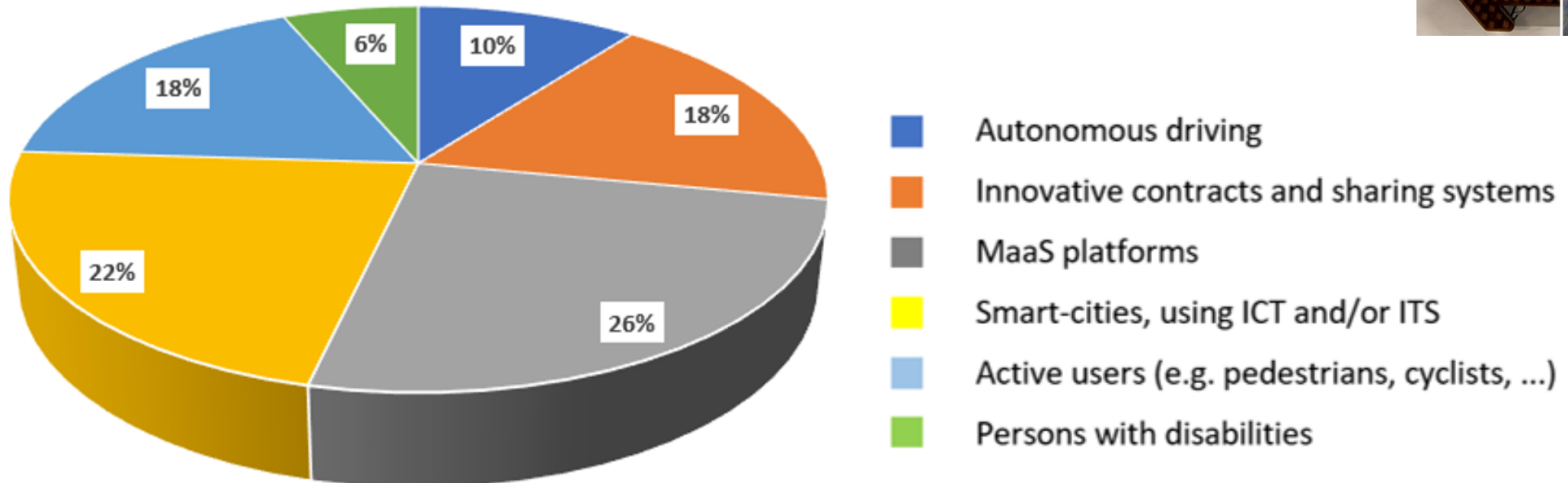
27 case studies



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EVALUATING IMPACTS OF NEW MOBILITY IN URBAN AREAS

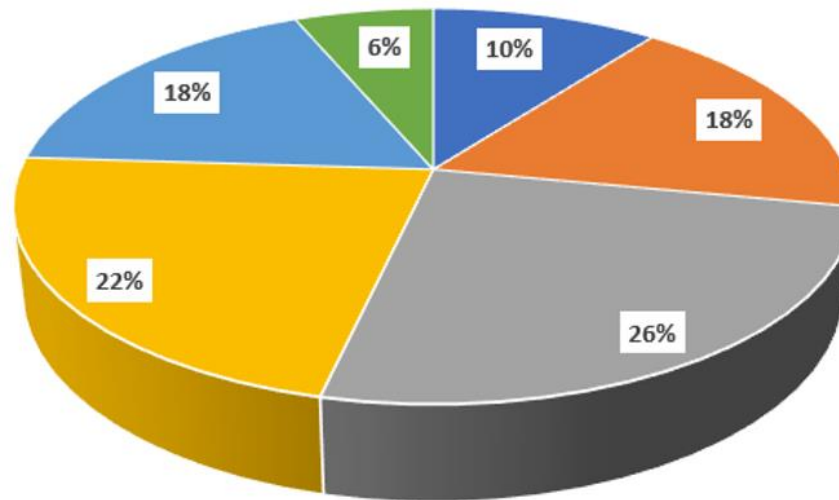
Macro-categories object of study



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EVALUATING IMPACTS OF NEW MOBILITY IN URBAN AREAS

The Italian case studies



C-Roads 2 Italy
Roger's app

BIPforMaaS project

RideMovi Bike-sharing service

- Autonomous driving
- Innovative contracts and sharing systems
- MaaS platforms
- Smart-cities, using ICT and/or ITS
- Active users (e.g. pedestrians, cyclists, ...)
- Persons with disabilities



C-ROADS 2 ITALY



- The new C-ITS (Cooperative Intelligent Transport System), or cooperative systems, are a set of technologies and applications that enable the effective flow of data between components and players in the transportation system using wireless communication technologies.
- The deployment of **C-ITS services** in urban areas **will require** the **involvement** of a wide range of **public and private actors**.
- The **main goal** of the C-Roads Italy 2 action is to study and pilot, principally in **real urban traffic conditions**, a set of “**Day1**” and “**Day1,5**” **C-ITS services** as recommended by the EC C-ITS Platform.

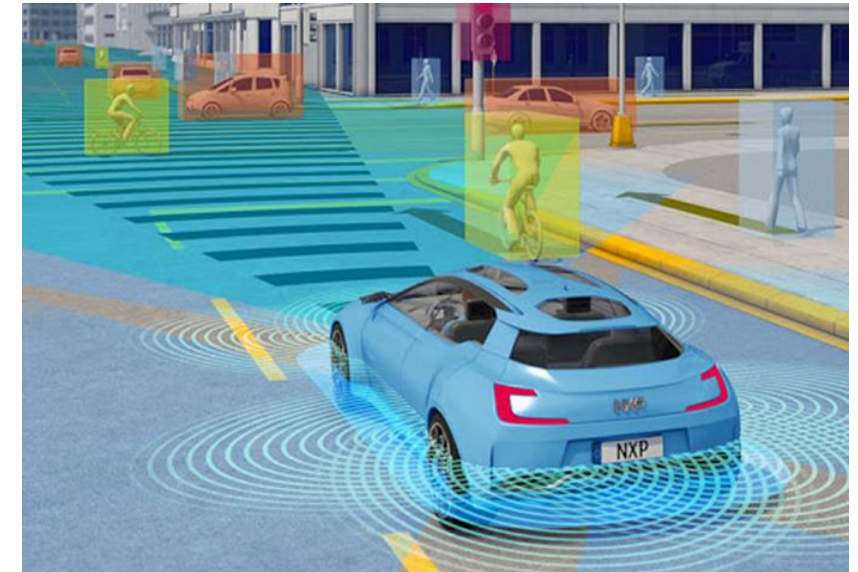


C-ROADS 2 ITALY



C-ITS services recommended by the EC C-ITS Platform to test:

- **Green Light Optimal Speed Advisory**
[C-ITS Day 1 service]
- **Traffic signal priority request by designated vehicles**
[C-ITS Day 1 service]
- **On street parking management & information**
[C-ITS Day 1.5 service]
- **Signal violation/Intersection safety**
[C-ITS Day 1 service]
- **Traffic Information and Smart Routing**
[C-ITS Day 1.5 service]



C-ROADS 2 ITALY



The **main objective** is to study and pilot, principally in real urban traffic conditions, advanced technological systems for the integration of V2I C-ITS services and V2V information on roads. The expected positive impacts will be on:

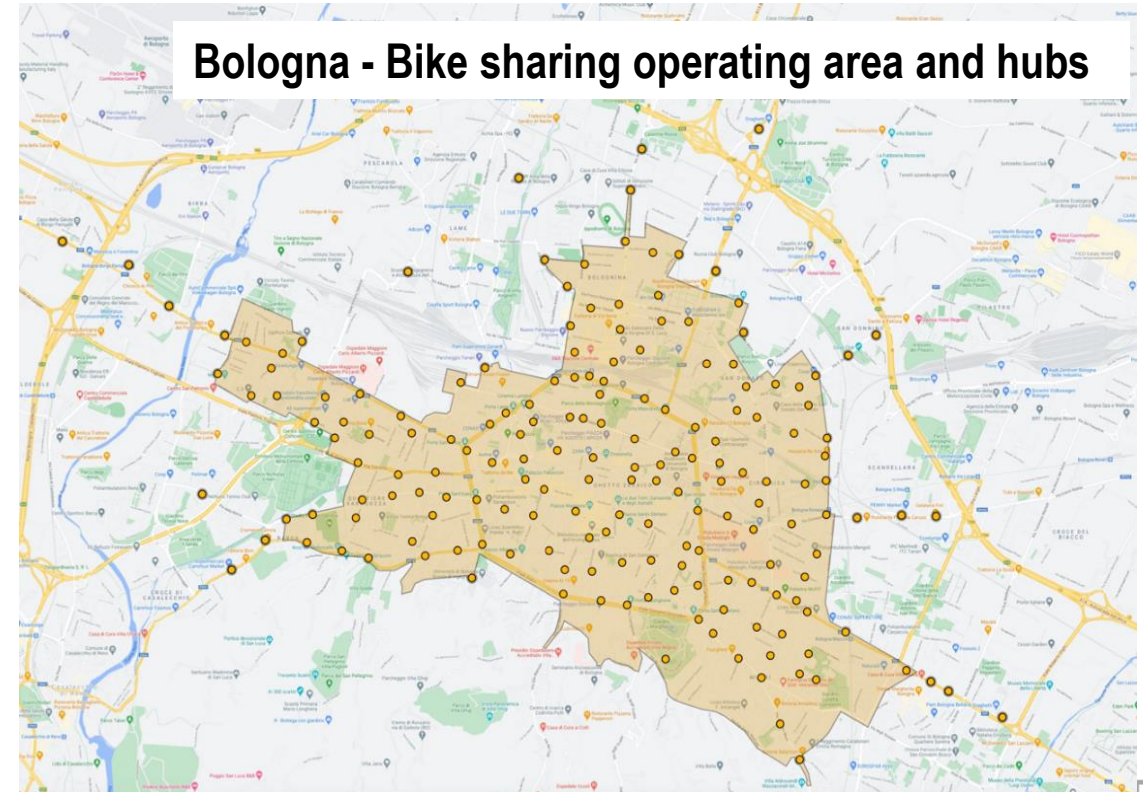
- *Transport*: based on improved individual mobility and criteria for reducing congestion;
- *Environment*: based on reducing emissions and on energy efficiency criteria;
- *Economy*: policy of advanced road transport solutions.

The project is financed by **public**, the Coordinator (Member State) at the national level is the Ministry of Infrastructure and Transport and the project has been co-financed to 50% by City of Turin and European Union.

RIDEMOVI BIKE-SHARING SERVICE

The **RideMovi Bike-sharing** service operates through a mixed-model service that provides *2200 muscle pedalling bicycles* with 3-speed gearboxes and *360 pedal-assisted bicycles* (e-bikes) with an 80-kilometer range and a top speed of 25 km/h.

The municipal administration has prepared *180 hubs* reserved for the parking in the urban area.



RIDEMOVI BIKE-SHARING SERVICE

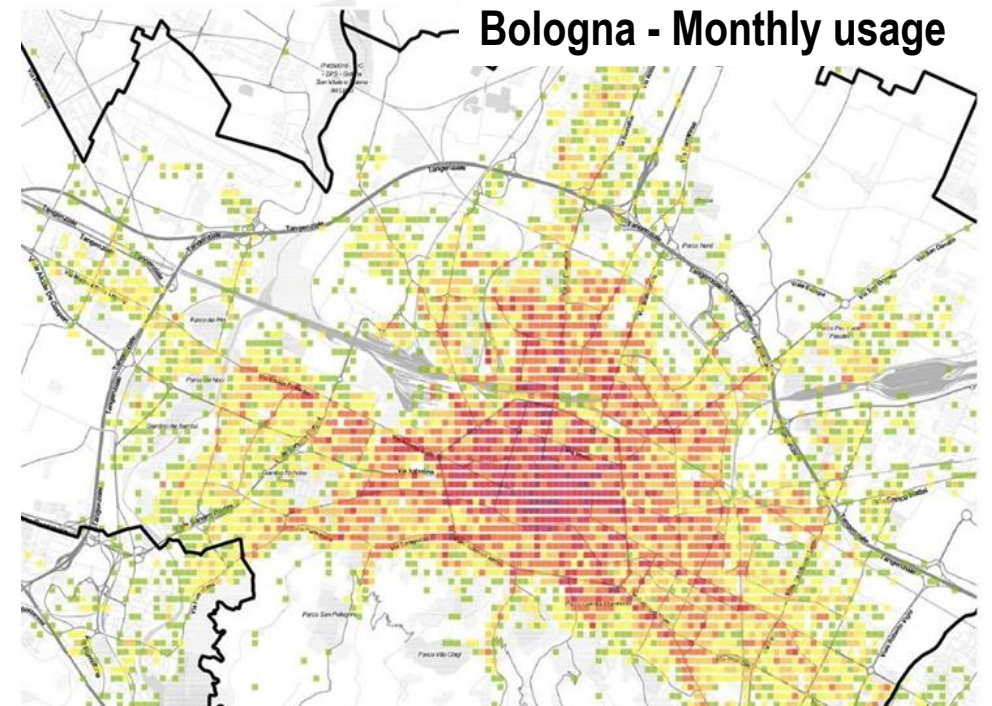
The application informs about:

- *bicycles and e-bicycles available;*
- *reserved hubs;*
- *operating area.*

The *price structure* is defined into the application for both single-trip and monthly subscriptions.

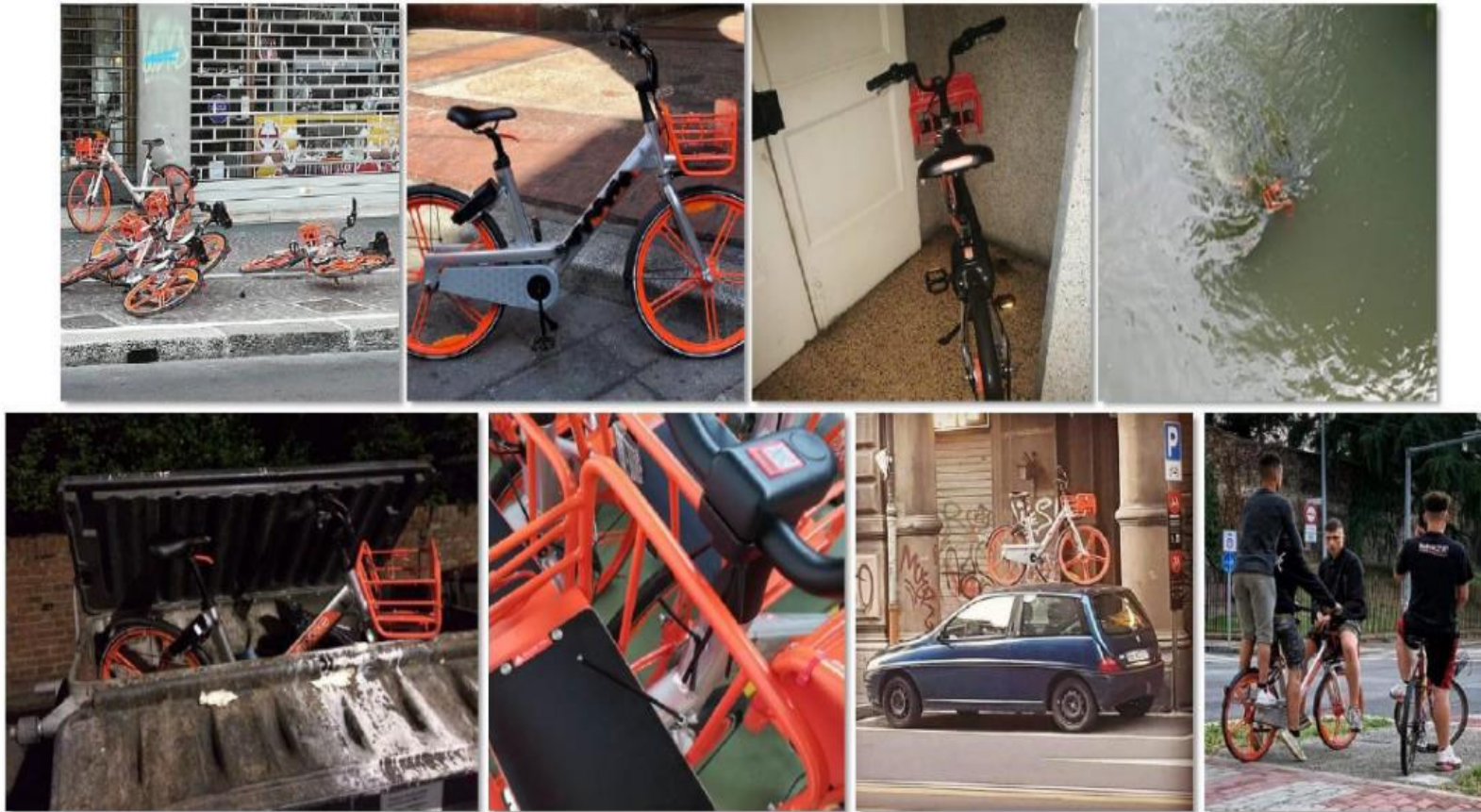
To use the service, it is necessary to scan the *QR code* on the bicycle through the mobile app in order to start the trip.

Bicycles can run freely inside or outside the operating area.



RIDEMOVI BIKE-SHARING SERVICE

An important task that needs to be addressed is related to the *acts of vandalism*. In order to make the service more and more reliable and safe, the users' behaviors are tracked.



BIP for Maas

It is a strategic project focused on the diffusion of MaaS services in the urban and metropolitan area of Turin. The accessibility is guaranteed by means of the **BIP card**:

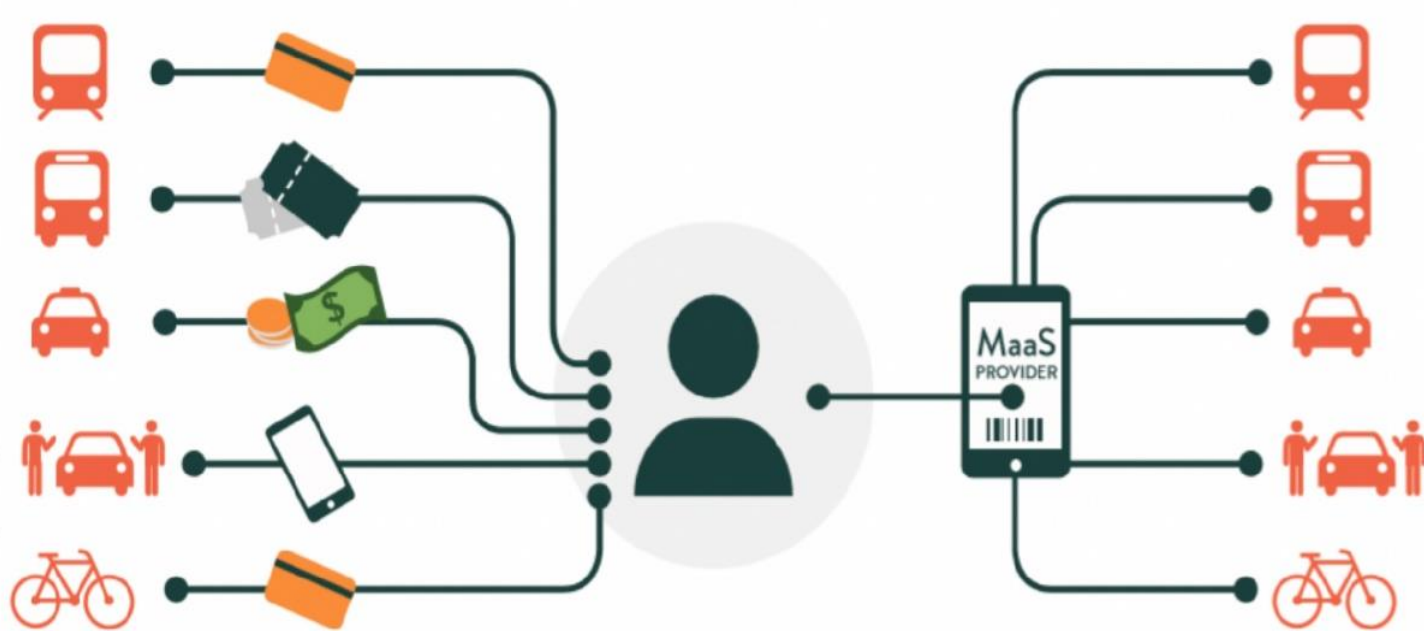
- innovative smart ticketing system that consents easy access to the different transport services operating also in the regional area



BIP for Maas

The project started in 2019 and involved more than 60 local public transport operators, 18 local authorities and 1 million of users in the Piemonte region.

Through the BIPforMaas path, the projects related to the digitalization of the BIP card on smartphone and the introduction of the Pay-per-use tariff are pursued.



BIP for Maas

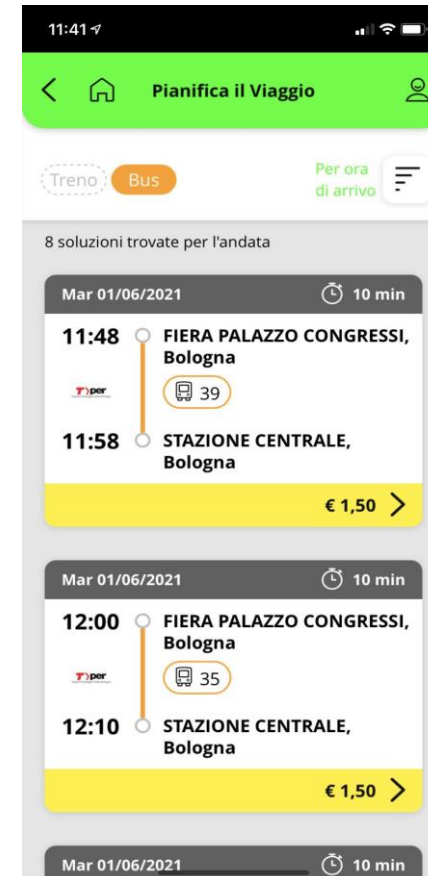
The main objectives are:

- evolve the BIP system on mobile through smartphone apps that allow the purchase and usage of **travel tickets** for all **regional public transport services**;
- establish and unify a new integrated tariff system, based on pay-per-use and best-do logic;
- establish a "**MaaS ecosystem**", which is facilitated by technological infrastructure and a set of rules and pricing policies.



THE ROGER APP

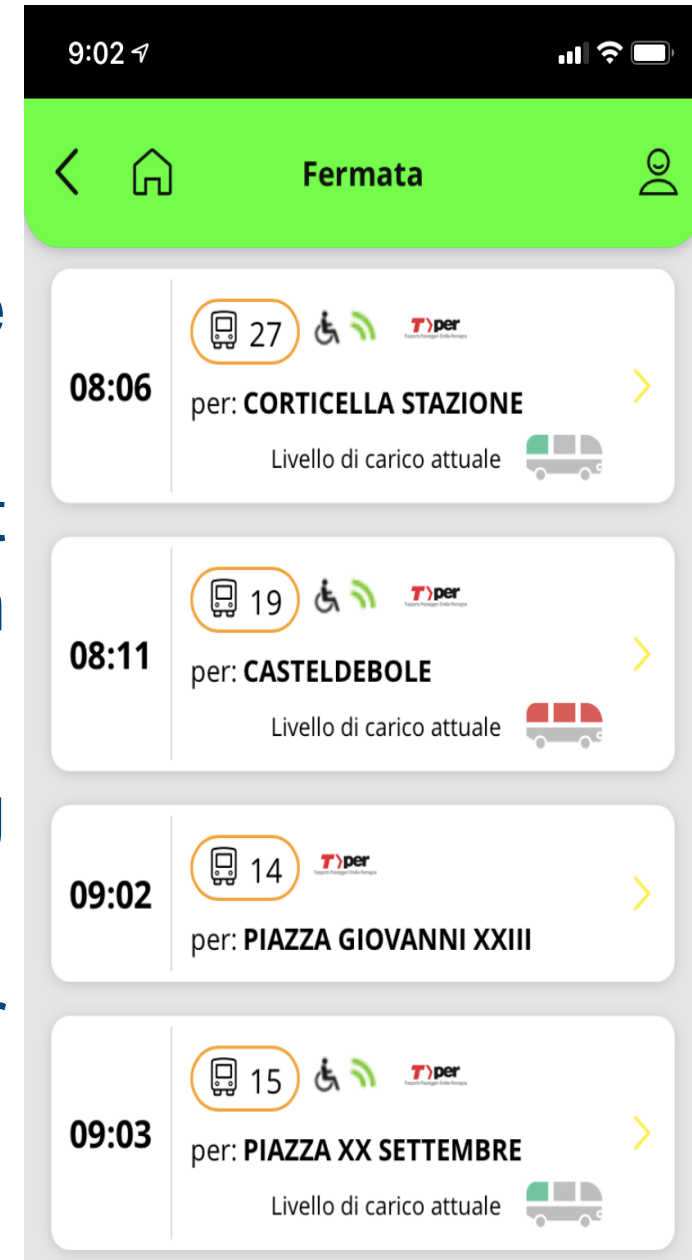
Roger is an application, downloadable for mobile devices, that allows you to buy tickets for transport throughout Emilia-Romagna, including public transport, bus and train tickets and also car sharing and car parking.



THE ROGER APP

Different features are provided:

- **Travel-planner:** indicates transit solutions to reach the destination and proposes updated real-time solutions;
- **Purchase tickets:** once the trip is planned and the transport solution chosen that best suits travel needs, users can proceed to purchase the ticket;
- **Pay for parking:** the user pays only the effective-parking time without any commission;
- **Real-time information:** shows the stops closest to the user and their schedules planned.



THE ROGER APP

Roger estimates and communicates via app to users the real-time bus loading. The occupancy level is estimated through the measurement of wi-fi devices on-board. Three real-time esteems are given:

- **Green**: occupancy level < 25%;
- **Yellow**: 25% < occupancy level < 50%;
- **Red**: > 50% (maximum capacity during the emergency).

**Bus load in the first three weeks
of March 2021 (Green-Low;
Yellow-Medium; Red-High)**

	01-07 Marzo '21			08-14 Marzo '21			15-21 Marzo '21		
	BASSO carico (< 25%)	MEDIO carico (25% - 50%)	ALTO carico (> 50%)	BASSO carico (< 25%)	MEDIO carico (25% - 50%)	ALTO carico (> 50%)	BASSO carico (< 25%)	MEDIO carico (25% - 50%)	ALTO carico (> 50%)
Lunedì	91,9%	6,3%	1,8%	93,6%	5,3%	1,2%	94,3%	4,8%	0,9%
Martedì	92,0%	6,3%	1,7%	95,0%	4,2%	0,8%	98,4%	1,5%	0,1%
Mercoledì	91,1%	7,1%	1,7%	94,1%	4,8%	1,1%	94,3%	4,7%	1,1%
Giovedì	94,3%	4,7%	1,0%	94,4%	4,4%	1,2%	95,2%	3,8%	0,9%
Venerdì	93,9%	5,0%	1,1%	94,6%	4,4%	1,0%	93,7%	5,4%	0,9%
Sabato	97,3%	2,3%	0,4%	95,5%	3,6%	0,9%	95,9%	3,3%	0,9%
Domenica	97,1%	2,5%	0,4%	98,1%	1,7%	0,2%	99,1%	0,6%	0,3%

CONCLUSION

- New Mobility Global trend: the majority of the international projects focus on the **development of smart cities and MaaS platform**
- Italian trend: follows the international trend with project oriented to innovative systems able to transfer **real-time information** and to **simplify accessibility**
- Future perspective: analysis of new mobility solutions and development of macro-indicators to compare urban projects in an shared-framework.

Thank you for your attention!



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